



A collage of four images representing different applications of Bourns components. From left to right: a car air filter with a Bourns logo, a white car, a server rack with many slots, and a control panel with many buttons and a Bourns component.





AUTOMOTIVE GRADE

Introduction

Systems and electronics within automobiles have become increasingly more sophisticated with the introduction of new and improved features every year. Crucial to customer satisfaction is that each of these features must be reliably powered, protected and connected to its respective interface within the overall automotive system. Bourns has substantial automotive component level experience and supplies leading component solutions. The Bourns Automotive division has extensive experience designing, building and supplying high reliability AEC-Q compliant components. Bourns offers a wide variety of resistors and magnetics to condition and filter electronic circuits. To complement our conditioning products, we offer a portfolio of circuit protection products that have been used by our customers in typical automotive applications.

All Bourns® standard components that are approved for typical automotive applications are manufactured in facilities that are fully certified to IATF 16949, and have been tested, qualified using the AEC-Q product validation standard for passive components and presented to the customer for selection and approval using PPAP. Bourns also offers customers access to our application test lab.

Bourns has a long history of serving the automotive market with quality sensor products. The company's inductive and circuit protection components are available to meet the board level requirements of many automotive applications. With excellent customer service and the availability of field application engineers, Bourns works closely with automotive system designers in helping customers select the right components, providing layout support, and making modifications as requested by the customer. Bourns performs surge tests and offers application and customer-specific testing.

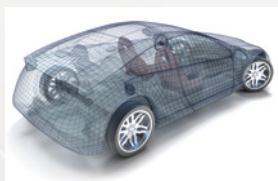
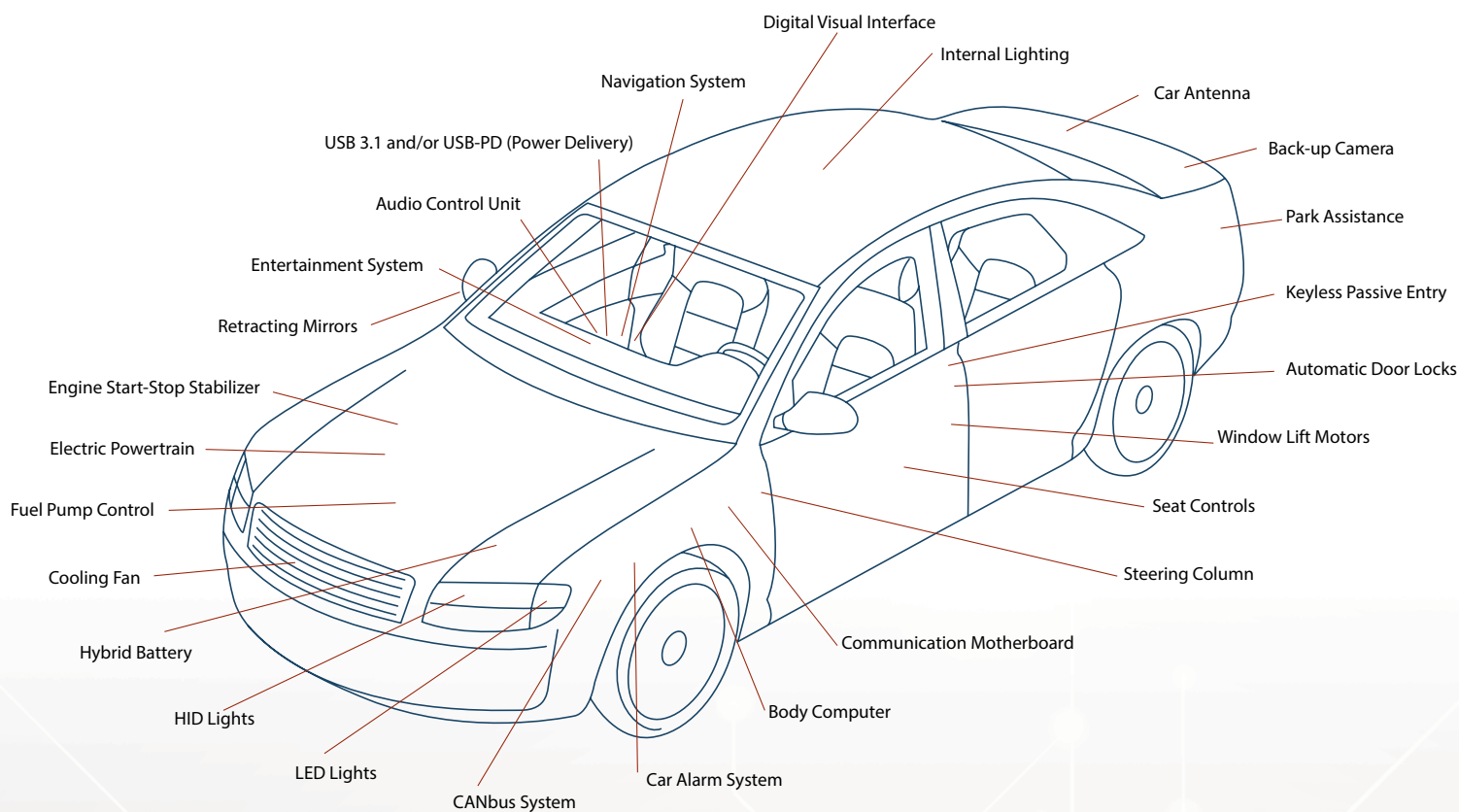
Bourns® Automotive Grade standard components are designed and developed to meet the following criteria:

- Compliance with the latest applicable AEC-Q200, AEC-Q101 or AEC-Q102 product validation standard or its equivalent as determined by Bourns
- New product and new process development meets or exceeds the requirements established in the latest AIAG revision of the Advanced Product Quality Planning (APQP) process. Bourns' design review process may be used if the Bourns quality and design engineering teams have established that the Bourns® standard component meets or exceeds the requirements of the APQP process
- The manufacturing facility(ies) has a VDA 6.3 process audit score greater than 80 % with no downgrade
- The manufacturing site (Bourns or third-party subcontractor) that manufactures the Bourns® standard components must be certified to IATF 16949
- The Bourns® standard components must be presented to a customer for approval using PPAP

The "Automotive Grade" designation is not a substitute for the customer's careful selection and testing of such Bourns® standard components in their particular applications.



