



# PulseR

Ruggedized Solutions



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The European Directives WEEE/RoHS became law on February 13, 2003. Member states had to implement the legislation by August 13, 2004, ensuring that, by July 1, 2006, new electrical and electronic equipment placed on the market did not contain Lead (Pb) or any of the identified restricted hazardous substances such as Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr VI), Polybrominated Biphenyls (PBB), and Polybrominated Diphenyl Ethers (BDE).

To achieve compliance to lead-free product requirements, PulseR has adopted the use of lead-free alloys using tin with greater than 95% content including 100% Tin (Sn), Tin-Silver (Sn-Ag), Tin-Copper (Sn-Cu), and Tin-Silver-Copper (Sn-Ag-Cu) solder chemistries. PulseR lead-free products adopting the Sn100 configuration for final lead tinning are compatible with current solder reflow processes. PulseR categorizes "lead-free" and lead exemptions (6a, 6b, 7b, 7c) under "RoHS". Customers, on a product-by-product basis, may request and direct the change to a RoHS compliant product (lead-free or exempted). PulseR RoHS compliant products have the suffix "NL" (or "NLT" for tape-and-reel) added to the base part number. The non-RoHS product configuration maintains the base part number with no suffix.

Visit: [www.pulserruggedized.com](http://www.pulserruggedized.com) for the most up to date information about PulseR products and capabilities. PulseR quality certificate, RoHS directive compliance and registration with DSCC are available on our website.



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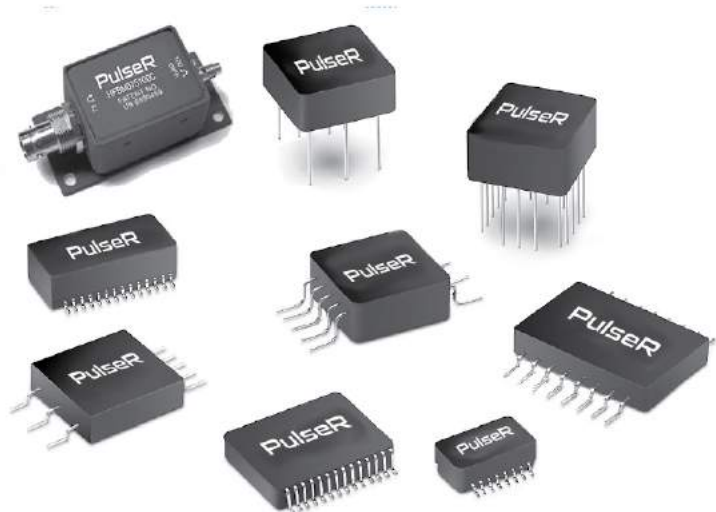
This catalog contains only summary product information, designed to aid the customer in selecting PulseR Products. Please consult the referenced data sheets and/or contact information for complete electrical and mechanical performance, as well as warranty information. Data is subject to change without notice. PulseR and CopperheadTM logos are registered trademarks of PulseR. Other brand and product names, mentioned herein, may be trademarked or registered trademarks of their respective owners.

PulseR, LLC. (formerly Pulse Electronics Military & Aerospace / Specialty Products) is a World-Class Manufacturer with 70 years' experience supplying catalog and custom magnetic components to the military, commercial aerospace, manned, unmanned space, high-reliability industrial, medical, transportation and power-grid infrastructure markets around the world. The company was originally founded as Technitrol in 1947 and produces parts that are D.S.C.C. qualified product listed for MIL-PRF-27, MIL-PRF-21038, MIL-PRF-83531 & MIL-PRF-83532 magnetic devices.

PulseR's experienced engineering teams, offer cutting-edge technical solutions and manufacturing expertise which provide comprehensive production at AS9100D certified facilities located both domestically and off shore. PulseR offers complete design support and qualification testing services to meet your demanding requirements.

### Our Mission Statement

- To serve Defense, Aerospace, Space and High-Rel industry customers with the highest level of service focusing on a relationship with mutual benefits.
- To design and manufacture magnetic solutions exceeding customers' satisfaction in terms of quality, reliability and delivery.
- To be competitive while remaining a world class source or speciality solutions.



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PulseR LLC. offers catalog and custom designs including a comprehensive range of high performance solutions and packaging options for QPL and non-QPL MIL-STD-1553 interface transformers, Data Bus Couplers Baluns, Wideband Transformers and Delay Lines. PulseR offers custom and catalog magnetics ruggedized for Military, MIL-PRF-21038, MIL-STD-981 & High Reliability applications. PulseR has a full line of high speed transformers supporting Ethernet IEEE802.x, AFDX systems, SMPTE Serial Video, Fibre Channel and IEEE1394b applications. A unique line of Line Interface Transceivers supports a wide range of cable impedances and data rates up to 2.125 Gbps. Parts have found use on Fighter Jets and Space program. PulseR continues to offer tin/lead termination finishes for Military, Space and Aerospace applications requiring the highest reliability. Parts can also be purchased with pure tin lead finishes where RoHS and REACH compliance are required. In addition to providing a catalog of Ruggedized products for Military & Aerospace usage more than 50% of business is for customized parts to customer requirements. PulseR can provide custom design services as well as perform specialized screening and qualification testing.

### COPPERHEAD™ SERIES TRANSCEIVER LINE INTERFACE MODULES - ACTIVE

High Speed Data and Communications over  
100+ Meters of Copper

- Military temperature range -55°C to +125°C
- Low transmit/receive jitter
- Low power dissipation; 450 mW typical
- ECL logic interface
- 1500V Isolation Voltage
- Surface mount – pick-and-place compatible
- Withstands infrared and vapor phase soldering 225°MAX Temperature

#### Ordering Information

| TM | 531  | D | S | A | 1 | (XX)  |                                                                                                                       |
|----|------|---|---|---|---|-------|-----------------------------------------------------------------------------------------------------------------------|
|    |      |   |   |   |   | (XX)  | Customer product designator                                                                                           |
|    |      |   |   |   |   | blank | No transmit driver                                                                                                    |
|    |      |   |   |   | 1 |       | 1100 mV output transmit driver and military temperature range                                                         |
|    |      |   |   |   | 2 |       | 1100 mV output transmit driver and industrial temperature range                                                       |
|    |      |   |   |   | 5 |       | Active cable equalizer circuit                                                                                        |
|    |      |   |   | A |   |       | 5.00 Volt                                                                                                             |
|    |      |   |   | B |   |       | 3.30 Volt                                                                                                             |
|    |      |   | S |   |   |       | Impedance matched for STP and Twinax (150 Ω)                                                                          |
|    |      |   | U |   |   |       | Impedance matched for Unshielded Twisted Pair (100 Ω)                                                                 |
|    |      |   | V |   |   |       | Impedance matched for Video and Mini-Coax (75 Ω)                                                                      |
|    |      |   | C |   |   |       | Impedance matched for Coax (50 Ω)                                                                                     |
|    |      | D |   |   |   |       | Gull wing, DIP, 28-pin package: 0.800"L x 0.400"W x 0.200"H                                                           |
|    |      | F |   |   |   |       | Gull wing, flatpack, 28-pin package: 0.760"L x 0.610"W x 0.125"H                                                      |
|    |      | H |   |   |   |       | Gull wing, half-DIP, 16-pin package: 0.500"L x 0.300"W x 0.250"H (16-pin package is only available on passive units.) |
|    | 133  |   |   |   |   |       | 132.8125 Mbaud version, 1/4 Speed Fibre Channel/ATM                                                                   |
|    | 266  |   |   |   |   |       | 265.625 Mbaud version, 1/4 Speed Fibre Channel                                                                        |
|    | 531  |   |   |   |   |       | 531.25 Mbaud version, 1/2 Speed Fibre Channel                                                                         |
|    | 1062 |   |   |   |   |       | 1.0625 Gbaud version, Full Speed Fibre Channel                                                                        |
|    | 1250 |   |   |   |   |       | 1.250 Gbaud version, Gigabit Ethernet (both short haul and long haul)                                                 |
|    | 1485 |   |   |   |   |       | 1.485 Gbaud version, SMPTE                                                                                            |
|    | 2125 |   |   |   |   |       | 2.125 Gbaud Double Speed Fiber Channel                                                                                |

### COPPERHEAD™ HIGH SPEED SINGLE TRANSFORMERS- SINGLE PASSIVE

| Part Number | Package L/W/H (in.) | Turns Ratio | Primary Inductance | Rise Time (ps MAX @ 20-80%) | DC Resistance (Ω MAX) | Hipot (Vrms MIN) | Insertion Loss (dB MAX) | Application Nominal     | Datasheet |
|-------------|---------------------|-------------|--------------------|-----------------------------|-----------------------|------------------|-------------------------|-------------------------|-----------|
| T-330SCT    | .500/.435/.180      | 1CT:1CT     | 26.0               | 350                         | 0.2                   | 1500             | -1.5 (15-165 MHz)       | 265.625 (quarter speed) | M105      |
| T-1062SCT   | .500/.435/.180      | 1CT:1CT     | 3.75               | 280                         | 0.2                   | 1500             | -2.0 (100-531 MHz)      | 1062.50 (full speed)    | M105      |
| T-1250SCT   | .500/.435/.180      | 1CT:1CT     | 3.75               | 280                         | 0.2                   | 1500             | -2.0 (200-625 MHz)      | 1250                    | M105      |
| T-1485SCT   | .500/.435/.180      | 1CT:1CT     | 3.75               | 280                         | 0.2                   | 1500             | -2.0 (200-748MHz)       | 1485 (SMPTE)            | M105      |
| T-3200SCT   | .500/.375/.235      | 1CT:1CT     | 0.70               | 200                         | 0.2                   | 1500             | -4.50 (500-1600MHz)     | 3200                    | M105      |

### COPPERHEAD™ HIGH SPEED SINGLE TRANSFORMERS- SINGLE PASSIVE

| Part Number | Package L/W/H (in.) | Turns Ratio (±5%) | Primary Inductance (μH MIN)** | Rise Time (ps: MAX @20-80%) | DC Resistance (Ω MAX) | Hipot (Vrms MIN) | Insertion Loss (dB MAX) | Application Nominal Bit Rate (Mbps/sec) | Datasheet |
|-------------|---------------------|-------------------|-------------------------------|-----------------------------|-----------------------|------------------|-------------------------|-----------------------------------------|-----------|
| T-330ACT    | .230/.265/.215      | 1CT:1CT           | 26                            | 350                         | 0.2                   | 1500             | -1.5 (15-165 MHz)       | 265.5 (full speed)                      | M456      |
| T-531ACT    | .230/.265/.215      | 1CT:1CT           | 7.5                           | 325                         | 0.2                   | 1500             | -2.0 (100-265 MHz)      | 531 (full speed)                        | M131      |
| T-1062ACT   | .230/.265/.215      | 1CT:1CT           | 3.75                          | 280                         | 0.2                   | 1500             | -2.0 (100-531 MHz)      | 1,062.5 (full speed)                    | M131      |
| T-1250ACT   | .230/.265/.215      | 1CT:1CT           | 3.75                          | 280                         | 0.2                   | 1500             | -2.0 (200-620 MHz)      | 1,250 (full speed)                      | M131      |
| T-1485ACT   | .230/.265/.215      | 1CT:1CT           | 3.75                          | 280                         | 0.2                   | 1500             | -2.0 (200-742.5 MHz)    | 1,485 (full speed)                      | M131      |

1. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.

2. Dual Transformers designed specifically for Point-to-Point Communication using STP, QUADRAx or TWINAX cable (comparable with 50,75,100 & 150Ω cable)

3. Applications: Fibre Channel, Gigabit Ethernet, SONET, HDTV, IEEE 1394B, SMTPE.

4. Parts can be ordered RoHS by adding a suffix "NL" to the part number (i.e. T-330SCTNL).

5. Tape&Reel packaging is available by adding a suffix "T" to the part number (i.e. T-330SCTT)

\*\* Measured @ 1.0Vrms, 100KHz

## IEEE 1394B FIREWIRE TRANSCEIVER LINE

| Part Number  | Transmitter/Receiver Data Rate |      | Transmitter Differential Signal Level - Vout (mV) |      |      | Total Power Dissipation (mW) TYP | Receive Turns Ratio TYP | Receive Primary Inductance-Lm (uH) MIN | Receive Insertion Loss (dB) (dBMax) | Transmit/ Receive Return Loss (dBMIN) | Package L/W/H (in.) | Data Sheet | IEEE 1394B Speed |
|--------------|--------------------------------|------|---------------------------------------------------|------|------|----------------------------------|-------------------------|----------------------------------------|-------------------------------------|---------------------------------------|---------------------|------------|------------------|
|              | MIN                            | MA   | MIN                                               | TYP  | MAX  |                                  |                         |                                        |                                     |                                       |                     |            |                  |
| TM1062TXDUA  | 246                            | 1062 | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .800 / .400 / .200  | M103       | S200-S800        |
| TM1062TXHUA  | 246                            | 1062 | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .510 / .300 / .140  | M103       | S200-S800        |
| TM1062TX3DUA | 246                            | 1062 | 1200                                              | 1300 | 1500 | 700                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .800 / .400 / .185  | M103       | S200-S800        |
| TM125TXHUA   | 98                             | 246  | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 40                                     | -2                                  | -12                                   | .510 / .300 / .140  | M186       | S100-S200        |
| TM1062DUXB   | 246                            | 1062 | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .800 / .400 / .200  | M186       | S200-S800        |
| TM1062HUXB   | 246                            | 1062 | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .510 / .300 / .140  | M186       | S200-S800        |
| TM1062DU3XB  | 246                            | 1062 | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 4.5                                    | -2                                  | -12                                   | .800 / .400 / .200  | M186       | S200-S800        |
| TM125TXHUA   | 98                             | 246  | 1200                                              | 1300 | 1500 | 232                              | 1:1                     | 40                                     | -2                                  | -12                                   | .510 / .300 / .140  | M186       | S100-S200        |

Note: Parts listed on datasheet M103 and M306 are manufactured in the United States; Datasheet M186 contains equivalent parts manufactured in China.

## SMPTE VIDEO BALUN ADAPTORS

| Part Number  | Unbalanced (Ω) | Impedance Balanced (Ω) | Insertion Loss dB MAX<br>1.485 Gbps | Jitter Dj pSec. MAX<br>1.485 Gbps | Datasheet | Bracket |
|--------------|----------------|------------------------|-------------------------------------|-----------------------------------|-----------|---------|
|              |                |                        |                                     |                                   |           |         |
| HFB075100A   | 75             | 100                    | -2.0                                | 110.0                             | M146      | NO      |
| HFB075100B   | 75             | 100                    | -2.0                                | 110.0                             | M146      | NO      |
| HFB075150A   | 75             | 150                    | -2.0                                | 110.0                             | M146      | NO      |
| HFB075150B   | 75             | 150                    | -2.0                                | 110.0                             | M146      | NO      |
| HFB075100A   | 75             | 100                    | -2.0                                | 110.0                             | M146      | YES     |
| HFB075100B   | 75             | 100                    | -2.0                                | 110.0                             | M146      | YES     |
| HFB075150A   | 75             | 150                    | -2.0                                | 110.0                             | M146      | YES     |
| HFB075150B   | 75             | 150                    | -2.0                                | 110.0                             | M146      | YES     |
| HFBM075100B  | 75             | 150                    | -2.0                                | 110.0                             | M147      | YES     |
| HFBM075100C* | 75             | 100                    | -2.0                                | 110.0                             | M147      | YES     |
| HFBM075100S* | 75             | 100                    | -2.0                                | 110.0                             | M305      | YES     |
| HFBM075100L* | 75             | 100                    | -2.0                                | 110.0                             | M265      | YES     |
| HFB075100D   | 75             | 100                    | -2.0                                |                                   |           |         |

Transforms 100Ω balanced differential signal to 75Ω, Grounded unbalanced signal. Designed for SMPTE-292M HDTV application at 1.485Gbps data rate.

\*Designed for M21038 Environmental, requirements.

