

**RoHS
Compliant
Pb Free
Sn Finish**

HiT range of 200°C MLC capacitors



COG/NP0 & X7R MLCCs

The HiT range of multilayer ceramic capacitors is suitable for a variety of high temperature applications including: oil exploration, geothermal, military, automotive under-hood and avionics.

This range is manufactured to exacting standards using our unique screen printing process. This provides a high quality component suitable for demanding applications.

Specification

Capacitance Values

COG/NP0	X7R
4.7pF - 47nF	100pF - 4.7μF

See table for full list of values

Electrical

Operating Temperature

-55°C to +200°C

Temperature Coefficient of Capacitance (Typical)

COG/NP0	X7R
30ppm/°C to +125°C	±15% to +125°C

Insulation Resistance

Time constant (Ri x Cr) (whichever is the least)

25°C	200°C
>100GΩ or 1000s	>1GΩ or 10s

Ageing Rate

COG/NP0	X7R
Zero	X7R typically less than 2% per time decade

Mechanical

Termination Material

Standard finish is Sn plate over Ni undercoat.
See ordering information overleaf.

Solderability

IEC 60068-2-5.8 / MIL-STD-202 METHOD 208.
Passed 3 times reflow profile defined in J-STD-020. Compatible with lead free and high melting point solders. Standard finish is Sn plate over Ni undercoat.

Lead Free Soldering

Pb Free. This range is fully compliant with the RoHS, REACH and WEEE directives and parts are compatible with lead free and high melting point solders. Standard finish is Sn plate over Ni undercoat.

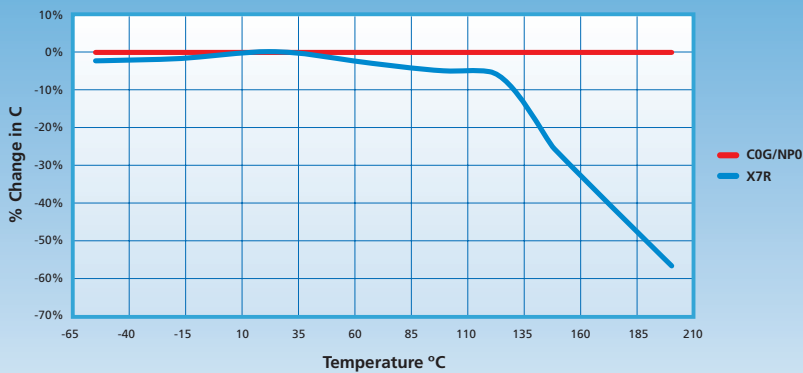
Climatic Category

55/200/56

Reeled Quantities

See taped quantities table overleaf.

TCC



HiT Features

- 200°C operating temperature
- 0603 to 2220 chip sizes
- COG/NP0 and X7R dielectric options
- Capacitance range COG/NP0 from 4.7pF up to 47nF
- Capacitance range X7R from 100pF up to 4.7μF
- Voltage ratings from 10V to 630V
- RoHS compliant / Pb Free
- Sn over Ni termination
- Sample kits available



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DLI•JohansonMFG•Novacap•Syfer•Voltronics

www.knowlesc capacitors.com

Product ranges - Capacitance values

Rated Voltage	Chip Size													
	0603		0805		1206		1210		1808		1812		2220	
	COG/NP0	X7R	COG/NP0	X7R	COG/NP0	X7R	COG/NP0	X7R	COG/NP0	X7R	COG/NP0	X7R	COG/NP0	X7R
Min Cap	-	100pF	4.7pF	100pF	10pF	100pF	22pF	100pF	22pF	100pF	47pF	150pF	68pF	220pF
10V	-	100nF	1.8nF	220nF	3.9nF	820nF	8.2nF	1.2μF	8.2nF	1.2μF	15nF	2.2μF	47nF	4.7μF
16V	-	100nF	1.8nF	220nF	3.9nF	820nF	8.2nF	1.2μF	8.2nF	1.2μF	15nF	2.2μF	47nF	4.7μF
25V	-	47nF	1.8nF	220nF	3.9nF	820nF	8.2nF	1.2μF	8.2nF	1.2μF	15nF	2.2μF	47nF	4.7μF
50V	-	15nF	1.8nF	100nF	3.9nF	270nF	8.2nF	680nF	8.2nF	560nF	15nF	1.5μF	47nF	2.2μF
100V	-	8.2nF	1.5nF	33nF	3.3nF	100nF	5.6nF	270nF	6.8nF	180nF	12nF	560nF	39nF	1.0μF
200V	-	1.2nF	820pF	6.8nF	1.8nF	27nF	3.9nF	68nF	3.9nF	47nF	10nF	82nF	22nF	120nF
250V	-	820pF	470pF	3.9nF	1.0nF	15nF	2.2nF	47nF	2.2nF	27nF	5.6nF	56nF	12nF	82nF
500V	-	270pF	220pF	1.5nF	820pF	3.9nF	1.5nF	12nF	1.8nF	12nF	4.7nF	18nF	10nF	68nF
630V	-	-	68pF	-	330pF	-	820pF	-	820pF	-	2.7nF	-	6.8nF	-

Note: Other capacitance values may become available, please contact the Sales Office if you need values other than those shown in the above table.
For dimensions and soldering information, please go to our website www.knowlescapacitors.com

Taped quantities

Chip Size	0603	0805	1206	1210	1808	1812	2220
7" Reel	4,000	3,000	2,500	2,000	1,500	500	500
13" Reel	16,000	12,000	10,000	8,000	6,000	2,000	2,000

Ordering information (Syfer Brand) - HiT 200°C capacitors

1206	J	1K0	0103	M		X	T	H20
Chip size	Termination	Voltage	Capacitance in picofarads (pF)	Capacitance tolerance		Dielectric	Packaging	Suffix Code
0603 0805 1206 1210 1808 1812 2220	J = Nickel barrier with 100% matte tin plating. RoHS compliant. Lead free.	010 = 10V 016 = 16V 025 = 25V 050 = 50V 063 = 63V 100 = 100V 200 = 200V 250 = 250V 500 = 500V 630 = 630V	≥1.0pF & <10pF Insert a P for the decimal point as the second character. e.g., 8P20 = 8.2pF ≥10pF First digit is 0. Second and third digits are significant figures of capacitance code. The fourth digit is the number of zeros following. e.g., 0101 = 100pF	COG/NP0 F = ±1% G = ±2% J = ±5% K = ±10%	X7R J = ±5% K = ±10% M = ±20%	G = COG/NP0 (BME) X = X7R	T = 178mm (7") reel R = 330mm (13") reel B = Bulk pack - tubs	H20 HiT range

Ordering information (Novacap Brand) - HiT 200°C capacitors

1206	RE	331	J	501	N	H	T
Case size	Dielectric	Capacitance in picofarads (pF)	Capacitance tolerance	Voltage	Termination	Screening	Packaging
0603 0805 1206 1210 1808 1812 2220	RD = COG/NP0 (200°C) RE = X7R (200°C)	First and Second digits are significant figures of capacitance code. The fourth digit is number of 0's following. Example: 103 = 10000pF R = decimal	COG/NP0 F = ±1% G = ±2% J = ±5% K = ±10%	X7R J = ±5% K = ±10% M = ±20%	160 = 16V 250 = 25V 500 = 50V 101 = 100V 201 = 200V 251 = 250V 501 = 500V 631 = 630V	N = Nickel barrier with 100% matte tin plating. RoHS compliant. Lead free. H = High Temp Screening - if required	T = 178mm (7") reel 330mm (13") reel None = Bulk pack - tubs



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