Typical Uses by Customers - Bourns® Automotive Grade Components



Comfort & Positioning

- Window Lift Motor
- Seat Position Motor
- Seat Heater
- Park Assistance
- Back-up Camera
- Keyless Passive Entry
- Automatic Door Lock
- Body Computer
- Steering Column
- Retracting External Mirror
- Rear View Interior Mirror

Electrification

- Fuel Pump
- Start-Stop Module
- Battery Charger
- Cooling Fan
- Body Control
- Parking Assist
- Start-Stop Engine Control
- On Board Charging (OBC)
- Battery Management System (BMS)
- Advanced Driving Assistance System (ADAS)

Infotainment

- Instrument Cluster
- Stereo (Audio) Control
- In-Car Camera
- In-Car Television
- Ethernet Hub/Switch
- USB Charging Port
- Antenna
- Communications ECU
- GPS & Navigation Control

Lighting

- HID Headlight
- LED Headlight
- Internal LED Light

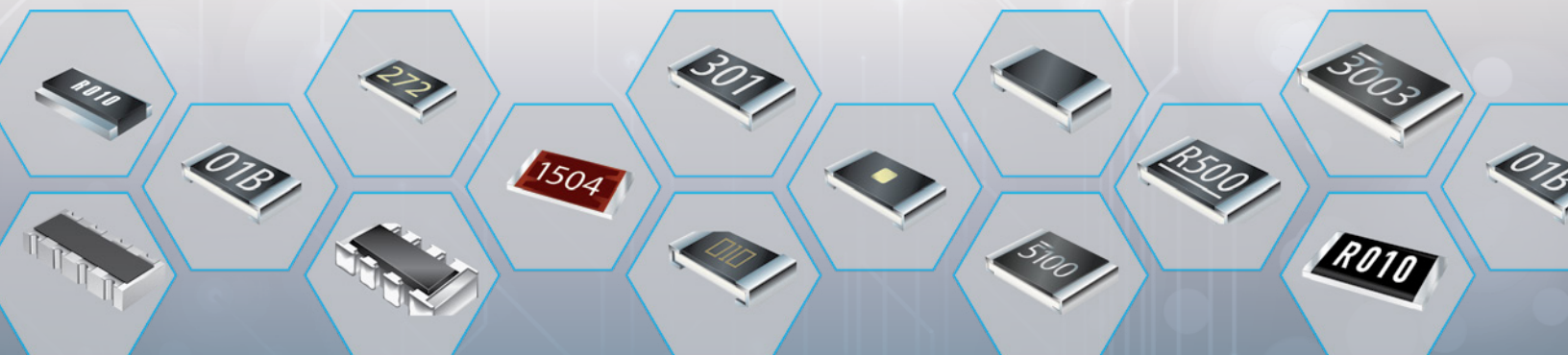
Networks

- CAN
- FlexRay
- LIN
- Ethernet

Resistors

Model	Tolerances	Temperature Coefficient, (ppm/°C)	Power (W)	Resistance Range (Ω)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
CAT10A-LF	5 %	±300	0.063	10 - 1M	Yes	Level 3	Yes
CAT16A-LF	1 %, 5 %	±200, ±400	0.063	10 - 1M	Yes	Level 3	Yes
CAY10A-AS	5 %	±250, ±500	0.063	3 - 1M	Yes	Level 3	Yes
CAY10A-LF	5 %	±250, ±500	0.063	3 - 1M	Yes	Level 3	Yes
CAY16A-AS	5 %	±200, ±400	0.063	3 - 1M	Yes	Level 3	Yes
CAY16A-LF	1 %, 5 %	±200, ±400	0.063	3 - 1M	Yes	Level 3	Yes
CFN-A	1 %, 5 %	±50, ±100	0.2 - 1	5 m - 40 m	Yes	Level 3	Yes
CFG-A	1 %, 5 %	±50, ±75, ±100	1, 1.5, 2	5 m - 40 m	Yes	Level 3	Yes
CHP-A	1 %, 5 %	±100, ±200	0.33 - 3	10 - 1M	Yes	Level 3	Yes
CHP0603-Q	1 %, 5 %	±100, ±200	0.3	10 - 1M	Yes	Level 3	Yes
CHP0805-Q	1 %, 5 %	±100, ±200	0.5	10 - 1M	Yes	Level 3	Yes
CHP1206-Q	1 %, 5 %	±100, ±200	0.75	10 - 1M	Yes	Level 3	Yes
CHV-A	1 %, 5 %	±100, ±200	0.1 - 1	100 m - 100 M	Yes	Level 3	Yes
CMP-A	1 %, 5 %	±100, ±200	0.25 - 1.5	10 - 1M	Yes	Level 3	Yes
CMP0603-Q	1 %, 5 %	±100, ±200	0.25	10 - 1M	Yes	Level 3	Yes
CMP0805-Q	1 %, 5 %	±100, ±200	0.5	10 - 1M	Yes	Level 3	Yes
CMP1206-Q	1 %, 5 %	±100, ±200	0.75	10 - 1M	Yes	Level 3	Yes
CMP2010-Q	1 %, 5 %	±100, ±200	1.00	10 - 1M	Yes	Level 3	Yes
CMP2512-Q	1 %, 5 %	±100, ±200	1.5	10 - 1M	Yes	Level 3	Yes
CR0201A-AS	1 %, 5 %	±100, ±200, -200+600	0.05	1 - 10 M	Yes	Level 3	Yes
CR0402A-AS	1 %, 5 %	±100, ±200, -200+500	0.063	1 - 20 M	Yes	Level 3	Yes
CR0603A-AS	1 %, 5 %	±100, ±200, ±400	0.1	1 - 20 M	Yes	Level 3	Yes
CR0805A-AS	1 %, 5 %	±100, ±200, ±400	0.125	1 - 20 M	Yes	Level 3	Yes
CR01005A-AS	1 %, 5 %	±100, ±200, ±300, ±400	0.03125	1 - 10 M	Yes	Level 3	Yes
CR1206A-AS	1 %, 5 %	±100, ±200, ±400	0.25	1 - 20 M	Yes	Level 3	Yes
CR1210A-AS	1 %, 5 %	±100, ±200, ±400	0.33	1 - 20 M	Yes	Level 3	Yes
CR2010A-AS	1 %, 5 %	±100, ±200, ±400	0.5	1 - 20 M	Yes	Level 3	Yes
CR2512A-AS	1 %, 5 %	±100, ±200, ±400	1	1 - 20 M	Yes	Level 3	Yes
CRA2512	1 %, 5 %	±50	3	10 m - 100 m	Yes	Level 3	Yes
CRE2512	1 %	±50	2/3	1 m - 9 m	Yes	Level 3	Yes
CRF0805	1 %, 5 %	±50	0.5	0.001 - 0.025	Yes	Level 3	Yes
CRF0805-J	5 %	±3800	0.5	≤ 0.2 m	Yes	Level 3	Yes
CRF1206	1 %, 5 %	±50	1	0.001 - 0.050	Yes	Level 3	Yes
CRF1206-J	5 %	±3800	1	≤ 0.2 m	Yes	Level 3	Yes
CRF2010	5 %	±3800	1.5	≤ 0.2 m	Yes	Level 3	Yes
CRF2010-J	5 %	±3800	1.5	≤ 0.2 m	Yes	Level 3	Yes
CRF2512	1 %, 5 %	±50	1; 2	1 m - 50 m	Yes	Level 3	Yes
CRF2512-J	5 %	±3800	2	≤ 0.2 m	Yes	Level 3	Yes
CRG2512	1 %, 5 %	±50	1; 2	110 - 680 m	Yes	Level 3	Yes
CRK0612	1 %, 5 %	±100	1	1 m - 10 m	Yes	Level 3	Yes
CRK0815	1 %, 5 %	±100	1	1 m - 30 m	Yes	Level 3	Yes
CRK1225	1 %, 5 %	±100	3	1 m - 55 m	Yes	Level 3	Yes