75Ω Connectors: HFBM075100C - Triax, Trompeter BJ770

75Ω Connectors: HFBM075100S- BNC

## SMPTE VIDEO BALUN ADAPTORS

| Part Number   | Unbalanced (Ω) | Impedance Balanced (Ω) | Insertion Loss dB MAX<br>2.973 Gbps | Jitter Dj pSec. MAX<br>2.973 Gbps, PN 7 | Bracket | Datasheet |
|---------------|----------------|------------------------|-------------------------------------|-----------------------------------------|---------|-----------|
|               |                |                        |                                     |                                         |         |           |
| HFB3G075100A  | 75             | 100                    | -6.5                                | 65.0                                    | NO      | M416      |
| HFB3G075100B  | 75             | 100                    | -6.5                                | 65.0                                    | NO      | M416      |
| HFB3GL075100A | 75             | 100                    | -6.5                                | 65.0                                    | YES     | M416      |
| HFB3GL075100B | 75             | 100                    | -6.5                                | 65.0                                    | YES     | M416      |
| HFB3G075150A  | 75             | 150                    | -6.5                                | 65.0                                    | NO      | M416      |
| HFB3G075150B  | 75             | 150                    | -6.5                                | 65.0                                    | NO      | M416      |
| HFB3GL075150A | 75             | 150                    | -6.5                                | 65.0                                    | YES     | M416      |
| HFB3GL075150B | 75             | 150                    | -6.5                                | 65.0                                    | YES     | M416      |

Transforms 100Ω to 150Ω. Grounded unbalanced signal. Designed for SMPTE-424/425, 2.973Gbps.

Designed for standard test equipment with SMA connectors. Wide bandwidth- 1.0MHz - 1.2GHz

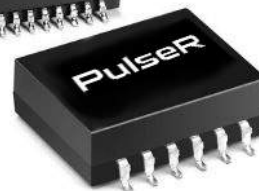
## INSTRUMENTATION BALUN ADAPTERS

| Part Number | Impedance Unbalanced (Ω) | Impedance Balanced (Ω) | Insertion Loss dB MAX<br>1.485Gbps | Return Loss (dB MIN)<br>1.0MHz -1.2 GHz | Datasheet |
|-------------|--------------------------|------------------------|------------------------------------|-----------------------------------------|-----------|
|             |                          |                        |                                    |                                         |           |
| HFB050150   | 50                       | 150                    | -2                                 | 15                                      | M100      |
| HFB050100   | 50                       | 100                    | -2                                 | 15                                      | M100      |
| HFB050078   | 50                       | 78                     | -2                                 | 15                                      | M100      |

Transforms 100Ω to 150Ω. Grounded unbalanced signal. Designed for SMPTE-424/425, 2.973Gbps. Designed for standard test equipment with SMA connectors. Wide bandwidth- 1.0MHz - 1.2GHz



| PULSER ETHERNET/AFDX |             |             |                |       |            |                          |            |
|----------------------|-------------|-------------|----------------|-------|------------|--------------------------|------------|
| 10/100               |             |             |                |       |            |                          |            |
| Number of Ports      | Part Number | Turns Ratio | Configuration- |       | Style      | Package Size L/W/H (in.) | Data Sheet |
|                      |             |             | RX             | TX    |            |                          |            |
| Single               | 100B-1001   | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .630/.470/.200           | M101       |
|                      | 100B-1001X  | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .630/.470/.200           | M101       |
|                      | 100B-1001F  | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .630/.470/.200           | M101       |
|                      | 100B-1001FX | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .630/.470/.200           | M101       |
|                      | 100B-1003   | 1CT:1CT     | T,C            | T,C   | 16-pin SMT | .500/.265/.235           | M101       |
|                      | 100B-1003X  | 1CT:1CT     | T,C            | T,C   | 16-pin SMT | .500/.265/.235           | M101       |
|                      | 100B-1018   | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .583/.470/.180           | M189       |
|                      | 100B-1018X  | 1CT:1CT     | T,C            | T,C,S | 12-pin SMT | .583/.470/.180           | M189       |
|                      | 100B-1027   | 1CT:1CT     | T,C            | T,C,S | 16-pin SMT | 1.00/.390/.235           | M197       |
|                      | 100B-1027X  | 1CT:1CT     | T,C            | T,C,S | 16-pin SMT | 1.00/.390/.235           | M197       |
|                      | 100B-1035   | 1CT:1CT:    | T,C            | T,C   | 12-pin SMT | .500/.347/.088           | M316       |
|                      | 100B-1051   | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .590/.520/.155           | M440       |
| Dual                 | 100B-1054X  | 1CT:1CT     | T,C            | T,C   | 16-pin SMT | .500/.358/.236           | M441       |
|                      | 100B-2002   | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .518/.595/.241           | M110       |
|                      | 100B-2002X  | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .518/.595/.241           | M110       |
|                      | 100B-2002F  | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .518/.595/.241           | M110       |
|                      | 100B-2002FX | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .518/.595/.241           | M110       |
|                      | 100B-4005   | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M203       |
|                      | 100B-4005X  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.120/.480/.280          | M203       |
|                      | 100B-4005F  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M203       |
|                      | 100B-4005FX | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.120/.480/.280          | M203       |
|                      | 100B-4009   | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M190       |
|                      | 100B-4009X  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M190       |
| Quad                 | 100B-4009F  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M190       |
|                      | 100B-4009FX | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M190       |
|                      | 100B-4011   | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M151       |
|                      | 100B-4011X  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M151       |
|                      | 100B-4011F  | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M151       |
|                      | 100B-4011FX | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.125/.480/.280          | M151       |
|                      | 100B-4018   | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.110/.630/.225          | M448       |
|                      | 100B-4019   | 1CT:1CT     | T,C            | T,C   | 40-pin SMT | 1.08/.630/.226           | M449       |
|                      | 100B-4020   | 1CT:1CT     | C,T,C          | C,T,C | 40-pin SMT | 1.090/.360/.236          | M307       |
|                      | 10GB-6001   | 1CT:1CT     | T,C            | T,C   | 24-pin SMT | .700/.630/.235           | M375       |



| PULSER ETHERNET/AFDX |                   |             |               |         |            |                          |            |
|----------------------|-------------------|-------------|---------------|---------|------------|--------------------------|------------|
| 10/100/1000          |                   |             |               |         |            |                          |            |
| Number of Ports      | Part Number       | Turns Ratio | Configuration |         | Style      | Package Size L/W/H (in.) | Data Sheet |
|                      |                   |             | RX            | TX      |            |                          |            |
| SINGLE               | 1000B-5001        | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.635/.230           | M1061      |
|                      | 1000B-5001X       | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.635/.230           | M1061      |
|                      | 1000B-5001F       | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.635/.230           | M106       |
|                      | 1000B-5001FX      | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.635/.230           | M106       |
|                      | 1000B-5002        | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .695/.635/.230           | M1061      |
|                      | 1000B-5002X       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .695/.635/.230           | M1061      |
|                      | 1000B-5002F       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .695/.635/.230           | M106       |
|                      | 1000B-5002FX      | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .695/.635/.230           | M106       |
|                      | 1000B-5004        | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .705/.490/.190           | M428       |
|                      | 1000B-5009        | 1CT:1CT     | T             | T       | 24-pin SMT | .600/.430/.340           | M160       |
|                      | 1000B-5009X       | 1CT:1CT     | T             | T       | 24-pin SMT | .600/.430/.340           | M160       |
|                      | 1000B-5010 (PoE)  | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .690/.480/.225           | M290       |
|                      | 1000B-5010X (PoE) | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .690/.480/.225           | M290       |
|                      | 1000B-5016        | 1CT:1CT     | T             | T       | 24-pin SMT | .600/.300/.163           | M160       |
|                      | 1000B-5016X       | 1CT:1CT     | T             | T       | 24-pin SMT | .600/.300/.163           | M160       |
|                      | 1000B-5017F       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .715/.480/.260           | M429       |
|                      | 1000B-5026F       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .705/.480/.180           | M430       |
|                      | 1000B-5027 (PoE)  | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.480/.180           | M238       |
|                      | 1000B-5027X (PoE) | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .695/.480/.180           | M238       |
|                      | 1000B-5028FX      | 1CT:1CT     | T             | T       | 24-pin SMT | .600/.300/.163           | M431       |
|                      | 1000B-5029        | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .700/.620/.185           | M285       |
|                      | 1000B-5029X       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .700/.620/.185           | M285       |
|                      | 1000B-5033NL      | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .600/.430/.340           | M433       |
|                      | 1000B-5035        | 1CT:1CT     | T, C, S       | T, C, S | 24-pin SMT | .736/.537/.225           | M434       |
|                      | 1000B-5036 (PoE)  | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .725/.490/.265           | M435       |
|                      | 1000B-5037 (PoE)  | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .725/.633/.410           | M436       |
|                      | 1000B-5042NL      | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .510/.520/.155           | M437       |
|                      | 1000B-5003        | 1CT:1CT     | T, C          | T, C    | 50-pin SMT | 1.100/.430/.340          | M1061      |
|                      | 1000B-5003X       | 1CT:1CT     | T, C          | T, C    | 50-pin SMT | 1.100/.430/.340          | M1061      |
|                      | 1000B-5003F       | 1CT:1CT     | T, C          | T, C    | 50-pin SMT | 1.100/.430/.340          | M106       |
| DUAL                 | 1000B-5004        | 1CT:1C      | T, C, S       | T, C, S | 24-pin SMT | .705/.620/.190           | M428       |
|                      | 1000B-5003FX      | 1CT:1CT     | T, C          | T, C    | 50-pin SMT | 1.100/.430/.340          | M106       |
|                      | 1000B-5014        | 1CT:1CT     | T, C, S       | T, C, S | 48-pin SMT | 1.100/.610/.290          | M160       |
|                      | 1000B-5014X       | 1CT:1CT     | T, C, S       | T, C, S | 48-pin SMT | 1.100/.610/.290          | M160       |
|                      | 1000B-5020        | 1CT:1CT     | T, C          | T, C    | 48-pin SMT | .100/.610/.290           | M286       |
|                      | 1000B-5020X       | 1CT:1CT     | T, C          | T, C    | 48-pin SMT | .100/.610/.290           | M286       |
|                      | 1000B-5042NL      | 1CT:1CT     | T, C          | T, C    | 48-pin SMT | .510/.520/.155           | M437       |
|                      | 1000B-5045X       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .725/.490/.265           | M438       |
|                      | 1000B-5046X       | 1CT:1CT     | T, C          | T, C    | 24-pin SMT | .725/.490/.265           | M439       |

1. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. 1000B-5003NL).
3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. 1000B-5002FXT)
4. T = Transformer, C = Choke, S = Shunt inductor
5. Standard Operating Temperature: -40°C to +85°C
6. Extended Operating Temperature (X): -55°C to +125°

PoE = Power over Ethernet Per IEEE 802.3af, 15W



## GENERAL PURPOSE PULSE TRANSFORMERS

| TRANSFORMERS |                                    |                                   |                               |               |                               |                                   |           |
|--------------|------------------------------------|-----------------------------------|-------------------------------|---------------|-------------------------------|-----------------------------------|-----------|
| Part Number  | Turns Ratio (1,5): (6,2) $\pm 2\%$ | Primary Inductance (1-5) (mH MIN) | DCR (1-5,6-2) ( $\Omega$ MAX) | ET (V-us Min) | Insulation Resistance @250Vdc | Leakage Inductance ( $\mu$ H Max) | Datasheet |
| IZUHD        | 1CT:1CT                            | 5.0                               | 1.25                          | 20            | 10KMohm                       | 2.25                              | M480      |
| IZUHE        | 1CT:1CT                            | 3.0                               | 1.25                          | 10            | 10KMohm                       | 2.70                              | M481      |

## HIGH SPEED DATA TRANSFORMER

| T1/E1/CEPT/ISDN-PRI SMT TRANSFORMER |                                 |                  |                          |                         |              |                     |           |
|-------------------------------------|---------------------------------|------------------|--------------------------|-------------------------|--------------|---------------------|-----------|
| Part Number                         | Turns Ratio Pri: Sec: $\pm 2\%$ | OCL Pri (mH MIN) | C <sub>ww</sub> (pf MAX) | DCR Pri ( $\Omega$ MAX) | Primary Pins | Package L/W/H (in.) | Datasheet |
| X-1707                              | 1CT:1CT                         | 1.0              | 25                       | 0.8                     | 1-3          | .360/.405/.270      | M487      |
| PL1374                              | 1CT:1CT                         | 1.2              | 35                       | 0.8                     | 1-3          | .300/.275/.250      | M119      |
| X-1688                              | 1CT:1CT                         | 1.2              | 35                       | 0.8                     | 1-3          | .300/.275/.275      | M486      |

## HIGH SPEED DATA TRANSFORMERS

| 64kbps ISOLATION TRANSFORMERS |                                 |                                   |                                   |                         |                           |                     |           |
|-------------------------------|---------------------------------|-----------------------------------|-----------------------------------|-------------------------|---------------------------|---------------------|-----------|
| Part Number                   | Turns Ratio Pri: Sec: $\pm 2\%$ | Primary Inductance ( $\mu$ H MIN) | Leakage Inductance ( $\mu$ H MAX) | DCR Pri ( $\Omega$ MAX) | Inter-winding Capacitance | Package L/W/H (in.) | Datasheet |
| X-1703                        | 2:1                             | 1.0mH                             | 24                                | 3.00                    | 36                        | 940/.775/.810       | M489      |
| X-1709NL                      | 1:2CT                           | 20mH                              | 5.0                               | 2.65                    | 130                       | .448/.335/.400      | M483      |

## HIGH SPEED DATA TRANSFORMER

| FIBRE CHANNEL ISOLATION |                                 |                                   |                          |                         |                   |                     |           |
|-------------------------|---------------------------------|-----------------------------------|--------------------------|-------------------------|-------------------|---------------------|-----------|
| Part Number             | Turns Ratio Pri: Sec: $\pm 2\%$ | Primary Inductance ( $\mu$ H MIN) | C <sub>ww</sub> (pf MAX) | DCR Pri ( $\Omega$ MAX) | Hi-Pot (Vrms MIN) | Package L/W/H (in.) | Datasheet |
| X-1704                  | 1:1                             | 7.5                               | 5.0                      | .20                     | 2000              | .500/.270/.200      | M482      |
| X-1710                  | 1:1                             | 15.0                              | 5.0                      | .20                     | 1500              | .495/.280/.200      | M485      |

