

# High Temperature HiT range - 200°C - COG/NP0 & X7R

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.

- 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

## Insulation Resistance (IR)

25°C > 100GΩ or 1000secs (whichever is the less).  
200°C > 1GΩ or 10secs (whichever is the less).



**Temperature Coefficient of Capacitance (TCC)**  
COG/NP0 30ppm/°C to +125°C. X7R ±15% to +125°C

## Ageing Rate

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

## Maximum capacitance values - High Temperature HiT range - 200°C COG/NP0 & X7R

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](http://www.knowlescapacitors.com)

## Ordering information - Novacap Brand - High Temperature HiT range

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%	J = ±5% K = ±10% M = ±20%	100 = 10V 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

## Ordering information - Syfer Brand - High Temperature HiT range

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%	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