*Meets Bourns internal AEC-Q200 equivalent test plan.

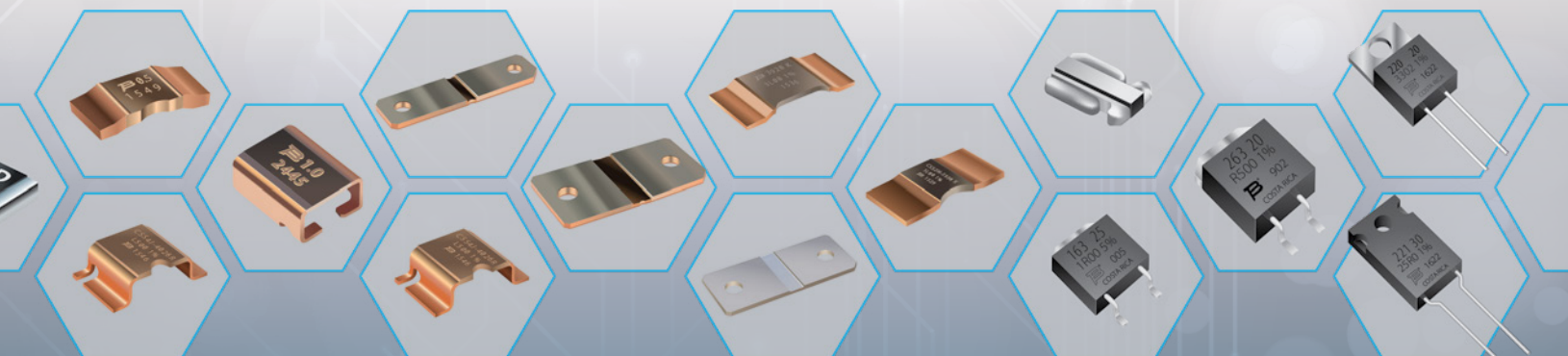


Resistors

Model	Tolerances	Temperature Coefficient, (ppm/°C)	Power (W)	Resistance Range (Ω)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
CRM0805A	0.5 %, 1 %, 5 %	±100, ±200	0.25	50 m - 1 M	Yes	Level 3	Yes
CRM1206A	0.5 %, 1 %, 5 %	±100, ±200	0.5	50 m - 1 M	Yes	Level 3	Yes
CRM1210A	0.5 %, 1 %, 5 %	±100, ±200	0.5	50 m - 1 M	Yes	Level 3	Yes
CRM2010A	0.5 %, 1 %, 5 %	±100, ±200	1	50 m - 1 M	Yes	Level 3	Yes
CRM2512A	0.5 %, 1 %, 5 %	±100, ±200	2	50 m - 1 M	Yes	Level 3	Yes
CRM1206-Q	0.5 %, 1 %, 5 %	±100, ±200	0.5	10 - 1M	Yes	Level 3	Yes
CRM2010-Q	0.5 %, 1 %, 5 %	±100, ±200	1	10 - 1M	Yes	Level 3	Yes
CRM2512-Q	0.5 %, 1 %, 5 %	±100, ±200	2	10 - 1M	Yes	Level 3	Yes
CRS0603A	1 %, 5 %	±100, ±200	0.125	1 - 1 M	Yes	Level 3	Yes
CRS0805A	1 %, 5 %	±100, ±200	0.25	1 - 1 M	Yes	Level 3	Yes
CRS1206A	1 %, 5 %	±100, ±200	0.5	1 - 1 M	Yes	Level 3	Yes
CRS1210A	1 %, 5 %	±100, ±200	0.5	1 - 1 M	Yes	Level 3	Yes
CRS2010A	1 %, 5 %	±100, ±200	1	1 - 1 M	Yes	Level 3	Yes
CRS2512A	1 %, 5 %	±100, ±200	2	1 - 1 M	Yes	Level 3	Yes
CRS1206-Q	1 %, 5 %	±100, ±200	0.5	10 - 1M	Yes	Level 3	Yes
CRS2010-Q	1 %, 5 %	±100, ±200	1	10 - 1M	Yes	Level 3	Yes
CRS2512-Q	1 %, 5 %	±100, ±200	2	10 - 1M	Yes	Level 3	Yes
CRT0402A	0.1%, 0.25%, 0.5%, 1%	±10, ±15, ±25, ±50	0.063	10 - 100K	Yes	Level 3	Yes
CRT0603A	0.1%, 0.25%, 0.5%, 1%	±10, ±15, ±25, ±50	0.1	10 - 511K	Yes	Level 3	Yes
CRT0805A	0.1%, 0.25%, 0.5%, 1%	±10, ±15, ±25, ±50	0.125	10 - 800K	Yes	Level 3	Yes
CRT1206A	0.1%, 0.25%, 0.5%, 1%	±10, ±15, ±25, ±50	0.25	10 - 1M	Yes	Level 3	Yes
CWM-Q	±1%, ±5%	±100, ±200	1 ; 2	1 - 1 M	Yes	Level 3	Yes