## CAN BUS (COMMON MODE CHOKE)

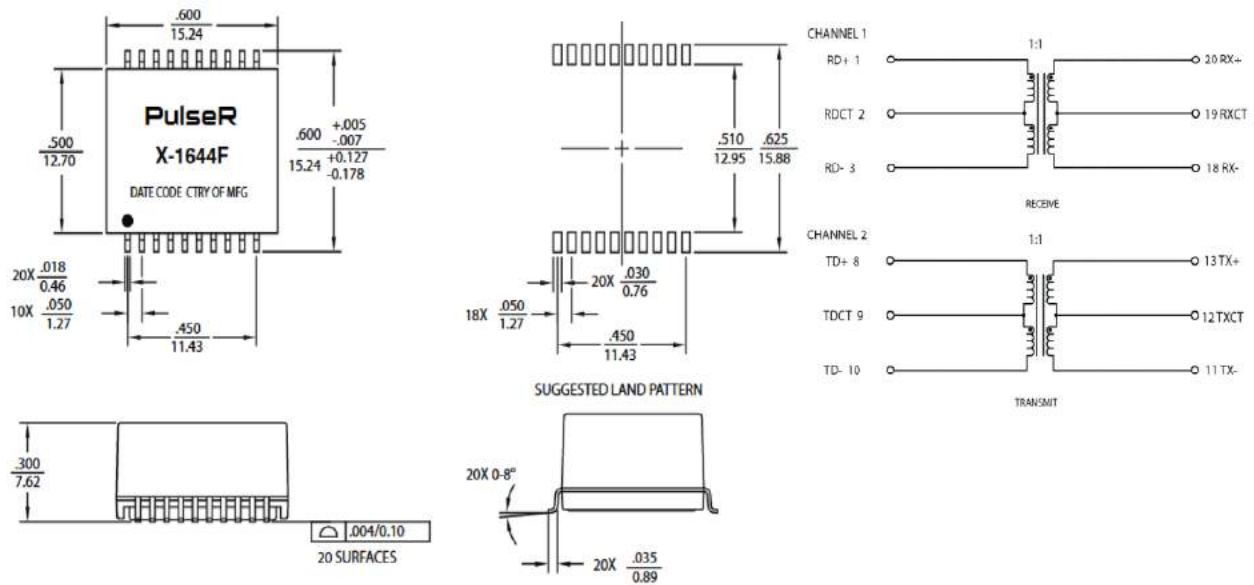
| 80 VDC- 500Vrms |                                 |                                         |                                   |                               |                       |                     |           |
|-----------------|---------------------------------|-----------------------------------------|-----------------------------------|-------------------------------|-----------------------|---------------------|-----------|
| Part Number     | Turns Ratio Pri: Sec: $\pm 2\%$ | Inductance (100kHz) ( $\mu$ H +50%-30%) | Leakage Inductance ( $\mu$ H MAX) | DCR Resitance ( $\Omega$ MAX) | Current Rating (mADC) | Package L/W/H (in.) | Datasheet |
| X-1711 NL       | 1:1                             | 11                                      | .16                               | .12                           | 800                   | .310/.260/.250      | M488      |
| X-1712NL        | 1:1                             | 25                                      | .24                               | .12                           | 800                   | .310/.260/.250      | M488      |
| X-1713NL        | 1:1                             | 51                                      | .22                               | .20                           | 800                   | .310/.260/.250      | M488      |
| X-1714NL        | 1:1                             | 100                                     | .16                               | .24                           | 800                   | .310/.260/.250      | M488      |
| X-1715NL        | 1:1                             | 471                                     | .27                               | .30                           | 700                   | .310/.260/.250      | M488      |
| X-1716NL        | 1:1                             | 1000                                    | .43                               | .40                           | 700                   | .310/.260/.250      | M488      |

1. Visit our website: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. X-1703 becomes X-1703NL).
3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e X-1709NL becomes X-1709NLT)

### High Isolation Ethernet

| Part Number | Insertion Loss (dB MAX) |        |        |         |       | Return Loss (dB MIN) |        |        |        |         | Crosstalk (dB MIN) |        |        |         | Differential to Common Mode Rejection (dB MIN) |        |         |         | Data-sheet | Isolation |
|-------------|-------------------------|--------|--------|---------|-------|----------------------|--------|--------|--------|---------|--------------------|--------|--------|---------|------------------------------------------------|--------|---------|---------|------------|-----------|
|             | 0.1-30 MHz              | 60 MHz | 80 MHz | 100 MHz | 5 MHz | 30 MHz               | 50 MHz | 60 MHz | 80 MHz | 100 MHz | 1 MHz              | 30 MHz | 60 MHz | 100 MHz | 30 MHz                                         | 60 MHz | 100 MHz | 200 MHz |            |           |
| X-1644NL    | -1                      | -2     | -2.5   | -4      | -18   | -9                   | -5.5   | -4.5   | -3.0   | -2.0    | -45                | -30    | -27    | -25     | -36                                            | -32    | -30     | -25     | M215       | 10K VAC   |
| 100B-1014   | -1.1                    | -1     | /      | -1.4    | -20   | -13                  | -10    | -9     | -7     | /       | -50                | -40    | -40    | -35     | -42                                            | -37    | -35     | -35     | M510       | 6K VAC    |
| 100B-1021   | -1                      | -2     | -3     | -4      | -18   | -9                   | -5.5   | -4.5   | -3     | -2      | -45                | -30    | -27    | -25     | -36                                            | -32    | -30     | -25     | M511       | 8K VAC    |
| 100B-1044   | -1                      | -1     | -1     | -1      | -12   | -12                  | -12    | -12    | -10    | -8      | -45                | -30    | -27    | -25     | -36                                            | -32    | -30     | -25     | M512       | 6K VAC    |
| 100B-1050   | -1.5                    | -3     | -3.5   | -4.5    | -18   | -8                   | -5.5   | -4.5   | -3.3   | -2      | -45                | -30    | -27    | -25     | -36                                            | -32    | -30     | -25     | M513       | 6K VAC    |

1 The "NL" Suffix indicates a RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "NL" suffix, but an RoHS compliant version is required, please contact PulseR for availability.



Weight ..... 2.6 grams  
 Tube ..... 20/tube  
 Tape & Reel ..... 300/reel

Dimensions: Inches  
 mm  
 Unless otherwise specified, all tolerances are  $\pm 0.10$   
 0.25



## MIL-STD-1553 INTERFACE TRANSFORMERS

## Non-QPL

| Part Number | Turns Ratio (±3%)     | Impedance (Ω MIN) | Package L/W/H (in.) | Data Sheet | Part Number | Turns Ratio (±3%)     | Impedance (Ω MIN) | Package L/W/H (in.) | Data Sheet |
|-------------|-----------------------|-------------------|---------------------|------------|-------------|-----------------------|-------------------|---------------------|------------|
| FL1553-1    | 1CT:1CT/1CT:707CT     | 4,000             | .630/.630/.155      | M227       | STQ1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.340      | M230       |
| GL1553-1    | 1CT:1CT/1CT:707CT     | 4,000             | .630/.630/.155      | M227       | STQ1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.340      | M230       |
| TL1553-1    | 1CT:1CT/1CT:707CT     | 4,000             | .630/.630/.155      | M226       | STQ1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.340      | M230       |
| FL1553-2    | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.155      | M227       | STQ1553-45  | 1.5CT/1CT:1.79CT      | 4,000             | .630/.630/.340      | M230       |
| GL1553-2    | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.155      | M227       | SFQ1553-1   | 1CT:1CT/1CT:707CT     | 4,000             | .630/.630/.340      | M231       |
| TL1553-2    | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.155      | M226       | SGQ1553-1   | CT:1CT/1CT:707CT      | 4,000             | .630/.630/.340      | M231       |
| FL1553-3    | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.155      | M227       | SFQ1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.340      | M231       |
| GL1553-3    | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.155      | M227       | SGQ1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.340      | M231       |
| TL1553-3    | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.155      | M226       | SFQ1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.340      | M231       |
| FL1553-5    | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.155      | M227       | SGQ1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.340      | M231       |
| GL1553-5    | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.155      | M227       | SFQ1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.340      | M231       |
| TL1553-5    | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.155      | M226       | SGQ1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.340      | M231       |
| FL1553-45   | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.155      | M227       | SFQ1553-45  | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.340      | M231       |
| GL1553-45   | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.155      | M227       | SGQ1553-45  | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.340      | M231       |
| TL1553-45   | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.155      | M226       | SLQG1553-1  | 1CT:1CT/1.4CT:1CT     | 4,000             | .630/.630/.280      | M234       |
| DFL1553-1   | 1CT:1CT/1CT:707CT     | 4,000             | .930/.630/.155      | M229       | SLQG1553-2  | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.280      | M234       |
| DGL1553-1   | 1CT:1CT/1CT:707CT     | 4,000             | .930/.630/.155      | M229       | SLQG1553-3  | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.280      | M234       |
| DTL1553-1   | 1CT:1CT/1CT:707CT     | 4,000             | .930/.630/.155      | M228       | SLQG1553-5  | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.280      | M234       |
| DFL1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .930/.630/.155      | M229       | SLQG1553-45 | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.280      | M234       |
| DGL1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .930/.630/.155      | M229       | SLQT1553-1  | 1CT:1CT/1.4CT:1CT     | 4,000             | .630/.630/.280      | M234       |
| DTL1553-2   | 1.4CT:1CT/2CT:1CT     | 7,200             | .930/.630/.155      | M228       | SLQT1553-2  | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.280      | M234       |
| DFL1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .930/.630/.155      | M229       | SLQT1553-3  | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.280      | M234       |
| DGL1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .930/.630/.155      | M229       | SLQT1553-5  | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.280      | M234       |
| DTL1553-3   | 1.25CT:1CT/1.66CT:1CT | 4,000             | .930/.630/.155      | M228       | SLQT1553-45 | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.280      | M234       |
| DFL1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .930/.630/.155      | M229       | X-1584      | 1CT:1.79CT            | 3,000             | .500/.350/.172      | M157       |
| DGL1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .930/.630/.155      | M229       | X-1596      | 1CT:2.5CT             | 3,000             | .500/.350/.172      | M157       |
| DTL1553-5   | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .930/.630/.155      | M228       | Q1553-70*   | 1CT3CT/1CT215CT       | 4,000             | .625/.625/.250      | M128       |
| DFL1553-45  | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .930/.630/.155      | M229       | SMQ1553-70* | 1CT3CT/1CT215CT       | 4,000             | .625/.625/.250      | M128       |
| DGL1553-45  | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .930/.630/.155      | M229       | GL1553-71*  | 1CT3.54CT/1CT250CT    | 4,000             | .625/.625/.250      | M128       |
| DTL1553-45  | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .930/.630/.155      | M228       | DGL1553-71* | 1CT3.54CT/1CT25CT     | 4,000             | .625/.625/.250      | M128       |
| STQ1553-1   | 1CT:1CT/1CT:707CT     | 4,000             | .630/.630/.340      | M230       | TQ1553-71*  | 1CT3.54CT/1CT25CT     | 4,000             | .625/.625/.250      | M128       |

1. Custom capabilities are available.

2. Parts can be built and screened to Space NASA EEE-INST-002 requirements.

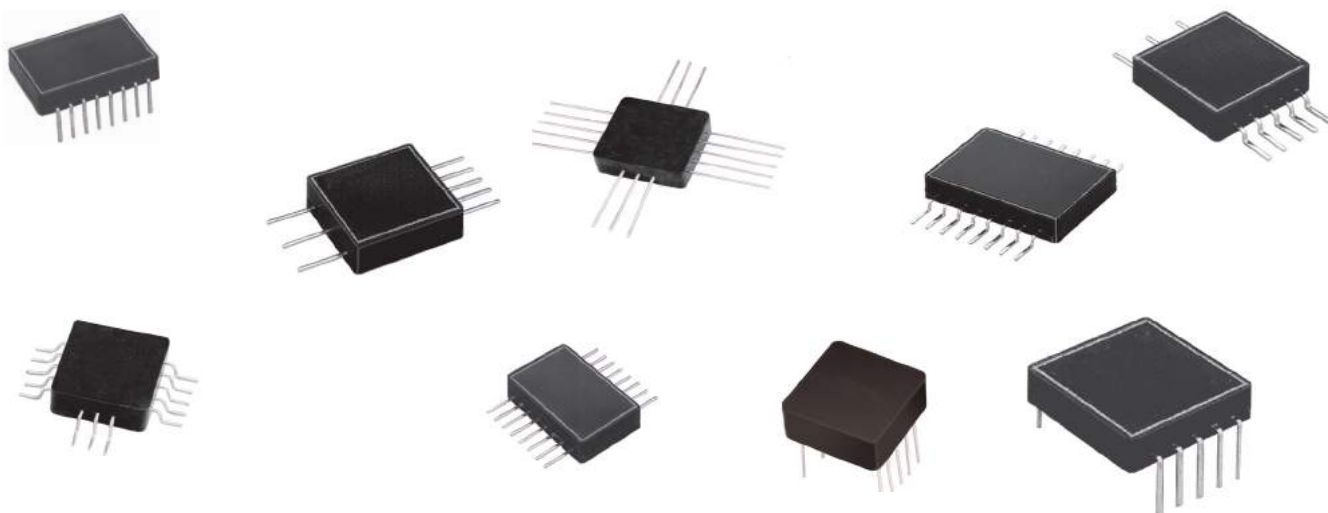
3. Web: <http://www.pulseruggedized.com> home page, click on the "PRODUCT FINDER" and enter the part number.

1. Designed and built to conform to MIL-PRF-21038/27 requirements.

2. Parts can be built and screened to Space NASA EEE-INST-002 requirements.

3. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.

\* For use with 3.3VDC Transceivers



### Non-QPL, Low Profile and Stacked (continued)

| Part Number | Turns Ratio (± 3%)    | Impedance (Ω MIN) | Package L/W/H (in.) | Data Sheet |
|-------------|-----------------------|-------------------|---------------------|------------|
| SLQF1553-1  | 1CT:1CT/1.4CT:1CT     | 4,000             | .630/.630/.280      | M234       |
| SLQF1553-2  | 1.4CT:1CT/2CT:1CT     | 7,200             | .630/.630/.280      | M234       |
| SLQF1553-3  | 1.25CT:1CT/1.66CT:1CT | 4,000             | .630/.630/.280      | M234       |
| SLQF1553-5  | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .630/.630/.280      | M234       |
| SLQF1553-45 | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .630/.630/.280      | M234       |

1. Designed and built to conform to MIL-PRF-21038/27
2. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.

### Interface Transformers — COTS Series

| Part <sup>2</sup> Number | Turns Ratio (±3%)     | Impedance (Ω MIN) | Package L/W/H in. | Data Sheet |
|--------------------------|-----------------------|-------------------|-------------------|------------|
| (X)1553-1                | 1CT:1CT/1CT:707CT     | 4,000             | .625/.625/.250    | M233       |
| (X)1553-2                | 1.4CT:1CT/2CT:1CT     | 7,200             | .625/.625/.250    | M233       |
| (X)1553-3                | 1.25CT:1CT/1.66CT:1CT | 4,000             | .625/.625/.250    | M233       |
| (X)1553-5                | 1CT:2.12CT/1.5CT:1CT  | 4,000             | .625/.625/.250    | M233       |
| (X)1553-45               | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .625/.625/.250    | M233       |

1. Designed and built to conform to MIL-PRF-21038/27
2. Prefix/Operating Temperature: C/0°C to +70°C; N/-40°C to +85°C; TQ/-55°C to +125°C
3. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.

### Interface Transformers — Low Profile Miniature Series

| Part Number | Turns Ratio (±3%) | Impedance (Ω MIN) | Package (L/W/H) in. | Data Sheet |
|-------------|-------------------|-------------------|---------------------|------------|
| SMG1553-60  | 1.25CT:1CT        | 4,000             | .400/.400/.185      | M112       |
| SMG1553-61  | 1.66CT:1CT        | 4,000             | .400/.400/.185      | M112       |
| SMG1553-65  | 1CT:2.5CT         | 4,000             | .400/.400/.185      | M112       |
| SMG1553-66  | 1CT:1.79CT        | 4,000             | .400/.400/.185      | M112       |
| SMG1553-67  | 1CT:2.7CT         | 4,000             | .400/.400/.185      | M112       |
| SMG1553-68  | 1CT:3.75CT        | 4,000             | .400/.400/.185      | M112       |

### Dual Interface Transformers- Low Profile, Miniature Series

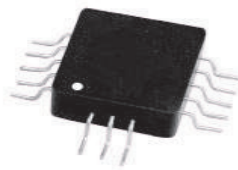
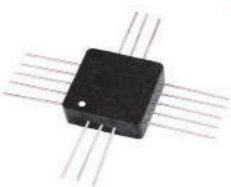
| Part Number | Turns Ratio (±3%)     | Impedance (Ω MIN) | Package (L/W/H) in. | Data Sheet |
|-------------|-----------------------|-------------------|---------------------|------------|
| DKG1553-45  | 1CT:2.50CT/1CT:1.79CT | 4,000             | .675/.400/.185      | M322       |
| DKG1553-70  | 1CT:3.00CT/1CT:2.15CT | 4,000             | .675/.400/.185      | M322       |
| DKG1553-71  | 1CT:3.54CT/1CT:2.70CT | 4,000             | .675/.400/.185      | M222       |
| DKG1553-72  | 1CT:2.65CT/1CT:2.07CT | 4,000             | .675/.400/.185      | M322       |

1. Designed, built and tested to MIL-PRF-21038 & MIL-STD-202  
Level M (Standard): for general purpose military applications  
Level T (Optional): for high-reliability, critical, military applications
2. Web: <http://www.pulseruggedized.com> home page, click on the "PRODUCT FINDER" and enter the part number.