Resistors

Model	Tolerances	Temperature Coefficient, (ppm/°C)	Power (W)	Resistance Range (Ω)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
CSM2F-6918	5 %	±50	36	0.05 m - 0.1 m	Yes	Level 3	Yes
CSM2F-7036	1 %, 5 %	±50	50	0.05 m - 0.1 m	Yes	Level 3	Yes
CSM2F-8518	5 %	±50	36	0.05 m - 0.1 m	Yes	Level 3	Yes
CSM2F-8536	5 %	±150, ±200	50	25 - 100 μ	Yes	Level 3	Yes
CSS2H-2512	1 %, 5 %	±50	1.5 - 6	0.3 m - 5 m	Yes	Level 3	Yes
CSS2H-3920	1 %, 5 %	±50	2 - 12	0.2 m - 5 m	Yes	Level 3	Yes
CSS2H-5930	1 %, 5 %	±50	6 - 15	0.1 m - 3.0 m	Yes	Level 3	Yes
CSS4C-1216	±1 %, ±3 %, ±5 %	±50, ±100, ±150	2 - 5	0.2 - 3 m	Yes	Level 3	Yes
CSS4J-4026	1 %, 5 %	±50	3 - 5	0.2 - 5 m	Yes	Level 3	Yes
CST0612	1 %	±100, ±200	1	0.5 m - 5 m	Yes	Level 3	Yes
PWR163	1 %, 5 %	±100	25	20 m - 130 K	Yes	Level 3	Yes
PWR220T-20	1 %, 5 %	±100	20	0.02 - 130K	Yes	Level 3	Yes
PWR220T-35	1 %, 5 %	±100	35	0.02 - 130K	Yes	Level 3	Yes
PWR221T-30	1 %, 5 %	±100, ±300, ±600	30	0.02 - 130K	Yes	Level 3	Yes
PWR263S-20	1 %, 5 %	±100	20	20 m - 130 K	Yes	Level 3	Yes
PWR263S-35	1 %, 5 %	±100	35	20 m - 130 K	Yes	Level 3	Yes