### QPL Series — Qualified to MIL-PRF-21038/27

| Part Number | Military Designation Number | Turns Ratio (±3%)     | Impedance (Ω MIN) | Package L/W/H (in.) | Data Sheet |
|-------------|-----------------------------|-----------------------|-------------------|---------------------|------------|
| Q1553-20    | M21038/27-05                | 1:1.41                | 3,000             | .500/.350/.250      | M223       |
| Q1553-21    | M21038/27-06                | 1CT:1CT               | 3,000             | .500/.350/.250      | M223       |
| Q1553-22    | M21038/27-07                | 1CT:1.41CT            | 3,000             | .500/.350/.250      | M223       |
| Q1553-23    | M21038/27-08                | 1CT:1.66CT            | 3,000             | .500/.350/.250      | M223       |
| Q1553-24    | M21038/27-09                | 1CT:2CT               | 3,000             | .500/.350/.250      | M223       |
| Q1553-25    | M21038/27-28                | 1CT:1.5CT             | 3,000             | .500/.350/.250      | M223       |
| Q1553-51    | M21038/27-29                | 1CT:1.79CT            | 3,000             | .500/.350/.250      | M223       |
| Q1553-52    | M21038/27-30                | 1CT:2.5CT             | 3,000             | .500/.350/.250      | M223       |
| Q1553-1     | M21038/27-01                | 1CT:1CT/1CT:707CT     | 4,000             | .625/.625/.250      | M224       |
| Q1553-2     | M21038/27-02                | 1.4CT:1CT/2CT:1CT     | 7,200             | .625/.625/.250      | M224       |
| Q1553-3     | M21038/27-03                | 1.25CT:1CT/1.66CT:1CT | 4,000             | .625/.625/.250      | M224       |
| Q1553-5     | M21038/27-10                | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .625/.625/.250      | M224       |
| Q1553-45    | M21038/27-26                | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .625/.625/.250      | M224       |
| Q1553-81    | M21038/27-21                | 1CT:1CT/1CT:707CT     | 4,000             | .625/.625/.275      | M224       |
| Q1553-82    | M21038/27-22                | 1.4CT:1CT/2CT:1CT     | 7,200             | .625/.625/.275      | M224       |
| Q1553-83    | M21038/27-23                | 1.25CT:1CT/1.66CT:1CT | 4,000             | .625/.625/.275      | M224       |
| Q1553-84    | M21038/27-24                | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .625/.625/.275      | M224       |
| Q1553-85    | M21038/27-25                | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .625/.625/.275      | M224       |
| FPQ1553-6   | M21038/27-16                | 1CT:1CT/1CT:707CT     | 4,000             | .625/.625/.250      | M225       |
| SMQ1553-6   | M21038/27-11                | 1CT:1CT/1CT:707CT     | 4,000             | .625/.625/.250      | M225       |
| FPQ1553-7   | M21038/27-17                | 1.4CT:1CT/2CT:1CT     | 7,200             | .625/.625/.250      | M225       |
| SMQ1553-7   | M21038/27-12                | 1.4CT:1CT/2CT:1CT     | 7,200             | .625/.625/.250      | M225       |
| FPQ1553-8   | M21038/27-18                | 1.25CT:1CT/1.66CT:1CT | 4,000             | .625/.625/.250      | M225       |
| SMQ1553-8   | M21038/27-13                | 1.25CT:1CT/1.66CT:1CT | 4,000             | .625/.625/.250      | M225       |
| FPQ1553-10  | M21038/27-20                | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .625/.625/.250      | M225       |
| SMQ1553-10  | M21038/27-15                | 1CT:2.12CT/1CT:1.5CT  | 4,000             | .625/.625/.250      | M225       |
| FPQ1553-45  | M21038/27-31                | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .625/.625/.250      | M225       |
| SMQ1553-45  | M21038/27-27                | 1CT:2.5CT/1CT:1.79CT  | 4,000             | .625/.625/.250      | M225       |

1. Part number options: C and T level QPL testing (xxQC1553-xx, xxQT1553-xx, M21038/27-xxC, M21038/27-xxT).  
Product Level: This specification makes provision for three product levels:  
Level C: for high reliability commercial/industrial type applications  
Level M: for general purpose military applications  
Level T: for high-reliability, critical, applications.
2. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.
3. Summary Performance Specifications:  
Droop = 20%  
Overshoot = ±1 V MAX;  
Common Mode Rejection = 45 dB  
Frequency Range (no load) = 75 kHz to 1 MHz  
Operating Temperature Range = -55°C to +130°C  
Weight = 5 grams  
Insulation Resistance = 10 kMΩ @ 250 Vdc  
Dielectric Withstanding Voltage = 100 Vrms



PulseR, L.L.C. is the leading manufacturer of magnetic components with 70-years experience, originally founded as Technitrol in 1947. PulseR offers custom and catalog power magnetics ruggedized for Military, MIL-PRF-27, MIL-STD-981 and high reliability applications. Pulse has a full line of "Off-the-Shelf" inductors for military and aerospace power applications in SLED, SLIC and POGO series packaging. The SLED, SLIC and POGO series use ruggedized high temperature headers suitable for surface mounting to Printed Circuit Board assemblies. Cores are securely bonded to the headers allowing parts to meet MIL-PRF-27 environmental requirements. PulseR offers shielded drum core inductors and planar transformers incorporating ruggedized PCB mounting clips that have superior performance in applications with shock and vibration requirements.

PulseR offers catalog offerings of Gate Drive transformers with high isolation as well as miniature current sense transformers.

PulseR continues to offer tin/lead termination finishes for Military, Space and Aerospace applications requiring the highest reliability. Parts can also be purchased with pure tin/lead finishes where RoHS and REACH compliance are required. PulseR offers complete design support, qualification test services and global AS9100 manufacturing capabilities



## OFF-THE-SHELF POWER INDUCTORS & CHOKES

| Toroid Power Inductors - SLED Series |                               |                        |              |                                      |                     |            |
|--------------------------------------|-------------------------------|------------------------|--------------|--------------------------------------|---------------------|------------|
| Part Number                          | @ I <sub>Rated</sub> (μH) TYP | I <sub>Rated</sub> (A) | DCR (mΩ MAX) | Inductance @0A <sub>DC</sub> (μH)TYP | Package L/W/H (in.) | Data Sheet |
| SLED 20                              |                               |                        |              |                                      |                     |            |
| PL8100                               | 1.01                          | 3.40                   | 11           | 1.1                                  | .400/.345/.250      | M107       |
| PL8101                               | 6.2                           | 1.40                   | 70           | 7                                    | .400/.345/.250      | M107       |
| PL8102                               | 17.6                          | 1.00                   | 125          | 22.7                                 | .400/.345/.250      | M107       |
| SLED 30                              |                               |                        |              |                                      |                     |            |
| PL8110                               | 3.8                           | 4.80                   | 17.3         | 5.2                                  | .625/.525/.400      | M107       |
| PL8111                               | 9.4                           | 2.80                   | 43.4         | 12.3                                 | .625/.525/.400      | M107       |
| PL8112                               | 29.7                          | 1.40                   | 166          | 35.3                                 | .625/.525/.400      | M107       |
| PL8113                               | 114                           | 0.94                   | 380          | 167                                  | .625/.525/.400      | M107       |
| SLED 40                              |                               |                        |              |                                      |                     |            |
| PL8120                               | 2.5                           | 8.00                   | 8.3          | 3.8                                  | .725/.575/.410      | M107       |
| PL8121                               | 5.1                           | 5.40                   | 17.7         | 7.5                                  | .725/.575/.410      | M107       |
| PL8122                               | 16.2                          | 2.70                   | 72           | 21.9                                 | .725/.575/.410      | M107       |
| PL8123                               | 58.1                          | 1.30                   | 290          | 73                                   | .725/.575/.410      | M107       |
| PL8124                               | 192                           | 0.90                   | 560          | 292                                  | .725/.575/.410      | M107       |
| PL8125                               | 383                           | 0.72                   | 862          | 672                                  | .725/.575/.410      | M107       |
| PL8130                               | 4.9                           | 7.80                   | 12.4         | 7.9                                  | .725/.575/.410      | M107       |
| PL8131                               | 9                             | 5.50                   | 28           | 14                                   | .725/.575/.410      | M107       |
| PL8132                               | 29.1                          | 2.70                   | 100          | 40.5                                 | .725/.575/.410      | M107       |
| PL8133                               | 645                           | 0.74                   | 1250         | 1134                                 | .725/.575/.410      | M107       |
| PL8150                               | 0.81                          | 14.30                  | 2.5          | 1.25                                 | .725/.575/.410      | M107       |
| PL8151                               | 1.32                          | 11.50                  | 4.0          | 2.1                                  | .725/.575/.410      | M107       |
| SLED 50                              |                               |                        |              |                                      |                     |            |
| PL8140                               | 9.3                           | 7.20                   | 18.7         | 16                                   | .900/.690/.520      | M107       |
| PL8141                               | 16.1                          | 5.10                   | 32.0         | 25.9                                 | .900/.690/.520      | M107       |
| PL8142                               | 50                            | 2.60                   | 133          | 72.9                                 | .900/.690/.520      | M107       |
| PL8143                               | 1070                          | 0.71                   | 1700         | 1950                                 | .900/.690/.520      | M107       |
| PL8160                               | 1.68                          | 13.90                  | 3.6          | 2.8                                  | .900/.690/.520      | M107       |
| PL8161                               | 2.5                           | 11.40                  | 5.4          | 4.2                                  | .900/.690/.520      | M107       |
| PL8170                               | 3.5                           | 12.40                  | 6.6          | 6.5                                  | .900/.690/.520      | M107       |
| PL8171                               | 4.7                           | 10.40                  | 8.3          | 8.4                                  | .900/.690/.520      | M107       |

| SMT Common Mode Chokes: SLIC Series |                      |                        |              |                     |            |
|-------------------------------------|----------------------|------------------------|--------------|---------------------|------------|
| Part Number                         | Inductance (mH ±35%) | I <sub>Rated</sub> (A) | DCR (mΩ MAX) | Package L/W/H (in.) | Data Sheet |
| SLIC Series, Common Mode Chokes     |                      |                        |              |                     |            |
| PL8200                              | 0.47                 | 14.0                   | 8            | 1.220/1.000/500     | M108       |
| PL8201                              | 0.63                 | 11.6                   | 10           | 1.220/1.000/500     | M108       |
| PL8202                              | 0.81                 | 9.70                   | 14           | 1.220/1.000/500     | M108       |
| PL8203                              | 0.53                 | 7.20                   | 15           | 1.110/1.00/395      | M108       |
| PL8204                              | 0.59                 | 5.60                   | 21           | .770/.670/390       | M108       |
| PL8205                              | 0.77                 | 4.70                   | 40           | .770/.670/390       | M108       |
| PL8206                              | 0.22                 | 3.30                   | 60           | .770/.670/390       | M108       |
| PL8207                              | 1.32                 | 3.30                   | 60           | .770/.670/390       | M108       |
| PL8208                              | 1.47                 | 2.80                   | 80           | .770/.670/390       | M108       |
| PL8209                              | 0.88                 | 1.63                   | 110          | .500/.500/215       | M108       |
| PL8210                              | 1.17                 | 1.22                   | 200          | .500/.500/215       | M108       |
| PL8211                              | 10.15                | 1.40                   | 210          | .770/.670/395       | M108       |
| PL8212                              | 1.125                | 1.80                   | 55           | .500/.519/200       | M108       |
| PL8213                              | 0.80                 | 3.00                   | 27           | .511/.511/338       | M108       |
| PL8214                              | .383                 | 3.3                    | 18           | .511/.511/220       | M108       |
| PL8215                              | .536                 | 3.8                    | 17.1         | .645/.560/350       | M108       |
| PL8216                              | .280                 | 4.0                    | 13.2         | .511/.511/220       | M108       |
| PL8217                              | .486                 | 4.2                    | 16.0         | .716/.590/299       | M108       |
| PL8218                              | .130                 | 5.0                    | 6.75         | .519/.519/220       | M108       |
| PL8219                              | .096                 | 6.0                    | 4.30         | .519/.519/200       | M108       |
| PL8220                              | .400                 | 6.0                    | 9.4          | .716/.590/393       | M108       |
| PL8221                              | .061                 | 7.0                    | 2.9          | .531/.531/220       | M108       |
| PL8222                              | 4.84                 | 8.0                    | 7.7          | .770/.670/395       | M108       |
| PL8223                              | 1.22                 | 9.0                    | 9.75         | 1.22/1.00/500       | M108       |
| PL8224                              | .215                 | 10                     | 3.0          | .830/.751/441       | M108       |
| PL8225                              | .095                 | 12.5                   | 3.0          | .770/.670/395       | M108       |
| PL8226                              | .117                 | 14                     | 1.9          | .830/.751/441       | M108       |
| PL8227                              | .550                 | 16                     | 4.25         | 1.22/1.00/500       | M108       |
| PL8228                              | .380                 | 20                     | 4.1          | 1.22/1.00/500       | M108       |

1. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL8210NL).
2. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL8210NLT).
3. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.



## OFF-THE-SHELF POWER INDUCTORS & CHOKES

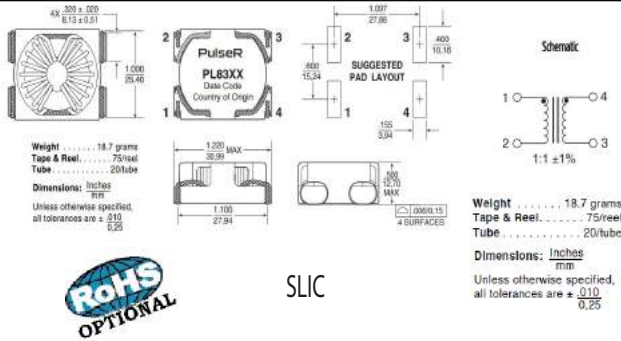
### SMT Power Inductors: SLIC (HCCI-80) Series

| Part <sup>1</sup><br>Number | @ IRATED<br>(μH) TYP | IRATED<br>(A) | DCR<br>(mΩ MAX) | Inductance<br>@0A <sub>DC</sub> (μH) TYP | Package<br>L/W/H (in.) | Data<br>Sheet |
|-----------------------------|----------------------|---------------|-----------------|------------------------------------------|------------------------|---------------|
| SLIC (HCCI) Series          |                      |               |                 |                                          |                        |               |
| PL8304 P                    | 1.1                  | 38            | 1.3             | 2.1                                      | 1.220/1.000/500        | M109          |
| PL8303 P                    | 1.6                  | 34            | 1.6             | 3.5                                      | 1.220/1.000/500        | M109          |
| PL8302 P                    | 2.45                 | 27            | 2.5             | 5.1                                      | 1.220/1.000/500        | M109          |
| PL8301 P                    | 3.2                  | 24            | 3.5             | 7.2                                      | 1.220/1.000/500        | M109          |
| PL8300 P                    | 4.52                 | 19            | 4.8             | 9.5                                      | 1.220/1.000/500        | M109          |
| PL8300 S                    | 18.1                 | 9.5           | 19.3            | 38.0                                     | 1.220/1.000/500        | M109          |

1. Connection: P = Parallel, S = Series

### SMT Power Inductors: Toroid, SLED Series

|         |      |     |      |      |                |      |
|---------|------|-----|------|------|----------------|------|
| SLED 25 |      |     |      |      |                |      |
| PL8500  | 9.4  | 3.8 | 32   | 10.4 | .625/.525/.310 | M113 |
| PL8501  | 13.3 | 3.2 | 46   | 14.6 | .625/.525/.310 | M113 |
| PL8502  | 23   | 2.4 | 74   | 25   | .625/.525/.310 | M113 |
| PL8503  | 50   | 1.6 | 135  | 56   | .625/.525/.310 | M113 |
| PL8504  | 75   | 1.3 | 220  | 83   | .625/.525/.310 | M113 |
| PL8505  | 90   | 1.2 | 285  | 100  | .625/.525/.310 | M113 |
| PL8506  | 137  | 1   | 425  | 152  | .625/.525/.310 | M113 |
| PL8507  | 200  | .82 | 673  | 220  | .625/.525/.310 | M113 |
| PL8508  | 305  | .66 | 972  | 331  | .625/.525/.310 | M113 |
| PL8509  | 439  | .56 | 1520 | 472  | .625/.525/.310 | M113 |



SLIC

### SMT Power Inductors: Toroid, POGO Series

| Part <sup>1</sup><br>Number | @ IRATED<br>(μH) MIN | IRATED<br>(A) | DCR<br>(mΩ MAX) | Inductance<br>@0A <sub>DC</sub> (μH) TYP | Package<br>L/W/H (in.) | Data<br>Sheet |
|-----------------------------|----------------------|---------------|-----------------|------------------------------------------|------------------------|---------------|
| POGO 25                     |                      |               |                 |                                          |                        |               |
| PL8600 P                    | 2.0                  | 8.30          | 8.0             | 2.2                                      | .625/.525/.310         | M114          |
| PL8601 P                    | 2.4                  | 7.20          | 10.9            | 2.6                                      | .625/.525/.310         | M114          |
| PL8602 P                    | 5.0                  | 5.20          | 19.0            | 5.5                                      | .625/.525/.310         | M114          |
| PL8600 S                    | 7.0                  | 4.16          | 16.0            | 8.75                                     | .625/.525/.310         | M114          |
| PL8603 P                    | 9.3                  | 3.80          | 30.0            | 10.4                                     | .625/.525/.310         | M114          |
| PL8601 S                    | 8.4                  | 3.78          | 21.8            | 10.4                                     | .625/.525/.310         | M114          |
| PL8604 P                    | 14.1                 | 3.10          | 45.5            | 15.7                                     | .625/.525/.310         | M114          |
| PL8605 P                    | 19.8                 | 2.6           | 66.5            | 22.1                                     | .625/.525/.310         | M114          |
| PL8602 S                    | 17.9                 | 2.6           | 38.0            | 22.45                                    | .625/.525/.310         | M114          |
| PL8606 P                    | 29.3                 | 2.20          | 101             | 32.8                                     | .625/.525/.310         | M114          |
| PL8603 S                    | 33.8                 | 1.89          | 60              | 41.7                                     | .625/.525/.310         | M114          |
| PL8607 P                    | 42.6                 | 1.80          | 151             | 47.6                                     | .625/.525/.310         | M114          |
| PL8604 S                    | 50.9                 | 1.54          | 91              | 62.8                                     | .625/.525/.310         | M114          |
| PL8608 P                    | 61.3                 | 1.50          | 222             | 67.5                                     | .625/.525/.310         | M114          |
| PL8605 S                    | 71.5                 | 1.30          | 133             | 88.2                                     | .625/.525/.310         | M114          |

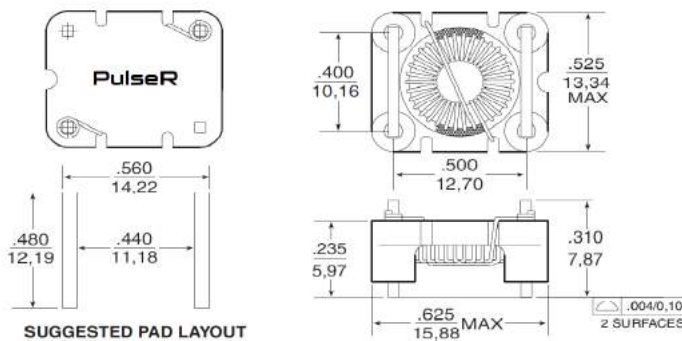
### SMT Power Inductors: Toroid, POGO Series

| Part <sup>1</sup><br>Number | @ IRATED<br>(μH) MIN | IRATED<br>(A) | DCR<br>(mΩ MAX) | Inductance<br>@0A <sub>DC</sub> (μH) TYP | Package<br>L/W/H (in.) | Data<br>Sheet |
|-----------------------------|----------------------|---------------|-----------------|------------------------------------------|------------------------|---------------|
| POGO 40                     |                      |               |                 |                                          |                        |               |
| PL8400 S                    | 43.6                 | 1.1           | 309             | 247.2                                    | .725/.575/.310         | M111          |
| POGO 50                     |                      |               |                 |                                          |                        |               |
| PL8401 S                    | 21.9                 | 2.7           | 90.5            | 72.4                                     | .910/.700/.400         | M111          |
| PL8402 S                    | 4.025                | 6.4           | 23.0            | 18.4                                     | .910/.700/.400         | M111          |
| PL8403 P                    | 0.53                 | 23.8          | 3.0             | 1.0                                      | .910/.700/.400         | M111          |
| PL8404 P                    | 1.1                  | 21            | 2.5             | 1.7                                      | .910/.700/.400         | M111          |
| POGO 60                     |                      |               |                 |                                          |                        |               |
| PL8405 P                    | 2.1                  | 22.4          | 3.4             | 2.5                                      | 1.280/1.070/.400       | M111          |

1. Connection: P=Parallel, S = Series
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL8603NL).
3. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL8603NLT).
4. Web: <http://www.pulseruggedized.com> home page, click on the "PRODUCT FINDER" and enter the part number.



SLED

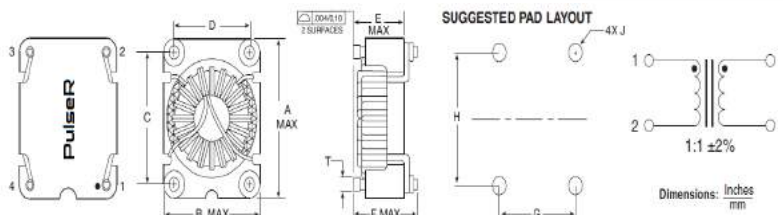


SUGGESTED PAD LAYOUT

Pan & Tube ..... .35/tube  
Tape & Reel ..... .300/reel  
MSL ..... .3  
Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± 0.10/0.25



POGO



Pan & Tube ..... .30/tube  
Tape & Reel ..... .300/reel  
MSL ..... .3  
Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± 0.10/0.25

## OFF-THE-SHELF POWER INDUCTORS (continued)

## SMT Power Inductors: Toroid, POGO Series (continued)

| Part <sup>1</sup><br>Number | @ I <sub>RATED</sub><br>(μH) MIN | I <sub>RATED</sub><br>(A) | DCR<br>(mΩ MAX) | Inductance <sup>2</sup><br>@0A <sub>DC</sub> (μH) TYP | Package<br>L/W/H (in.) | Data<br>Sheet |
|-----------------------------|----------------------------------|---------------------------|-----------------|-------------------------------------------------------|------------------------|---------------|
| POGO 25 (continued)         |                                  |                           |                 |                                                       |                        |               |
| PL8609 <sup>P</sup>         | 84.2                             | 1.20                      | 318             | 91.0                                                  | .625/.525/.310         | M114          |
| PL8606 <sup>S</sup>         | 106.1                            | 1.07                      | 202             | 131.0                                                 | .625/.525/.310         | M114          |
| PL8607 <sup>S</sup>         | 154.2                            | 0.89                      | 302             | 190.3                                                 | .625/.525/.310         | M114          |
| PL8608 <sup>S</sup>         | 218.9                            | 0.74                      | 444             | 270.2                                                 | .625/.525/.310         | M114          |
| PL8609 <sup>S</sup>         | 295.0                            | 0.64                      | 636             | 364.0                                                 | .625/.525/.310         | M114          |

## POGO 40

|                     |       |       |        |       |                |      |
|---------------------|-------|-------|--------|-------|----------------|------|
| PL8700 <sup>P</sup> | 1.5   | 14.40 | 4.41   | 2.2   | .725/.575/.380 | M115 |
| PL8701 <sup>P</sup> | 2.4   | 9.40  | 6.54   | 3.5   | .725/.575/.380 | M115 |
| PL8702 <sup>P</sup> | 4.2   | 8.10  | 10.47  | 5.9   | .725/.575/.380 | M115 |
| PL8703 <sup>P</sup> | 5.8   | 6.80  | 14.94  | 7.9   | .725/.575/.380 | M115 |
| PL8704 <sup>P</sup> | 7.6   | 5.70  | 20.99  | 10.1  | .725/.575/.380 | M115 |
| PL8705 <sup>P</sup> | 12.1  | 5.20  | 23.24  | 18.5  | .725/.575/.380 | M115 |
| PL8706 <sup>P</sup> | 18.0  | 4.20  | 38.15  | 27.4  | .725/.575/.380 | M115 |
| PL8707 <sup>P</sup> | 27.0  | 3.30  | 53.21  | 40.5  | .725/.575/.380 | M115 |
| PL8708 <sup>P</sup> | 34.8  | 2.30  | 73.89  | 50.5  | .725/.575/.380 | M115 |
| PL8700 <sup>S</sup> | 6.1   | 7.20  | 17.60  | 9.0   | .725/.575/.380 | M115 |
| PL8701 <sup>S</sup> | 9.7   | 5.60  | 26.20  | 14.0  | .725/.575/.380 | M115 |
| PL8702 <sup>S</sup> | 17.0  | 4.10  | 41.90  | 23.7  | .725/.575/.380 | M115 |
| PL8703 <sup>S</sup> | 23.1  | 3.40  | 59.70  | 31.5  | .725/.575/.380 | M115 |
| PL8704 <sup>S</sup> | 30.6  | 2.85  | 84.00  | 40.5  | .725/.575/.380 | M115 |
| PL8705 <sup>S</sup> | 48.5  | 2.70  | 93.00  | 74.1  | .725/.575/.380 | M115 |
| PL8706 <sup>S</sup> | 72.0  | 2.20  | 152.60 | 109.8 | .725/.575/.380 | M115 |
| PL8707 <sup>S</sup> | 108.0 | 1.77  | 212.80 | 161.8 | .725/.575/.380 | M115 |
| PL8708 <sup>S</sup> | 139.1 | 1.50  | 295.60 | 202.2 | .725/.575/.380 | M115 |

1. Connection: Superscript P = Parallel, S = Series

## POGO 50 (continued)

|                     |       |      |      |       |                |      |
|---------------------|-------|------|------|-------|----------------|------|
| PL8401 <sup>S</sup> | 21.9  | 2.7  | 90.5 | 39.5  | .910/.700/.510 | M114 |
| PL8402 <sup>S</sup> | 106.1 | 1.07 | 202  | 131.0 | .625/.525/.310 | M114 |
| PL8403 <sup>S</sup> | 154.2 | 0.89 | 302  | 190.3 | .625/.525/.310 | M114 |
| PL8404 <sup>S</sup> | 218.9 | 0.74 | 444  | 270.2 | .625/.525/.310 | M114 |

## POGO 60

|                     |     |      |     |   |                  |      |
|---------------------|-----|------|-----|---|------------------|------|
| PL8405 <sup>P</sup> | 2.1 | 22.4 | 3.4 | 4 | 1.280/1.070/.510 | M111 |
|---------------------|-----|------|-----|---|------------------|------|

1. Connection: P = Parallel, S = Series

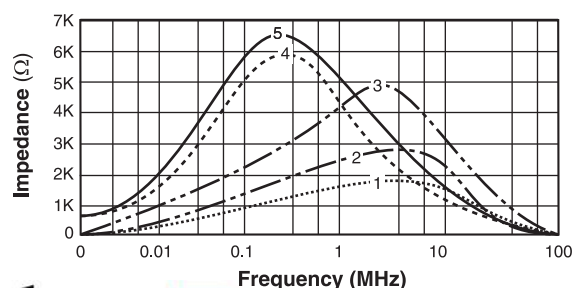
## SMT Common Mode Inductors: Toroid, POGO Series

| Part<br>Number | Inductance<br>(mH ±30%) | I <sub>RATED</sub><br>(A) | DCR<br>(mΩ) MAX | SRF<br>(MHz) | Impedance<br>Curve <sup>1</sup> | Package<br>L/W/H (in.) | Data<br>Sheet |
|----------------|-------------------------|---------------------------|-----------------|--------------|---------------------------------|------------------------|---------------|
| POGO 40        |                         |                           |                 |              |                                 |                        |               |
| PL8801         | 1.5                     | 1.50                      | 60              | 2            | 2                               | .725/.575/.380         | M116          |
| PL8803         | 10.0                    | 1.00                      | 450             | 0.5          | 4                               | .725/.575/.380         | M116          |
| PL8804         | 22.0                    | 0.50                      | 850             | 0.3          | 5                               | .725/.575/.380         | M116          |

## POGO 50

|        |     |      |    |     |   |                |      |
|--------|-----|------|----|-----|---|----------------|------|
| PL8800 | 1.0 | 3.60 | 50 | 4   | 1 | .910/.700/.510 | M116 |
| PL8802 | 3.0 | 2.50 | 80 | 2.2 | 3 | .910/.700/.510 | M116 |