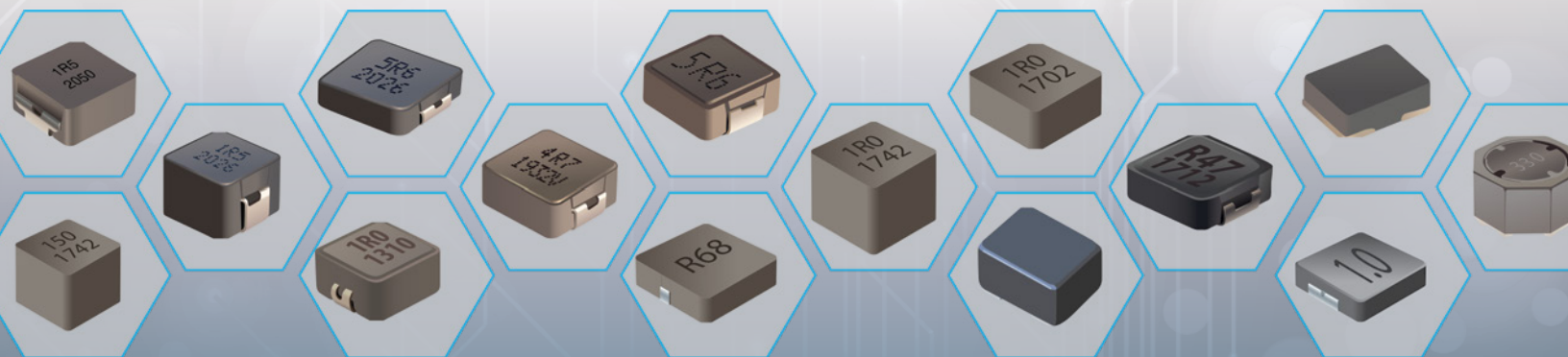


Power Inductors



Power Inductors

Model	Size (mm)	Shielded	Inductance Range (μH)	Current Range (A)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
SRP3012TA	3.5 x 3.2 x 1.2	Yes	0.15 - 10	1 - 10	-1R0M, -100M, -R33M	Level 3	Yes
SRP3020TA	3.5 x 3.2 x 2	Yes	0.1 - 10	1.4 - 10.5	-2R2M, -6R8M, -R33M	Level 3	Yes
SRP3212A	3.2 x 2.5 x 1.0	Yes	0.33 - 4.7	2.2 - 8.5	-R33M, -1R5M, -2R2M, -4R7M	Level 3	Yes
SRP3220A	3.2 x 2.5 x 1.8	Yes	0.33 - 6.8	2.3 - 8.5 A	-R68M, -1R5M, -4R7M	Level 3	Yes
SRP4012TA	4.45 x 4 x 1	Yes	0.1 - 10	1.3 - 11.5	-1R0M, -4R7M, -100M	Level 3	Yes
SRP4018FA	4.1 x 4.1 x 1.8	Yes	0.33 - 1.2	9.5 - 15	-R47M, -R68M, -1R2M	Level 3	Yes
SRP4020FA	4.1 x 4.1 x 1.9	Yes	0.47 - 4.7	5.1 - 13.2	-R68M, -1R2M, -4R7M	Level 3	Yes
SRP4020TA	4.45 x 4 x 1.8	Yes	0.1 - 22	1.2 - 12	-R47M, -2R2M, -100M	Level 3	Yes
SRP4030FA	4.1 x 4.1 x 2.8	Yes	0.9 - 6.8	4 - 11.2	-R90M, -3R3M, -6R8M	Level 3	Yes
SRP5015TA	5.7 x 5.2 x 1.3	Yes	0.15 - 22	1.2 - 16	-R47M, -3R3M, -100M	Level 3	Yes
SRP5020TA	5.7 x 5.2 x 1.8	Yes	0.33 - 10	2.3 - 12	-R47M, -2R2M, -100M	Level 3	Yes
SRP5030CA	5.5 x 5.3 x 2.9	Yes	0.15 - 4.7	5.9 - 22.2	-R33M, -1R2M, -4R7M	Level 3	Yes
SRP5030TA	5.7 x 5.2 x 2.8	Yes	0.33 - 10	2.75 - 14	-R47M, -2R2M, -100M	Level 3	Yes
SRP5030WA	7.1 x 6.6 x 2.8	Yes	0.68 - 22	2.2 - 12	-R68M, -3R3M, -150M, -220M	Level 3	Yes
SRP5050FA	5.5 x 5.3 x 4.8	Yes	5.6 - 8.2	0.18 - 4.5	-5R6M, -8R2M, -220M1	Level 3	Yes
SRP6030CA	6.6 x 6.4 x 2.9	Yes	0.18 - 4.5	7 - 32	-R33M, -1R2M, -3R3M	Level 3	Yes
SRP6030WA	5.5 x 5.25 x 2.8	Yes	0.47 - 22	2.9 - 19	-R47M, -4R7M, -220M	Level 3	Yes
SRP6030VA	7.1 x 6.6 x 2.8	Yes	0.47 - 22	3.4 - 20	-R68M, -4R7M, -150M	Level 3	Yes
SRP6050CA	6.6 x 6.4 x 4.8	Yes	1 - 4.7	8.5 - 20	-1R0M, -2R2M, -4R7M	Level 3	Yes
SRP6060FA	6.6 x 6.4 x 5.8	Yes	2.2 - 22	5 - 14	-4R7M, -100M, -220M	Level 3	Yes
SRP6530A	7.1 x 6.6 x 3	Yes	0.1 - 10	4 - 34	-R47, -3R3, -100	Level 3	Yes
SRP7020TA	7 x 6.6 x 1.8	Yes	0.1 - 10	2.8 - 21	-R33M, -1R0M, -100M	Level 3	Yes
SRP7028A	7.3 x 6.6 x 2.8	Yes	0.15 - 33	2 - 27	-R33M, -2R2M, -100M	Level 3	Yes
SRP7028AA	6.6 x 7.1 x 2.8	Yes	0.15 - 22	2.5 - 30	-R33M, -2R2M, -100M	Level 3	Yes
SRP7030CA	7.8 x 7.6 x 2.9	Yes	1 - 8.2	5.9 - 21.8	-1R0M, -3R3M, -6R8M	Level 3	Yes
SRP7050AA	6.6 x 7.3 x 4.8	Yes	0.47 - 47	2.6 - 22	-1R0M, -3R3M, -6R8M	Level 3	Yes
SRP7050TA	7.3 x 6.6 x 4.8	Yes	0.33 - 68	1.2 - 25	-R33M, -1R5M, -680M	Level 3	Yes
SRP7050WA	7.9 x 7.3 x 5.2	Yes	1 - 100	2.2 - 20	-1R5M, -3R3M, -680M	Level 3	Yes
SRP8540A	8.8 x 8.4 x 3.8	Yes	0.22 - 22	3.9 - 31	-R22M, -3R3M, -220M	Level 3	Yes



Common Mode Chip Inductors

Model	Size (mm)	Inductance Range (Ohms)	Inductance Range (μH)	Current Range (A)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
SRF2012AA	2 x 1.2 x 1.2	67 - 360	300 - 400	0.25 - 0.5	-670Y, -161Y, -361Y	Level 3	Yes
SRF2012-801YA	2 x 1.2 x 1.2	800	—	0.3	-801YA	Level 3	Yes
SRF2012-900YA	2 x 1.2 x 1.2	90	—	0.3	-901YA	Level 3	Yes
SRF3216A	3.2 x 1.6 x 2	90 - 2200	200 - 400	0.3 - 1.2	-900Y, -261Y, -222Y	Level 3	Yes
SRF3225AB	3.20 x 2.50 x 2.50	—	100	0.1	-101Y	Level 3	Yes
SRF3225TABG	3.3 x 2.5 x 2.5	—	100	0.1	-101Y	Level 3	Yes
SRF3225TABM	3.3 x 2.5 x 2.5	—	200	0.07	-201Y	Level 3	Yes
SRF3225TAC	3.2 x 2.5 x 2.5	—	11 - 100	0.15 - 0.3	-110Y, -220Y, -510Y, -101Y	Level 3	Yes
SRF3225TAFD	3.3 x 2.5 x 2.5	—	100	0.15	-101Y	Level 3	Yes
SRF3225TAP	3.2 x 2.5 x 2.2	—	—	1.5 - 2	-102Y, -501Y	Level 3	Yes
SRF4530A	4.5 x 3.2 x 3	—	11 - 100	0.20 - 0.36	-110Y, -220Y, -101Y	Level 3	Yes
SRF4530AG-201Y	4.5 x 3.2 x 3	—	200	0.1	-201Y	Level 3	Yes
SRF4532TA	4.5 x 3.2 x 2.8	—	0.35 - 10	0.9 - 4	-282Y, -601Y, -900Y	Level 3	Yes
SRF7038A	7 x 6 x 3.	—	0.83 - 18.2	1.5 - 15	-501Y, -701Y, -302Y	Level 3	Yes
SRF9005A	9.2 x 6 x 5	—	10 - 6500	0.3 - 1.6	-100Y, -471Y, -652Y	Level 3	Yes

Chip Beads

Model	Size (mm)	Inductance (Ω)	DC Resistance (Ω)	Current Range (mA)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
MH1608A	1.6 x 0.8 x 0.8	30 - 1000	0.02 - 0.20	1000 - 5000	-102Y, -221Y, -600Y	Level 3	Yes