1. See graph below.



## SMT Power Inductors: Shielded Drum Core

| Part<br>Number | Inductance<br>@I <sub>RATED</sub><br>(μH TYP) | I <sub>RATED</sub><br>(A) | DCR<br>(mΩ<br>MAX) | Inductance <sup>2</sup><br>@0A <sub>DC</sub><br>(μH) TYP | Saturation<br>Current<br>@25°C | Package<br>L/W/H (in.) | Data<br>Sheet |
|----------------|-----------------------------------------------|---------------------------|--------------------|----------------------------------------------------------|--------------------------------|------------------------|---------------|
| PL8901         | 0.80                                          | 11                        | 4.0                | 1.0 <sup>2</sup>                                         | 14                             | .413/.413/.280         | M117          |
| PL8902         | 1.20                                          | 10                        | 6.0                | 1.5 <sup>2</sup>                                         | 13                             | .413/.413/.280         | M117          |
| PL8903         | 2.1                                           | 9.0                       | 7.3                | 2.7 <sup>2</sup>                                         | 11                             | .413/.413/.280         | M117          |
| PL8904         | 2.9                                           | 8.0                       | 8.5                | 3.7 <sup>2</sup>                                         | 9.2                            | .413/.413/.280         | M117          |
| PL8905         | 3.7                                           | 7.3                       | 9.5                | 4.7 <sup>2</sup>                                         | 8.2                            | .413/.413/.280         | M117          |
| PL8906         | 4.8                                           | 6.0                       | 16.5               | 6.0 <sup>2</sup>                                         | 6.9                            | .413/.413/.280         | M117          |
| PL8907         | 6                                             | 5.5                       | 18.5               | 7.6 <sup>2</sup>                                         | 6.2                            | .413/.413/.280         | M117          |
| PL8908         | 8                                             | 5.0                       | 21.8               | 10                                                       | 5.5                            | .413/.413/.280         | M117          |
| PL8909         | 9.6                                           | 4.5                       | 29.0               | 12                                                       | 5.1                            | .413/.413/.280         | M117          |
| PL8910         | 12                                            | 4.1                       | 35.4               | 15                                                       | 4.4                            | .413/.413/.280         | M117          |
| PL8911         | 14.4                                          | 4.0                       | 37.0               | 18                                                       | 4.3                            | .413/.413/.280         | M117          |
| PL8912         | 17.6                                          | 3.8                       | 42.0               | 22                                                       | 3.8                            | .413/.413/.280         | M117          |
| PL8913         | 21.6                                          | 3.4                       | 45.9               | 27                                                       | 3.4                            | .413/.413/.280         | M117          |
| PL8914         | 26.4                                          | 3.0                       | 64.8               | 33                                                       | 3.0                            | .413/.413/.280         | M117          |
| PL8915         | 31.2                                          | 2.7                       | 81.5               | 39                                                       | 2.8                            | .413/.413/.280         | M117          |
| PL8916         | 37.6                                          | 2.6                       | 89.0               | 47                                                       | 2.6                            | .413/.413/.280         | M117          |
| PL8917         | 54.4                                          | 2.1                       | 135.0              | 68                                                       | 2.1                            | .413/.413/.280         | M117          |
| PL9101         | 0.96                                          | 10.5                      | 4.5                | 1.0 <sup>2</sup>                                         | 12.7                           | .413/.413/.248         | M121          |
| PL9102         | 1.52                                          | 9.5                       | 5.5                | 1.8 <sup>2</sup>                                         | 10.1                           | .413/.413/.248         | M121          |
| PL9103         | 2.34                                          | 7.8                       | 7.8                | 2.7 <sup>2</sup>                                         | 8.4                            | .413/.413/.248         | M121          |
| PL9104         | 3.27                                          | 6.7                       | 11.0               | 3.9 <sup>2</sup>                                         | 7.2                            | .413/.413/.248         | M121          |
| PL9105         | 4.39                                          | 5.6                       | 15.6               | 5.1 <sup>2</sup>                                         | 6.3                            | .413/.413/.248         | M121          |
| PL9106         | 5.54                                          | 5.2                       | 18.0               | 6.8 <sup>2</sup>                                         | 5.6                            | .413/.413/.248         | M121          |
| PL9107         | 6.73                                          | 5.0                       | 20.0               | 8.2 <sup>2</sup>                                         | 5.1                            | .413/.413/.248         | M121          |
| PL9108         | 8.19                                          | 4.6                       | 22                 | 10                                                       | 4.6                            | .413/.413/.248         | M121          |
| PL9109         | 9.9                                           | 4.2                       | 27                 | 12                                                       | 4.2                            | .413/.413/.248         | M121          |
| PL9110         | 13.4                                          | 3.6                       | 30                 | 15                                                       | 3.6                            | .413/.413/.248         | M121          |
| PL9111         | 15.4                                          | 3.4                       | 40                 | 18                                                       | 3.4                            | .413/.413/.248         | M121          |
| PL9112         | 17.6                                          | 3.2                       | 45                 | 22                                                       | 3.2                            | .413/.413/.248         | M121          |
| PL9113         | 22.5                                          | 2.8                       | 62                 | 27                                                       | 2.8                            | .413/.413/.248         | M121          |
| PL9114         | 28.5                                          | 2.5                       | 70                 | 33                                                       | 2.5                            | .413/.413/.248         | M121          |
| PL9115         | 31.4                                          | 2.4                       | 75                 | 39                                                       | 2.4                            | .413/.413/.248         | M121          |
| PL9116         | 38.4                                          | 2.2                       | 100                | 47                                                       | 2.2                            | .413/.413/.248         | M121          |
| PL9117         | 48.3                                          | 1.9                       | 110                | 56                                                       | 1.9                            | .413/.413/.248         | M121          |
| PL9118         | 55.9                                          | 1.8                       | 120                | 68.0                                                     | 1.8                            | .413/.413/.248         | M121          |
| PL9119         | 67.6                                          | 1.7                       | 178                | 82.0                                                     | 1.7                            | .413/.413/.248         | M121          |
| PL9120         | 86.1                                          | 1.4                       | 230                | 100.0                                                    | 1.4                            | .413/.413/.248         | M121          |
| PL9121         | 103                                           | 1.3                       | 253                | 120.0                                                    | 1.3                            | .413/.413/.248         | M121          |
| PL9122         | 121                                           | 1.2                       | 280                | 150.0                                                    | 1.2                            | .413/.413/.248         | M121          |
| PL9123         | 149                                           | 1.1                       | 310                | 180.0                                                    | 1.1                            | .413/.413/.248         | M121          |
| PL9124         | 186                                           | 1.0                       | 400                | 220.0                                                    | 1.0                            | .413/.413/.248         | M121          |
| PL9125         | 224                                           | 0.91                      | 460                | 270                                                      | 0.91                           | .413/.413/.248         | M121          |
| PL9126         | 279                                           | 0.82                      | 690                | 330                                                      | 0.82                           | .413/.413/.248         | M121          |
| PL9127         | 335                                           | 0.72                      | 760                | 390                                                      | 0.72                           | .413/.413/.248         | M121          |
| PL9128         | 398                                           | 0.68                      | 850                | 470                                                      | 0.68                           | .413/.413/.248         | M121          |
| PL9129         | 464                                           | 0.63                      | 1060               | 560                                                      | 0.63                           | .413/.413/.248         | M121          |
| PL9130         | 563                                           | 0.57                      | 1200               | 680                                                      | 0.57                           | .413/.413/.248         | M121          |
| PL9131         | 681                                           | 0.52                      | 1550               | 820                                                      | 0.52                           | .413/.413/.248         | M121          |
| PL9132         | 879                                           | 0.46                      | 1750               | 1000                                                     | 0.46                           | .413/.413/.248         | M121          |

- The rated current as listed is either the saturation current or the heating current depending on which value is lower.
- Inductance at 0A<sub>DC</sub> tolerance is ±30%. The tolerance is ±20% on all other parts.  
Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the end of the part number.
- Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.



continued on the next page

## OFF-THE-SHELF POWER INDUCTORS (continued)

## SMT Power Inductors: Shielded Drum Core (continued)

| Part Number | Inductance @I <sub>RATED</sub> (μH TYP) | I <sub>RATED</sub> <sup>1</sup> (A) | DCR (mΩ MAX) | Inductance @0A <sub>DC</sub> (μH) TYP | Saturation Current @25°C | Package L/W/H (in.) | Data Sheet | Part Number | Inductance @I <sub>RATED</sub> (μH TYP) | I <sub>RATED</sub> (A) | DCR (mΩ MAX) | Inductance @0A <sub>DC</sub> (μH) TYP | Saturation Current @25°C | Package L/W/H (in.) | Data Sheet |
|-------------|-----------------------------------------|-------------------------------------|--------------|---------------------------------------|--------------------------|---------------------|------------|-------------|-----------------------------------------|------------------------|--------------|---------------------------------------|--------------------------|---------------------|------------|
| PL9201      | 0.95                                    | 8.7                                 | 5.7          | 1.0                                   | 11                       | .413/.413/.201      | M122       | PL9401      | 0.67                                    | 7.00                   | 4.4          | 0.68                                  | 7.00                     | .410/.410/.132      | M123       |
| PL9202      | 1.55                                    | 7.4                                 | 7.9          | 1.6                                   | 8.8                      | .413/.413/.201      | M122       | PL9402      | 1.3                                     | 6.10                   | 6.4          | 1.5                                   | 6.10                     | .410/.410/.132      | M123       |
| PL9203      | 2.32                                    | 6.6                                 | 10.0         | 2.7                                   | 7.3                      | .413/.413/.201      | M122       | PL9403      | 2.1                                     | 5.70                   | 10.4         | 2.2                                   | 5.70                     | .410/.410/.132      | M123       |
| PL9204      | 3.24                                    | 5.5                                 | 4.5          | 3.6                                   | 6.3                      | .413/.201/.201      | M122       | PL9404      | 3.1                                     | 4.80                   | 15.6         | 3.3                                   | 4.80                     | .410/.410/.132      | M123       |
| PL9205      | 4.26                                    | 5.1                                 | 16.5         | 4.5                                   | 5.5                      | .413/.413/.201      | M122       | PL9405      | 4.5                                     | 4.10                   | 21.2         | 4.7                                   | 4.10                     | .410/.410/.132      | M123       |
| PL9206      | 5.64                                    | 4.4                                 | 22           | 6.0                                   | 4.9                      | .413/.413/.201      | M122       | PL9406      | 5.8                                     | 3.60                   | 25.2         | 6.2                                   | 3.60                     | .410/.410/.132      | M123       |
| PL9207      | 7.17                                    | 4.2                                 | 25           | 7.6                                   | 4.4                      | .413/.413/.201      | M122       | PL9407      | 7.0                                     | 3.30                   | 27.8         | 6.8                                   | 3.30                     | .410/.410/.132      | M123       |
| PL9208      | 9.3                                     | 3.6                                 | 35           | 10                                    | 4.0                      | .413/.413/.201      | M122       | PL9408      | 9.4                                     | 3.00                   | 39.5         | 8.2                                   | 3.00                     | .410/.410/.132      | M123       |
| PL9209      | 10.8                                    | 3.3                                 | 37           | 12                                    | 3.7                      | .413/.413/.201      | M122       | PL9409      | 11                                      | 2.70                   | 42.9         | 10                                    | 2.70                     | .410/.410/.132      | M123       |
| PL9210      | 13.4                                    | 3.0                                 | 47           | 15                                    | 3.4                      | .413/.413/.201      | M122       | PL9410      | 12                                      | 2.40                   | 50.0         | 12                                    | 2.40                     | .410/.410/.132      | M123       |
| PL9211      | 17.5                                    | 2.7                                 | 58           | 18                                    | 2.9                      | .413/.413/.201      | M122       | PL9411      | 15                                      | 2.25                   | 65.2         | 15                                    | 2.25                     | .410/.410/.132      | M123       |
| PL9212      | 19.4                                    | 2.6                                 | 67           | 22                                    | 2.8                      | .413/.413/.201      | M122       | PL9412      | 24                                      | 1.85                   | 86.1         | 22                                    | 1.85                     | .410/.410/.132      | M123       |
| PL9213      | 24.2                                    | 2.2                                 | 79           | 27                                    | 2.4                      | .413/.413/.201      | M122       | PL9413      | 35                                      | 1.40                   | 126          | 33                                    | 1.40                     | .410/.410/.132      | M123       |
| PL9214      | 30.6                                    | 2.1                                 | 94           | 33                                    | 2.2                      | .413/.413/.201      | M122       | PL9414      | 48                                      | 1.25                   | 188          | 47                                    | 1.25                     | .410/.410/.132      | M123       |
| PL9215      | 38.5                                    | 1.8                                 | 126          | 39                                    | 2.0                      | .413/.413/.201      | M122       | PL9415      | 55                                      | 1.15                   | 208          | 56                                    | 1.15                     | .410/.410/.132      | M123       |
| PL9216      | 46.1                                    | 1.7                                 | 140          | 47                                    | 1.8                      | .413/.413/.201      | M122       | PL9416      | 64                                      | 1.05                   | 279          | 68                                    | 1.05                     | .410/.410/.132      | M123       |
| PL9217      | 53.2                                    | 1.6                                 | 157          | 56                                    | 1.7                      | .413/.413/.201      | M122       | PL9417      | 88                                      | 0.94                   | 317          | 82                                    | 0.94                     | .410/.410/.132      | M123       |
| PL9218      | 63.1                                    | 1.45                                | 202          | 68.0                                  | 1.6                      | .413/.413/.201      | M122       | PL9418      | 106                                     | 0.88                   | 358          | 100                                   | 0.88                     | .410/.410/.132      | M123       |
| PL9219      | 76.6                                    | 1.36                                | 232          | 82.0                                  | 1.4                      | .413/.413/.201      | M122       | PL9419      | 129                                     | 0.80                   | 478          | 120                                   | 0.80                     | .410/.410/.132      | M123       |
| PL9220      | 88                                      | 1.29                                | 270          | 100.0                                 | 1.3                      | .413/.413/.201      | M122       | PL9420      | 157                                     | 0.70                   | 545          | 150                                   | 0.70                     | .410/.410/.132      | M123       |
| PL9221      | 112                                     | 1.07                                | 316          | 120.0                                 | 1.2                      | .413/.413/.201      | M122       | PL9421      | 238                                     | 0.58                   | 837.0        | 220                                   | 0.58                     | .410/.410/.132      | M123       |
| PL9222      | 135                                     | 1.02                                | 456          | 150.0                                 | 1.05                     | .413/.413/.201      | M122       | PL9422      | 325                                     | 0.45                   | 1199         | 330                                   | 0.45                     | .410/.410/.132      | M123       |
| PL9223      | 132                                     | 0.87                                | 497          | 180.0                                 | 0.96                     | .413/.413/.201      | M122       | PL9501      | 2.15                                    | 2.60                   | 17.6         | 2.5                                   | 2.6                      | .256/.256/.122      | M124       |
| PL9224      | 198                                     | 0.82                                | 681          | 220.0                                 | 0.86                     | .413/.413/.201      | M122       | PL9502      | 2.58                                    | 2.30                   | 20.3         | 3.3                                   | 2.3                      | .256/.256/.122      | M124       |
| PL9225      | 237                                     | 0.78                                | 775          | 270                                   | 0.79                     | .413/.413/.201      | M122       | PL9503      | 3.43                                    | 2.10                   | 27.0         | 4                                     | 2.1                      | .256/.256/.122      | M124       |
| PL9226      | 296                                     | 0.66                                | 955          | 330                                   | 0.71                     | .413/.413/.201      | M122       | PL9504      | 4.63                                    | 1.85                   | 31.1         | 5                                     | 1.85                     | .256/.256/.122      | M124       |
| PL9227      | 355                                     | 0.58                                | 1087         | 390                                   | 0.66                     | .413/.413/.201      | M122       | PL9505      | 5.22                                    | 1.70                   | 41.9         | 6                                     | 1.7                      | .256/.256/.122      | M124       |
| PL9228      | 445                                     | 0.54                                | 1403         | 470                                   | 0.59                     | .413/.413/.201      | M122       | PL9506      | 6.57                                    | 1.50                   | 49.9         | 8                                     | 1.5                      | .256/.256/.122      | M124       |
| PL9229      | 495                                     | 0.53                                | 1623         | 560                                   | 0.54                     | .413/.413/.201      | M122       | PL9507      | 8.65                                    | 1.30                   | 54.0         | 10                                    | 1.3                      | .256/.256/.122      | M124       |
| PL9230      | 610                                     | 0.49                                | 1824         | 680                                   | 0.49                     | .413/.413/.201      | M122       | PL9508      | 9.78                                    | 1.20                   | 72.0         | 12                                    | 1.2                      | .256/.256/.122      | M124       |
| PL9231      | 702                                     | 0.43                                | 2355         | 820                                   | 0.45                     | .413/.413/.201      | M122       | PL9509      | 12.13                                   | 1.10                   | 82.0         | 15                                    | 1.1                      | .256/.256/.122      | M124       |
| PL9232      | 890                                     | 0.40                                | 2850         | 1000                                  | 0.41                     | .413/.413/.201      | M122       | PL9510      | 15.23                                   | 1.05                   | 102.0        | 18                                    | 1.05                     | .256/.256/.122      | M124       |
| PL9301      | 0.62                                    | 7.60                                | 5.5          | 0.68                                  | 10                       | .410/.410/.157      | M120       | PL9511      | 18.7                                    | 0.95                   | 119.0        | 22                                    | 0.95                     | .256/.256/.122      | M124       |
| PL9302      | 1.2                                     | 7.10                                | 7.3          | 1.3                                   | 8                        | .410/.410/.157      | M120       | PL9512      | 21.54                                   | 0.85                   | 146.0        | 27                                    | 0.85                     | .256/.256/.122      | M124       |
| PL9303      | 1.9                                     | 5.80                                | 10.9         | 2.2                                   | 6.15                     | .410/.410/.157      | M120       | PL9513      | 27.71                                   | 0.76                   | 183.0        | 33                                    | 0.76                     | .256/.256/.122      | M124       |
| PL9304      | 2.8                                     | 5.20                                | 13.3         | 3.3                                   | 5.8                      | .410/.410/.157      | M120       | PL9514      | 33.57                                   | 0.68                   | 210.0        | 39                                    | 0.68                     | .256/.256/.122      | M124       |
| PL9305      | 4.0                                     | 4.70                                | 19.6         | 4.7                                   | 5.4                      | .410/.410/.157      | M120       | PL9515      | 40.15                                   | 0.60                   | 230.0        | 47                                    | 0.6                      | .256/.256/.122      | M124       |
| PL9306      | 5.4                                     | 3.70                                | 27.0         | 6.0                                   | 4.5                      | .410/.410/.157      | M120       | PL9516      | 49.68                                   | 0.55                   | 305.0        | 56                                    | 0.55                     | .256/.256/.122      | M124       |
| PL9307      | 6.9                                     | 3.50                                | 30.8         | 7.6                                   | 4                        | .410/.410/.157      | M120       | PL9517      | 60.66                                   | 0.48                   | 351.0        | 68                                    | 0.48                     | .256/.256/.122      | M124       |
| PL9308      | 8.0                                     | 3.40                                | 33.2         | 10                                    | 3.8                      | .410/.410/.157      | M120       | PL9518      | 74.71                                   | 0.45                   | 419.0        | 82                                    | 0.45                     | .256/.256/.122      | M124       |
| PL9309      | 11                                      | 3.00                                | 45.2         | 12                                    | 3.4                      | .410/.410/.157      | M120       | PL9519      | 85.39                                   | 0.40                   | 520.0        | 100                                   | 0.4                      | .256/.256/.122      | M124       |
| PL9310      | 12                                      | 2.80                                | 49.4         | 15                                    | 3.1                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9311      | 19                                      | 2.30                                | 77           | 22                                    | 2.8                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9312      | 25                                      | 2.10                                | 89           | 27                                    | 2.3                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9313      | 38                                      | 1.65                                | 142          | 47                                    | 2.1                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9314      | 55                                      | 1.32                                | 212.0        | 68                                    | 1.5                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9315      | 83                                      | 1.10                                | 328          | 100                                   | 1.35                     | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9316      | 123                                     | 0.88                                | 500          | 150                                   | 1.15                     | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9317      | 178                                     | 0.73                                | 739          | 220                                   | 0.92                     | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |
| PL9318      | 278                                     | 0.60                                | 1133         | 330                                   | 0.7                      | .410/.410/.157      | M120       |             |                                         |                        |              |                                       |                          |                     |            |

1. The rated current as listed is either the saturation current or the heating current depending on which value is lower.
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL9514NL).
3. Optional Tape and Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL9514T).
4. Web: <http://www.pulseruggedized.com> home page, click on



# PLANARS POWER INDUCTORS

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C

| Part<br>Number           | Inductance @     |              | DCR (mΩ) |      | Inductance @<br>0 A dc<br>(μH ±15%) | Saturation Current<br>(ADC) |       | Heating<br>Current (A) | Data<br>Sheet |
|--------------------------|------------------|--------------|----------|------|-------------------------------------|-----------------------------|-------|------------------------|---------------|
|                          | Irated (μH ±15%) | Irated (ADC) | TYP      | MAX  |                                     | 25°C                        | 100°C |                        |               |
| 2-Turn (Low Loss Series) |                  |              |          |      |                                     |                             |       |                        |               |
| PL10100                  | 0.45             | 73           | 0.38     | 0.48 | 0.45                                | 95                          | 80    | 73                     | M194          |
| PL10101                  | 0.63             | 54           | 0.38     | 0.48 | 0.65                                | 63                          | 53    | 73                     | M194          |
| PL10102                  | 0.85             | 39           | 0.38     | 0.48 | 0.91                                | 46                          | 37    | 73                     | M194          |
| PL10103                  | 1.05             | 30           | 0.38     | 0.48 | 1.10                                | 35                          | 30    | 73                     | M194          |
| PL10104                  | 1.25             | 25           | 0.38     | 0.48 | 1.30                                | 29                          | 26    | 73                     | M194          |
| PL10105                  | 1.45             | 21           | 0.38     | 0.48 | 1.50                                | 24                          | 22    | 73                     | M194          |
| 2-Turn Series            |                  |              |          |      |                                     |                             |       |                        |               |
| PL10106                  | 0.45             | 52           | 0.78     | 0.98 | 0.45                                | 95                          | 80    | 52                     | M194          |
| PL10107                  | 0.63             | 52           | 0.78     | 0.98 | 0.65                                | 63                          | 53    | 52                     | M194          |
| PL10108                  | 0.85             | 39           | 0.78     | 0.98 | 0.91                                | 46                          | 37    | 52                     | M194          |
| PL10109                  | 1.05             | 30           | 0.78     | 0.98 | 1.10                                | 35                          | 30    | 52                     | M194          |
| PL10110                  | 1.25             | 25           | 0.78     | 0.98 | 1.30                                | 29                          | 26    | 52                     | M194          |
| PL10111                  | 1.45             | 21           | 0.78     | 0.98 | 1.50                                | 24                          | 22    | 52                     | M194          |
| 3-Turn Series            |                  |              |          |      |                                     |                             |       |                        |               |
| PL10112                  | 0.95             | 42           | 1.15     | 1.43 | 1.00                                | 68                          | 54    | 42                     | M194          |
| PL10113                  | 1.40             | 36           | 1.15     | 1.43 | 1.50                                | 43                          | 35    | 42                     | M194          |
| PL10114                  | 1.90             | 25           | 1.15     | 1.43 | 2.00                                | 29                          | 25    | 42                     | M194          |
| PL10115                  | 2.40             | 20           | 1.15     | 1.43 | 2.50                                | 23                          | 21    | 42                     | M194          |
| PL10116                  | 2.80             | 15           | 1.15     | 1.43 | 3.00                                | 18                          | 16    | 42                     | M194          |
| PL10117                  | 3.40             | 12           | 1.15     | 1.43 | 3.50                                | 15                          | 13    | 42                     | M194          |
| 4-Turn Series            |                  |              |          |      |                                     |                             |       |                        |               |
| PL10118                  | 1.60             | 37           | 1.44     | 1.80 | 1.60                                | 55                          | 43    | 37                     | M194          |
| PL10119                  | 2.40             | 30           | 1.44     | 1.80 | 2.42                                | 35                          | 27    | 37                     | M194          |
| PL10120                  | 3.30             | 17           | 1.44     | 1.80 | 3.60                                | 20                          | 18    | 37                     | M194          |
| PL10121                  | 4.00             | 14           | 1.44     | 1.80 | 4.40                                | 16                          | 15    | 37                     | M194          |
| PL10122                  | 4.90             | 11           | 1.44     | 1.80 | 5.34                                | 13                          | 12    | 37                     | M194          |
| PL10123                  | 5.80             | 9            | 1.44     | 1.80 | 6.20                                | 11                          | 10    | 37                     | M194          |

# HIGH FREQUENCY PLANAR TRANSFORMERS

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C

| Part Number | Turns Ratio         |             | Primary Inductance (μH MIN) | Leakage Inductance (μH MAX) | DCR (mΩ MAX) |           | Data Sheet |
|-------------|---------------------|-------------|-----------------------------|-----------------------------|--------------|-----------|------------|
|             | Primary A           | Primary B   |                             |                             | Primary A    | Primary B |            |
| PL10201     | 4T & 4T             | 1T:1T:1T:1T | 216                         | 0.3                         | 13           | 13        | M343       |
| PL10203     | 5T & 5T             | 1T:1T:1T:1T | 340                         | 0.3                         | 15           | 15        | M343       |
| PL10205     | 6T & 6T             | 1T:1T:1T:1T | 480                         | 0.3                         | 21           | 21        | M343       |
| PL10207     | 7T & 7T             | 1T:1T:1T:1T | 660                         | 0.3                         | 50           | 50        | M343       |
| PL10208     | 4T & 4T             | 1T & 1T     | 216                         | 0.3                         | 13           | 13        | M343       |
| PL10209     | 8T & 8T             | 1T:1T:1T:1T | 860                         | 0.3                         | 60           | 60        | M343       |
| PL10210     | 5T & 5T (w/ 5T aux) | 1T & 1T     | 340                         | 0.3                         | 15           | 15        | M343       |
| PL10212     | 6T & 6T (w/2T aux)  | 1T & 1T     | 480                         | 0.3                         | 21           | 21        | M343       |
| PL10214     | 7T & 7T (w/3T aux)  | 1T & 1T     | 660                         | 0.3                         | 50           | 50        | M343       |
| PL10216     | 8T & 8T             | 1T & 1T     | 860                         | 0.3                         | 60           | 60        | M343       |

## NOTES:

- Optional Tape and Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL10123T).
- Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL10123NL).
- Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.


Weight..... 10.8 grams MAX  
Tape & Reel..... 250/reel

Dimensions: Inches  
mm  
Unless otherwise specified,  
all tolerances are ± .010  
0,25

## HIGH FREQUENCY PLANAR TRANSFORMERS

Electrical Specifications @ 25°C - Operating Temperature -40°C to +130°C - Power Rating Up To 250W

| Part Number | Turns Ratio    |             | Primary Inductance (µH MIN) | Leakage Inductance | DCR (mΩ MAX) |           | Data Sheet |
|-------------|----------------|-------------|-----------------------------|--------------------|--------------|-----------|------------|
|             | Primary A      | Primary B   |                             |                    | Primary A    | Primary B |            |
| PL10230     | 4T             | 1T:1T:1T:1T | 54                          | 0.3                | 13           | -         | M343       |
| PL10231     | 5T (w/5T aux)  | 1T:1T:1T:1T | 85                          | 0.3                | 15           | -         | M343       |
| PL10232     | 6T (w/2T aux)  | 1T:1T:1T:1T | 120                         | 0.3                | 21           | -         | M343       |
| PL10233     | 7T (w/3T aux)  | 1T:1T:1T:1T | 165                         | 0.3                | 50           | -         | M343       |
| PL10234     | 4T             | 7T & 7T     | 54                          | 0.3                | 13           | -         | M343       |
| PL10235     | 5T (w/ 5T aux) | 7T & 7T     | 85                          | 0.3                | 15           | -         | M343       |
| PL10236     | 6T (w/ 2T aux) | 7T & 7T     | 120                         | 0.3                | 21           | -         | M343       |
| PL10237     | 7T (w/ 3T aux) | 7T & 7T     | 165                         | 0.3                | 50           | -         | M343       |
| PL10238     | 4T             | 1T & 1T     | 54                          | 0.3                | 13           | -         | M343       |
| PL10239     | 5T (w/5T aux)  | 1T & 1T     | 85                          | 0.3                | 15           | -         | M343       |
| PL10240     | 6T (w/2T aux)  | 1T & 1T     | 120                         | 0.3                | 21           | -         | M343       |
| PL10241     | 7T (w/3T aux)  | 1T & 1T     | 165                         | 0.3                | 50           | -         | M343       |
| PL10242     | 4T             | 2T & 1T     | 54                          | 0.3                | 13           | -         | M343       |
| PL10243     | 5T (w/ 5T aux) | 2T & 1T     | 85                          | 0.3                | 15           | -         | M343       |
| PL10244     | 6T (w/2T aux)  | 2T & 1T     | 120                         | 0.3                | 21           | -         | M343       |
| PL10245     | 7T (w/3T aux)  | 2T & 1T     | 165                         | 0.3                | 50           | -         | M343       |
| PL10246     | 8T             | 1T:1T:1T:1T | 215                         | 0.3                | 60           | -         | M343       |
| PL10247     | 8T             | 2T & 1T     | 215                         | 0.3                | 60           | -         | M343       |
| PL10248     | 8T             | 1T & 1T     | 215                         | 0.3                | 60           | -         | M343       |
| PL10249     | 8T             | 2T & 1T     | 215                         | 0.3                | 60           | -         | M343       |
| PL10301     | 4T             | 5T          | 153                         | 0.45               | 17.5         | 17.5      | M314       |
| PL10302     | 4T             | 5T          | 194                         | 0.45               | 17.5         | 20        | M314       |
| PL10303     | 5T             | 5T          | 240                         | 0.55               | 20           | 20        | M314       |
| PL10304     | 5T             | 6T          | 290                         | 0.60               | 20           | 25        | M314       |
| PL10305     | 6T             | 6T          | 345                         | 0.65               | 25           | 25        | M314       |
| PL10306     | 4T             | 4T          | 153                         | 0.4                | 17.5         | 7.5       | M314       |
| PL10307     | 4T             | 5T          | 194                         | 0.4                | 17.5         | 20        | M314       |
| PL10308     | 5T             | 5T          | 240                         | 0.5                | 20           | 20        | M314       |
| PL10309     | 5T             | 6T          | 290                         | 0.6                | 20           | 25        | M314       |
| PL10310     | 6T             | 6T          | 345                         | 0.6                | 25           | 25        | M314       |
| PL10311     | 4T             | 4T          | 153                         | 0.4                | 17.5         | 17.5      | M314       |
| PL10312     | 4T             | 5T          | 194                         | 0.4                | 17.5         | 20        | M314       |
| PL10313     | 5T             | 5T          | 240                         | 0.4                | 20           | 20        | M314       |
| PL10314     | 5T             | 5T          | 290                         | 0.5                | 20           | 25        | M314       |
| PL10315     | 6T             | 6T          | 345                         | 0.5                | 25           | 25        | M314       |
| PL10401     | 4T & 4T        | 1T:1T:1T:1T | 211                         | 0.3                | 6.8          | 6.8       | M380       |
| PL10402     | 5T & 5T        | 1T:1T:1T:1T | 330                         | 0.4                | 8.5          | 8.5       | M380       |
| PL10403     | 6T & 6T        | 1T:1T:1T:1T | 423                         | 0.6                | 10.2         | 10.2      | M380       |
| PL10404     | 7T & 7T        | 1T:1T:1T:1T | 588                         | 0.8                | 11.8         | 11.8      | M380       |
| PL10405     | 4T & 4T        | 1T:1T:1T:1T | 768                         | 1.2                | 13.4         | 13.4      | M380       |
| PL10406     | 8T & 8T        | 1T & 1T     | 216                         | 0.45               | 6.8          | 6.8       | M380       |
| PL10407     | 5T & 5T        | 1T & 1T     | 340                         | 0.84               | 8.5          | 8.5       | M380       |
| PL10408     | 6T & 6T        | 1T & 1T     | 480                         | 1.0                | 10.2         | 10.2      | M380       |
| PL10409     | 7T & 7T        | 1T & 1T     | 660                         | 1.2                | 11.8         | 11.8      | M380       |
| PL10410     | 8T & 8T        | 1T & 1T     | 860                         | 1.7                | 13.4         | 13.4      | M380       |

### NOTES:

1. Optional Tape and Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL10123T).
2. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL10123NL).
3. Web: <http://www.pulseruggedized.com> home page, click on "PRODUCT FINDER" and enter the part number.