Chip Inductors

Model	Size (mm)	Inductance Range (μH)	Current Range (A)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
CC322522A	3.2 x 2.9 x 2.4	1 - 100	0.18 - 1.45	-4R7K, -101K, -470K	Level 3	Yes
CC453232A	4.5 x 3.2 x 3.2	1 - 1000	0.09 - 2.30	-330KL, -101KL, -102KL	Level 3	Yes
CW2012A	1.6 x 2.4 x 1.4	2 - 1000	105 - 800 mA	-1R0K, -2N0D, -56NK	Level 3	Yes
CWF1610A	1.0 x 1.6 x 1.0	0.1 - 22	200 - 1400 mA	-4R7M, -220M, -R10K, -R56K	Level 3	Yes
CWF1612A	1.15 x 1.65 x 1.05	0.1 - 22	270 - 1500 mA	-2R2K, -47NK, -72NK, -100K	Level 3	Yes
CWF2012A	1.6 x 2.4 x 1.4	0.47 - 33	145 - 750 mA	-4R7K, -330K, -R47K	Level 3	Yes
CWP3230A	3.2 x 2.5 x 3.0	2.2 - 47	0.5 - 1.9	-2R2M, -100M, -470M	Level 3	Yes

Line Filters

Model	Size (mm)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
DR334A	9 x 5.8 x 3.6	Yes	Level 3	Yes



Transformers

Model	Size (mm)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
BA60951CS	13.6 x 10.5 x 5.97	Yes	Level 3	Yes
HCTSM100308BAL	15.7 x 10.8 x 7.5	Yes	Level 3	Yes
HCTSM110102HAL	19.6 x 13.5 x 9.6	Yes	Level 3	Yes
HCTSM110103HAL	19.6 x 13.5 x 9.6	Yes	Level 3	Yes
HCTSM110304HAL	19.6 x 13.5 x 9.6	Yes	Level 3	Yes
HCTSM151207FAL	21.3 x 15.0 x 9.6	Yes	Level 3	Yes
HCTSM8xxxxxAL	15.2 x 10.8 x 6.5	Yes	Level 3	Yes
HCT8xxxxEAL	15.2 x 10.6 x 8.0	Yes	Level 3	Yes
HVMA01F35A-ST10S	9.5 x 10.3 x 12.0	Yes	Level 3	Yes
HVMA03F4A-LP8S	17.2 x 12.8 x 10	Yes	Level 3	Yes
HVMA03F40C-ST10S	10.3 x 9.5 x 13	Yes	Level 3	Yes
HVMA03T100A-ST10S	9.5 x 10.3 x 13.2	Yes	Level 3	Yes
PKSEP6	9.3 x 7.8 x 7.6	Yes	Level 3	Yes
SM453229A-381N7Y	4.7 x 3.3 x 2.9	Yes	Level 3	Yes
SM91071AL	12.8 x 9.5 x 5.65	Yes	Level 3	Yes
SM91072AL	12.8 x 9.5 x 5.65	Yes	Level 3	Yes
SM91073AL	12.8 x 9.5 x 5.65	Yes	Level 3	Yes
SM91074AL	12.8 x 9.5 x 5.65	Yes	Level 3	Yes
SM91259AL	14.5 x 12.0 x 14.0	Yes	Level 3	Yes
SM91501AL	14.8 x 14.73 x 5	Yes	Level 3	Yes
SM91501ALO	14.8 x 14.7 x 5	Yes	Level 3	Yes
SM91502AL	7.62 x 8.89 x 5.72	Yes	Level 3	Yes
SM91502ALA	7.6 x 8.9 x 5.7	Yes	Level 3	Yes
SM91508AL	8.38 x 10.5 x 4.25	Yes	Level 3	Yes
SM91509AL	14.81 x 14.73 x 5	Yes	Level 3	Yes
SM91514AL	7.6 x 8.9 x 5.7	Yes	Level 3	Yes
SM91523AL	19 x 19.60 x 10	Yes	Level 3	Yes
SM91525AL	8.38 x 10.5 x 4.95	Yes	Level 3	Yes
SM91534AL	12.5 x 31.5 x 9.5	Yes	Level 3	Yes
SM91534ALA	31.5 x 12.5 x 9.5	Yes	Level 3	Yes
SM91536AL	16.4 x 10.4 x 8.4	Yes	Level 3	Yes
SM91542AL	7.62 x 8.89 x 5.72	Yes	Level 3	Yes
SM91543AL	12.5 x 31.5 x 9.5	Yes	Level 3	Yes
SM91574AL	9.19 x 8.12 x 6.08	Yes	Level 3	Yes
SM91581AL	31.5 x 28 x 9.5	Yes	Level 3	Yes
SM91801AL	8.5 x 14 x 5.5	Yes	Level 3	Yes
SM91803AL	8.5 x 14.0 x 3.8	Yes	Level 3	Yes
SM91806AL	8.5 x 17.4 x 5.5	Yes	Level 3	Yes
SM91808AL	8.5 x 17.4 x 3.8	Yes	Level 3	Yes
SM91872AL	17.4 x 10.6 x 8.1	Yes	Level 3	Yes
SM91270AL	17.40 x 8.50 x 4.05	Yes	Level 3	Yes
SM91271AL	17.40 x 8.50 x 4.05	Yes	Level 3	Yes
SM91572AL	8.12 x 9.19 x 5.95	Yes	Level 3	Yes



Multifuse® PPTC Resettable Fuses

Model	Size (EIA, mm)	Hold Current (A)	Max. Operating Voltage (V)	Max. Operating Current (A)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
MF-DC	Custom	Custom	16	50	Yes	Level 3	Yes
MF-LSMF	2920, 7555	1.85 - 3.0	6 - 33	20 - 40	Yes	Level 3	Yes
MF-MSMF	1812, 4532	0.1 - 3.0	6 - 60	10 - 100	Yes	Level 3	Yes
MF-MSHT	1812	0.20 - 1.75	9 - 42	40	Yes	Level 3	Yes
MF-NSHT	1206, 3216	0.10 - 0.75	12 - 30	20 - 40	Yes	Level 3	Yes
MF-NSMF	1206, 3216	0.12 - 2.0	6 - 30	10 - 100	Yes	Level 3	Yes
MF-PSHT	0805, 2012	0.05 - 0.50	12 - 16	40	Yes	Level 3	Yes
MF-R (except MF-R005, 010, 017, 1100)	Various	0.20 - 9.0	30, 60	40	Yes	Level 3	Yes
MF-RG	Various	3.0 - 11.0	16	100	Yes	Level 3	Yes
MF-RHT	Various	0.50 - 13.0	16 - 32	40 - 100	Yes	Level 3	Yes
MF-RHS	Various	3.5 - 13	16	100	Yes	Level 3	Yes
MF-SM	2920, 3425	0.30 - 3.0	16	100	Yes	Level 3	Yes
MF-SMHT	3425, 8763 / 2920, 7555	1.36 - 3.0	16	100	Yes	Level 3	Yes
MF-USHT	1210, 3225	0.10 - 2.0	9 - 30	20 - 40	Yes	Level 3	Yes
MF-USMF	1210, 3225	0.05 - 0.50	6 - 30	10 - 40	Yes	Level 3	Yes

SinglFuse™ SMD Fuses*

Model	Size (EIA, mm)	Rated Current (A)	Rated Voltage (V)	Operating Temperature (°C)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
SF-0603HIA-M	0603, 1608	1 - 5	32	-55 - +125	Yes	Level 3	Yes
SF-0603SA-M	0603, 1608	0.5 - 8	24 - 65	-55 - +150	Yes	Level 3	Yes
SF-0603SPA-R	0603, 1608	1 - 8	63	-55 - +150	Yes	Level 3	Yes
SF-1206HHA-R	1206, 3216	8 - 30	50	-55 - +125	Yes	Level 3	Yes
SF-1206HIA-M	1206, 3216	0.5 - 6	24 - 65	-55 - +150	Yes	Level 3	Yes
SF-1206SA-M	1206, 3216	0.5 - 5	65	-55 - +150	Yes	Level 3	Yes
SF-1206SA-R	1206, 3216	10 - 20	32	-55 - +150	Yes	Level 3	Yes
SF-1206SA-W	1206, 3216	1.5 - 15	32 - 110	-55 - +125	Yes	Level 3	Yes
SF-2410FA-W	2410, 6125	1 - 10	125 - 250	-55 - +125	Yes	Level 3	Yes
SF-2410FPA-W	2410, 6125	12 - 20	65	-55 - +125	Yes	Level 3	Yes

*Meets Bourns internal AEC-Q200 equivalent test plan.



POWrFuse™ High-Power Fuses

Model	Dimensions (mm)	Rated Current (A)	Rated Voltage	Interrupting Rating	Mounting Type	Compliant Standard	PPAP Documentation
PF-K	10 dia. x 38	30-50 A	275 VAC 500 VDC	10 kA @ 275 VAC 20 kA @ 500 VDC 10 kA @ 450 VDC	Bolt PCB	ISO8820-8	Yes

TBU® High-Speed Protectors

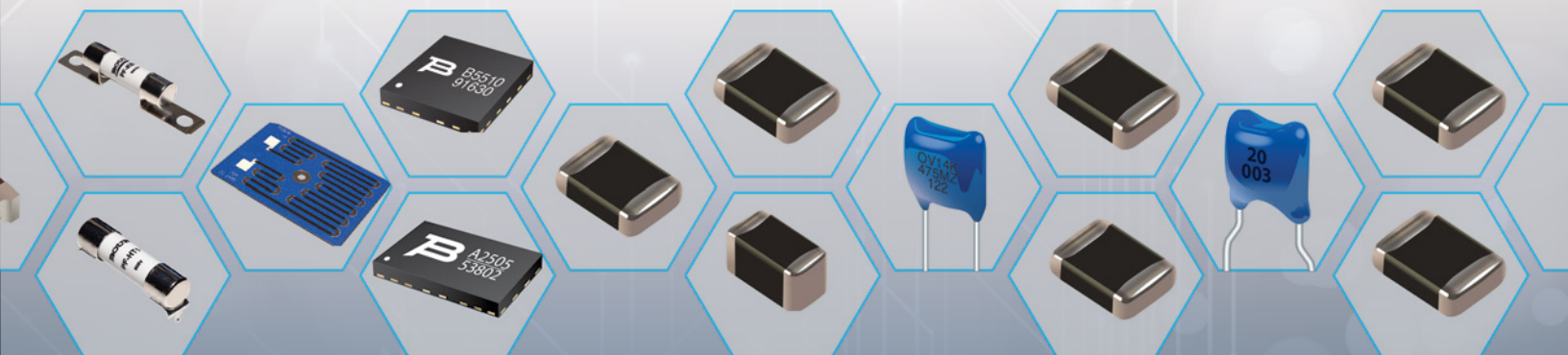
Model	Size (mm)	V _{imp}	V _{rms}	AEC-Q101 Compliant	PPAP Documentation	IATF 16949 Factory
TBU-CA-Q	6.5 mm x 4 mm	250 - 850 V	100 - 425 V	Yes	Level 3	Yes
TBU-DB-Q	6.5 mm x 5.5 mm	550 V	100 V	Yes	Level 3	Yes

Varistor Products

Model	Size (EIA, mm)	Peak Single Pulse Current 8/20 µs (A)	Operating Temperature (°C)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
AVHT-SMD	0805, 1206, 1812, 2220, 3225	200 - 2000	-55 - +150	Yes	Level 3	Yes
AV-TH	602, 802, 902, 1103	400 - 2000	-55 - +125	Yes	Level 3	Yes
AV-SMD	0805, 1206, 1812, 2220, 3225	200 - 2000	-55 - +125	Yes	Level 3	Yes
BVRA	0402, 0603, 0805, 1206, 1210, 1812	10 ~ 220	-40 - +125	Yes	Level 3	Yes
OV	9, 12	800, 1200	-55 - +125	Yes	Level 3	Yes
ZV	0603, 0805, 1206, 1210, 1812, 2220	30 - 1200	-55 - +125	Yes	Level 3	Yes
ZVHT	0603, 0805, 1206, 1210, 1812, 2220	30 - 1200	-55 - +150	Yes	Level 3	Yes