## SMT CURRENT SENSE TRANSFORMERS

Height: 5.5mm Max

Footprint: 8.4mm x 7.2mm Max

Frequency Range: 50kHz to 1MHz

Electrical Specifications @ 25°C — Operating Temperature -55°C to +130°C

| Part Number | Turns Ratio | Current * Rating (A) | Secondary Inductance (mH MIN) | DCR (mΩ MAX)  |                 | Hipot (VDC) | Data Sheet |
|-------------|-------------|----------------------|-------------------------------|---------------|-----------------|-------------|------------|
|             |             |                      |                               | Primary (8-7) | Secondary (1-3) |             |            |
| PL3250      | 1:20        | 10                   | 0.08                          | 6             | 550             | 700         | M278       |
| PL3251      | 1:30        | 10                   | 0.18                          | 6             | 870             | 700         | M278       |
| PL3252      | 1:40        | 10                   | 0.32                          | 6             | 1140            | 700         | M278       |
| PL3253      | 1:50        | 10                   | 0.50                          | 6             | 1500            | 700         | M278       |
| PL3254      | 1:60        | 10                   | 0.72                          | 6             | 2250            | 700         | M278       |
| PL3255      | 1:70        | 10                   | 0.98                          | 6             | 4750            | 700         | M278       |
| PL3256      | 1:100       | 10                   | 2.00                          | 6             | 5500            | 500         | M278       |
| PL3257      | 1:125       | 10                   | 3.00                          | 6             | 6500            | 500         | M278       |

## SMT CURRENT SENSE TRANSFORMERS

Electrical Specifications @ 25°C — Operating Temperature -55°C to +130°C

| Part Number | Turns Ratio | Current * Rating (A) | Secondary Inductance (mH MIN) | DCR (mΩ MAX)  |                 | Hipot (Vrms) | Data Sheet |
|-------------|-------------|----------------------|-------------------------------|---------------|-----------------|--------------|------------|
|             |             |                      |                               | Primary (8-7) | Secondary (1-3) |              |            |
| PL3258      | 1:20        | 20                   | 0.08                          | 0.75          | 550             | 1000         | M279       |
| PL3259      | 1:30        | 20                   | 0.18                          | 0.75          | 870             | 1000         | M279       |
| PL3260      | 1:40        | 20                   | 0.32                          | 0.75          | 1140            | 1000         | M279       |
| PL3261      | 1:50        | 20                   | 0.50                          | 0.75          | 1500            | 1000         | M279       |
| PL3262      | 1:60        | 20                   | 0.72                          | 0.75          | 2500            | 1000         | M279       |
| PL3263      | 1:70        | 20                   | 0.98                          | 0.75          | 4750            | 1000         | M279       |
| PL3264      | 1:100       | 20                   | 2.00                          | 0.75          | 6000            | 1000         | M279       |
| PL3265      | 1:125       | 20                   | 3.00                          | 0.75          | 7700            | 700          | M279       |
| PL3479      | 1:200       | 20                   | 8.00                          | 0.75          | 17000           | 700          | M279       |

## HIGH FREQUENCY CURRENT SENSE TRANSFORMERS

Electrical Specifications @ 25°C — Operating Temperature -55°C to +130°C

| Part Number | Turns Ratio Pri: Sec | Inductance (mH MAX) | Leakage Inductance (pF MAX) | DCR (mΩ MAX) | C <sub>ww</sub> (pF MAX) | Hipot (Vrms) | Datasheet |
|-------------|----------------------|---------------------|-----------------------------|--------------|--------------------------|--------------|-----------|
|             |                      |                     |                             |              |                          |              |           |
| PL3141      | 1:01                 | 1.5                 | 2                           | 55/70        | 30                       | 1500         | M358      |
| PL3183      | 1:01                 | 0.3                 | 0.5                         | 12/14        | 30                       | 1250         | M508      |

1. Parts can be ordered Non-Lead by adding "NL" to the part number (i.e. PL3250NL).
2. For Tape & Reel packaging, add the suffix "T" to the part number when ordering (i.e. PL3250NLT).
3. Web: <http://www.pulseruggedized.com> home page and enter the part number on the search bar.

## SMT CURRENT SENSE TRANSFORMER

| Part Number | Turns Ratio | Current Rating (A) | Secondary Inductance (mH MIN) | DCR Primary (1,3-2,4) (mΩ MAX) | DCR Secondary (5-6) (mΩ MAX) | Hipot (Vrms) | Package L/W/H (in.) | Datasheet |
|-------------|-------------|--------------------|-------------------------------|--------------------------------|------------------------------|--------------|---------------------|-----------|
| PL1961      | 1:1:200     | 15.00              | 59.200                        | 2.3                            | 4200                         | 500          | .575 / .495 / .280  | M150      |



## GATE DRIVE TRANSFORMERS

1000VDC -1500Vdc Basic & Functional Insulation

| Part Number | Turns Ratio | Pri-Sec Insulation | MAX (v*usec) | Primary Inductance (μH MAX) | Leakage Inductance (μH MAX) | DCR Primary (Ω MAX) | DCR Secondary (Ω MAX) | Package L/W/H (in.) | Insulation | Datasheet |
|-------------|-------------|--------------------|--------------|-----------------------------|-----------------------------|---------------------|-----------------------|---------------------|------------|-----------|
| PL3172NL    | 1:1         | 1500 Vrms          | 9.7          | 1200.0                      | .50                         | .91                 | .91                   | .355/.340/.300      | FUNCTIONAL | M297      |
| PL1960      | 1:1         | 1500Vdc            | 9.7          | 785.0                       | .46                         | .60                 | .60                   | .265/.340/.140      | FUNCTIONAL | M149      |
| PL3280      | 1:1:1       | 1500Vrms           | 12.7         | 800.0                       | .65                         | .75                 | .75                   | .340/.265/.140      | FUNCTIONAL | M296      |
| X-1569NL    | 1:1:1       | 1500Vdc            | 45.1         | 3330.0                      | .700                        | 1.60                | 1.60                  | .355/.340/.300      | FUNCTIONAL | M258      |
| X-1622NL    | 1:1:1       | 1500Vrms           | 60.0         | 1400.0                      | 1.50                        | 1.60                | 1.5/1.5               | .355/.340/.300      | FUNCTIONAL | M295      |
| PL3057NL    | 2.5:1:1     | 1500Vrms           | 27.2         | 1200.0                      | .80                         | .91                 | .38/.38               | .355/.340/.300      | BASIC      | M294      |
| PL2973      | 1:1         | 1500Vdc            | 27.2         | 1200                        | 0.50                        | .91                 | .91                   | .355/.340/.300      | BASIC      | M299      |
| PL3140      | 2:1:1       | 1500Vrms           | /            | 1200                        | 0.60                        | .91                 | .46                   | .355/.340/.300      | FUNCTIONAL | M383      |
| PL3002      | 1:1:1       | 1600Vrms           | 866          | 5000                        | 80                          | 6                   | 7.2/7.2               | 0.75/0.75/0.50      | FUNCTIONAL | M386      |
| PL2148NL    | 1:1         | 1500Vrms           | 55           | 1486                        | 0.80                        | 1.15                | 1.15                  | .355/.340/.300      | FUNCTIONAL | M387      |
| PL3159      | 1:1:1       | 2700VDC            | 21           | 507                         | 0.4                         | 0.85                | 0.85/0.85             | .315/.200/.118      | FUNCTIONAL | M388      |
| PL3212NL    | 1:1:1       | 3000Vrms           | 95           | 450                         | .50                         | 0.08                | .072                  | .810/.750/.480      | BASIC      | M389      |
| PL3215NL    | 1:1:1       | 6000Vrms           | 115          | 686                         | .80                         | 0.71                | 0.71/0.71             | .750/.810/.480      | BASIC      | M394      |
| PL3445NL    | 1:1:1       | 1500Vrms           | 85           | 7200                        | 2.0                         | 3.0                 | 3/3                   | .355/.340/.300      | FUNCTIONAL | M395      |
| PL3602NL    | 2:1:1       | 4000 Vrms          | 375          | 1500                        | 8.0                         | 2.2                 | 1.6/1.6               | .650/.500/.599      | FUNCTIONAL | M396      |
| PL3716      | 1:1         | 700Vrms            | 126          | 2500                        | 4.0                         | 5.8                 | 6.2                   | .650/.443/.400      | FUNCTIONAL | M392      |
| PL3839NL    | 1:1:1       | 2500Vrms           | 48           | 1500                        | TBD                         | 1.5                 | 1.5/1.5               | .572/.512/.340      | FUNCTIONAL | M393      |
| PL3840      | 1:1         | 10KVrms            | 320          | 1850                        | 15                          | 0.133               | 0.12/.085             | 1.319/1.417/.728    | FUNCTIONAL | M397      |
| PL1863      | 2:1:1       | 2500VDC            | 27.2         | 1200                        | .60                         | 0.91                | .46/.46               | .355/.340/.300      | FUNCTIONAL | M398      |
| PL1903      | 1:1         | 1500Vrms           | 15.4         | 750                         | 0.75                        | 0.88                | 0.7                   | .470/.350/.160      | BASIC      | M410      |
| PL2064      | 1:2.5:2.5   | 3750Vrms           | 10.88        | 162                         | 0.24                        | 0.28                | .56/.56               | .665/.421/.267      | BASIC      | M412      |
| PL2072      | 1:1         | 1500Vrms           | 12           | 403.2                       | 0.46                        | 0.685               | .685                  | .345/.265/.098      | FUNCTIONAL | M367      |
| 10B-1002    | 1:1         | 700Vrms            | 24           | 10,000                      | 30                          | 11                  | 11                    | .650/.443/.440      | FUNCTIONAL | M464      |
| PL2077NL    | 1:1:1       | 1650Vrms           | 28           | .84                         | .75                         | 1.05                | 1.05                  | .470/.350/.160      | FUNCTIONAL | M413      |

1. The maximum volt-μsec rating limits the peak flux density to 2200 Gauss when used in a unipolar drive application. For bi-polar drive applications a maximum volt-μsec of two times this rating is acceptable (ie: 2\* (volt\*μsec rating) Volt\*μsec = (voltage applied to the primary) \* dutycycle / Frequency = V \* alpha / Freq\_Hz = V \* μsec
2. Leakage inductance is measured at primary terminals with all secondaries shorted.
3. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the end of the part number (i.e. PL1960T).
4. The "NL" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions.
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
6. Web: <http://www.pulseruggedized.com> home page and enter the part number on the search bar.



CUSTOM CAPABILITIES

Space Development/Testing/Validation Capabilities

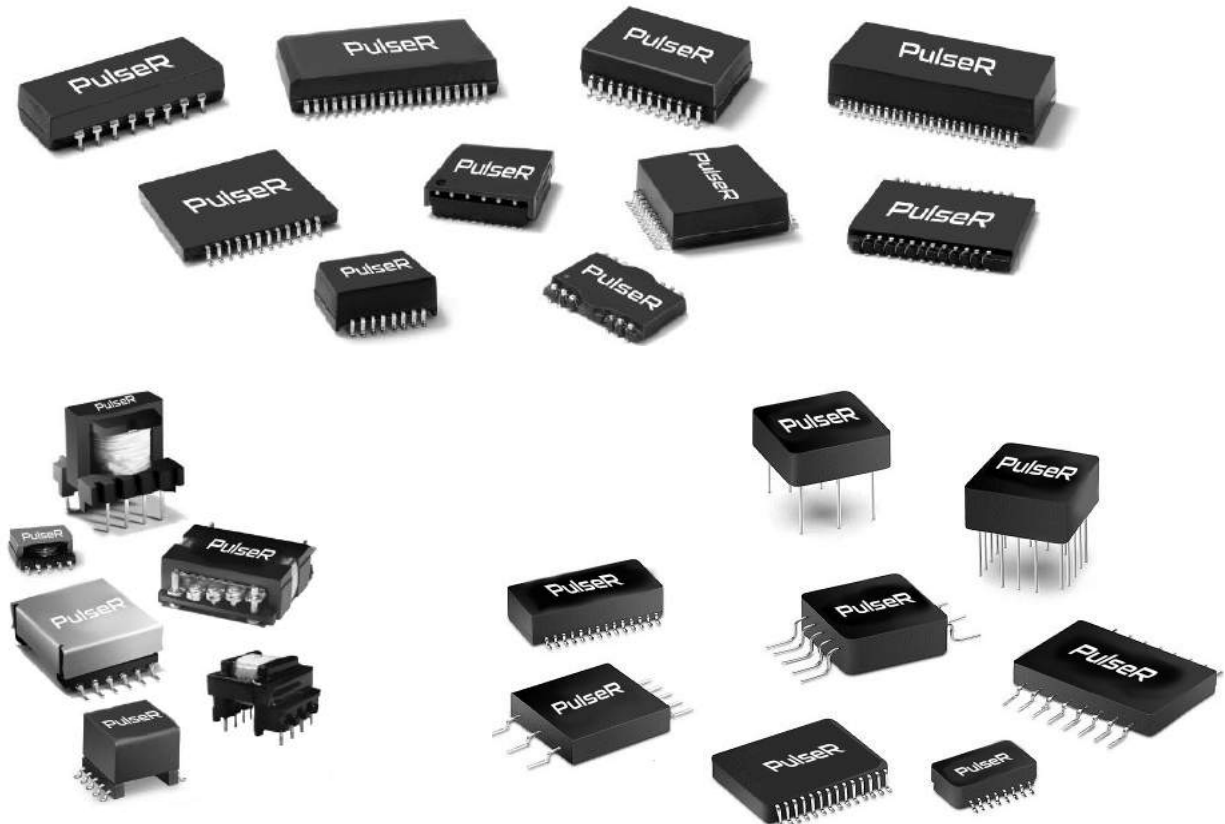
- MIL-STD-981
- NASA EEE-INST-002
- NASA-STD 8739.3
- IPC-STD-001DS
- MIL-PRF-21038
- MIL-PRF-27
- MIL-STD-202
- ECSS-Q-ST-70-38C
- AEC-Q200
- MIL-STD-883
- Custom Power
- Signal Design/Build

Program Participation

Orion      World View III      MagEIS      HPCA      STARMU      Advanced Composition Explorer (ACE)  
GPS III      James Webb Telescope      International Space Station      GBD

Manufacturing Capabilities

Bobbin Winding      Toroid Winding      AS9100D Quality System  
SMT Board Assembly      Elected/Mechanical Assembly      Harness Assembly  
In-House Machine Shop      Automated Electrical Test      Transfer Molding  
Custom Lead Forming      E.S.S. Capability      Vacuum Encapsulation / Impregnation  
Automated Solder Tinning



## PulseR CUSTOM CAPABILITIES

| CUSTOM CAPABILITIES (continued)              |                                  |               |                 |             |
|----------------------------------------------|----------------------------------|---------------|-----------------|-------------|
| Product Capability                           | PACKAGING                        | MAXIMUM POWER | MAXIMUM CURRENT | FREQUENCY   |
| SINGLE INDUCTORS                             | Lamination, Toroidal, Tape Wound | 4KVA          |                 | 15- 2MHz    |
| COMMON MODE CHOKES 1/3 Phase                 | Lamination, Toroidal, Tape Wound |               | 500A            | 15 - 2400Hz |
| CHOKES 3 PHASE (LINE FILTERING)              | Lamination, Tape Wound           |               | 500A            | 15 - 2400Hz |
| POWER TRANSFORMERS 1 Phase                   | Lamination, Toroidal, Tape Wound | 10KVA         |                 | 15 - 1200Hz |
| TRANSFORMERS Laminated 3 Phase               | Lamination, Toroidal, Tape Wound | 10KVA         |                 | 15 - 1200Hz |
| TRANSFORMERS - Switchmode                    | Planar, Bobbin Wound, Toroidal   | 1KVA          |                 | 20K- 1MHz   |
| INDUCTORS - Switchmode Buck/Boost            | Toroidal, Bobbin Wound           | 500VA         |                 | 20K- 1MHz   |
| TRANSFORMERS - Current Sense                 | Toroidal, Bobbin Wound           | 4KVA (burden) |                 | 15- 1MHz    |
| TRANSFORMER MODULES -Current Sense 1/3 PHASE | Toroidal, Bobbin Wound           | 4KVA (burden) |                 | 15- 1MHz    |
| TRANSFORMERS Gate Drive                      | Toroidal, Bobbin Wound           |               |                 | 20KHz- 1MHz |
| CURRENT SENSE TRANSFORMERS                   | Lamination, Toroidal, Tape Wound | 10KVA         |                 | 15 - 1200Hz |

Note: Magnetics for high temp requirement at +200°C

## Testing Services

Testing capabilities for product qualification and design validation

### ELECTRICAL

- Inductance with or without DC
- Turns Ratio
- HI-POT - Vac up to 5kv, Vdc up to 6kV
- Insulation Resistance
- Distortion
- Pulse Testing
- Thermal Rise
- Impedance
- Q (up to 1 Mhz)
- DCR
- SRF (up to 3Ghz)
- Leakage Inductance
- Voltage Ratio
- Insertion Loss

### MECHANICAL

- Mechanical Shock
- Mechanical Vibration
- Solderability
- Resistance to Soldering Heat

### ENVIRONMENTAL

- Humidity (to 90% RH)
- Moisture Resistance
- Thermal Shock
- Thermal Cycling
- High/Low Temperature Storage
- Steam Aging

### ANALYTICAL

- 3D Real Time X-ray
- Plating composition analysis
- Detailed Inspection Plans
- First Article Inspection to AS9102