Thick Film on Steel

Model	Size (mm)	Resistance Range (Ohms)	Resistance Tolerance	Dielectric Withstand (VDC)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
TFOS30-1-150T	101.6 x 70 x 0.9	150	±10 % Std.	2500	Yes	Level 3	Yes



Mini-breaker Thermal Cutoff Devices*

Model	Size (mm)	Trip Temp. (°C)	Reset Temp. Min. (°C)	AEC-Q200 Compliant	PPAP Documentation	IATF 16949 Factory
AD55xBB	12.35 x 3.75 x 1.4	55	20	Yes	Level 3	Yes
AD60xBB		60	20			
AD65xBB		65	20			
AD70xBB		70	20			
AD72xBB		72	40			
AD75xBB		75	40			
AD77xBB		77	40			
AD80xBB		80	40			
AD82xBB		82	40			
AD85xBB		85	40			
AD90xBB		90	40			
AD95xBB		95	40			
ADA0xBB		100	40			
ADA5xBB		105	40			
ADB0xBB		110	40			
ADB5xBB		115	40			
ADC0xBB		120	40			
ADC5xBB		125	40			
ADD0xBB		130	40			
ADD5xBB		135	40			
ADE0xBB		140	40			
ADE5xBB		145	40			
ADF0xBB		150	40			
SD55xBB	10.35 x 3.75 x 1.4	55	20	Yes	Level 3	Yes
SD60xBB		60	20			
SD65xBB		65	20			
SD70xBB		70	20			
SD72xBB		72	40			
SD75xBB		75	40			
SD77xBB		77	40			
SD80xBB		80	40			
SD82xBB		82	40			
SD85xBB		85	40			
SD90xBB		90	40			
SD95xBB		95	40			
SDA0xBB		100	40			
SDA5xBB		105	40			
SDB0xBB		110	40			
SDB5xBB		115	40			
SDC0xBB		120	40			
SDC5xBB		125	40			
SDD0xBB		130	40			
SDD5xBB		135	40			
SDE0xBB		140	40			
SDE5xBB		145	40			
SDF0xBB		150	40			

*Meets Bourns internal AEC-Q200 equivalent test plan.



ChipGuard® ESD Suppressors

Model	Size (mm)	V _{rms}	AEC-Q101 Compliant	PPAP Documentation	IATF 16949 Factory
CGA0805MLA	0805	14 - 20	Yes	Level 3	
CGAMLC	0402, 0603	—	Yes	Level 3	Yes

Transient Voltage Suppressor (TVS) Diodes

Model	Package	Size	P _{pp} (W)		V _{RWM} (V)	AEC-Q101 Compliant	PPAP Documentation	IATF 16949 Factory
			8/20 μ s	10/1000 μ s				
5.0SMDJ-Q, 5.0SMDJ-QH	DO-214AB (SMC)	7.9 mm x 5.9 mm		5000	5 - 170	Yes	Level 3	Yes
15KPA-SD-Q	DO-218	15.5 mm x 10.0 mm		15000	16 - 66	Yes	Level 3	Yes
CDS0D323-TxxC-Q	SOD-323	Various	350		5 / 12	Yes	Level 3	Yes
CDS0D323-TxxS-Q	SOD-323	Various		500	5 - 18	Yes	Level 3	Yes
CDS0D323-TxxSC-Q	SOD-323	Various	400		3.3 / 12 / 36	Yes	Level 3	Yes
CDS0D323-T12C-DSLQ	SOD-323	2.5 mm x 1.3 mm	350		12	Yes	Level 3	Yes
CDS0D323-T24C-DSLQ	SOD-323	2.5 mm x 1.3 mm	350		24	Yes	Level 3	Yes
CDS0S323-T24LC	SOD-323	Various	350		24	Yes	Level 3	Yes
CDS0T23-SM712-Q	SOD-323	2.9 mm x 2.3 mm x 1 mm	400		7 / 12	Yes	Level 3	Yes
CDS0T23-T03-Q ~ T15C-Q	SOD-323	2.9 mm x 2.3 mm	500		3.3 / 8 / 15	Yes	Level 3	Yes
CDS0T23-T03LC-Q~T15LC-Q	SOD-323	2.9 mm x 2.3 mm	500		3.3 / 5 / 8	Yes	Level 3	Yes
CDS0T23-T24C-Q	SOD-323	2.9 mm x 2.3 mm x 1 mm	414		24	Yes	Level 3	Yes
CDS0T23-T24CAN-Q	SOD-323	2.9 mm x 2.3 mm	200		24	Yes	Level 3	Yes
SM8S-Q	DO-218	15.5 mm x 10.0 mm		6600	16 - 43	Yes	Level 3	Yes
SM8SF-Q	DFN	10.5 mm x 8.1 mm		7000	24 - 36	Yes	Level 3	Yes
SMA6J-Q	DO-214AC (SMA)	5.1 mm x 2.3 mm		600	5 - 130	Yes	Level 3	Yes
SMAJ-Q, SMAJ-QH / P4SMA-Q	DO-214AC (SMA)	5.1 mm x 2.3 mm		400	5 - 220 / 5.8 - 214	Yes	Level 3	Yes
SMBJ-Q, SMBJ-QH / P6SMB-Q	DO-214AA (SMB)	5.4 mm x 3.6 mm		600	5 - 220 / 5.8 - 214	Yes	Level 3	Yes
SMCJ-Q, SMCJ-QH / 1.5SMC-Q	DO-214AB (SMC)	7.9 mm x 5.9 mm		1500	5 - 120 / 5.8 - 111	Yes	Level 3	Yes
SMF4C-Q	DFN3419	3.4 x 1.9 x 0.9 mm		400	28, 30, 36	Yes	Level 3	Yes
SMF4L-Q	SOD-123FL	3.70 x 1.65 x 1.125		400	5 - 85	Yes	Level 3	Yes
SMLJ-Q, SMLJ-QH	DO-214AB (SMC)	7.9 mm x 5.9 mm		3000	12 - 58	Yes	Level 3	Yes



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