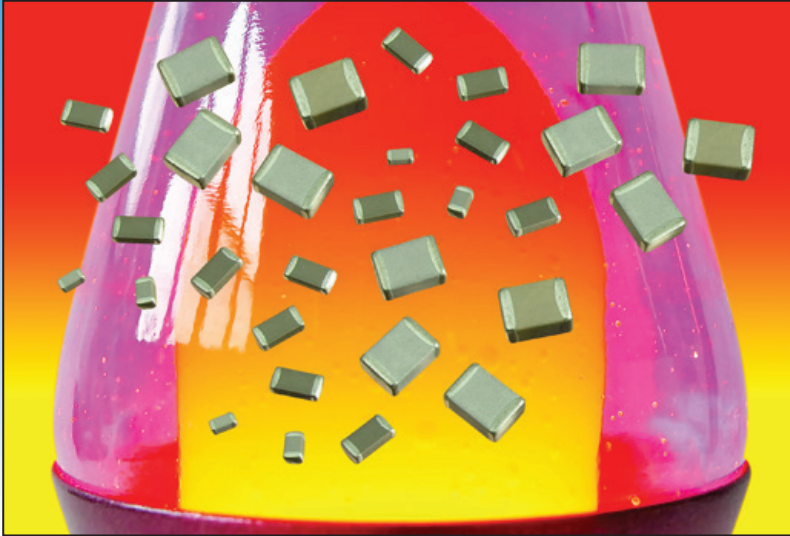


**RoHS  
Compliant  
Pb Free  
Sn Finish**

# 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 xCr) (whichever is the least)

25°C	>100GΩ or 1000s
200°C	>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.

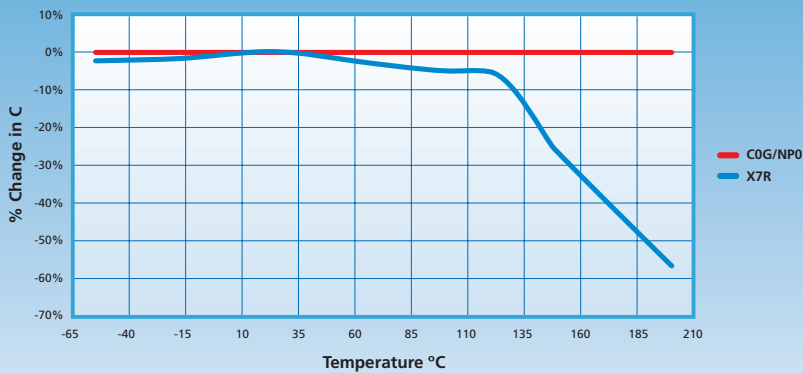
#### Climatic Category

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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## Product ranges - Capacitance values

Rated Voltage	Chip Size													
	0603		0805		1206		1210		1808		1812		2220	
	COG/NPO	X7R	COG/NPO	X7R	COG/NPO	X7R	COG/NPO	X7R	COG/NPO	X7R	COG/NPO	X7R	COG/NPO	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)

## 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	
<b>0603</b> <b>0805</b> <b>1206</b> <b>1210</b> <b>1808</b> <b>1812</b> <b>2220</b>	<b>J</b> = Nickel barrier with 100% matte tin plating. RoHS compliant. Lead free.	<b>010</b> = 10V <b>016</b> = 16V <b>025</b> = 25V <b>050</b> = 50V <b>063</b> = 63V <b>100</b> = 100V <b>200</b> = 200V <b>250</b> = 250V <b>500</b> = 500V <b>630</b> = 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., <b>0101</b> = 100pF	<b>COG/NPO</b> <b>F</b> = ±1% <b>G</b> = ±2% <b>J</b> = ±5% <b>K</b> = ±10%	<b>X7R</b> <b>J</b> = ±5% <b>K</b> = ±10% <b>M</b> = ±20%	<b>G</b> = COG/NPO (BME) <b>X</b> = X7R	<b>T</b> = 178mm (7") reel <b>R</b> = 330mm (13") reel <b>B</b> = Bulk pack - tubs	<b>H20</b> 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
<b>0603</b> <b>0805</b> <b>1206</b> <b>1210</b> <b>1808</b> <b>1812</b> <b>2220</b>	<b>RD</b> = COG/NPO (200°C) <b>RE</b> = X7R (200°C)	First and Second digits are significant figures of capacitance code. The fourth digit is number of 0's following. Example: <b>103</b> = 10000pF R = decimal	<b>COG/NPO</b> <b>F</b> = ±1% <b>G</b> = ±2% <b>J</b> = ±5% <b>K</b> = ±10%	<b>X7R</b> <b>J</b> = ±5% <b>K</b> = ±10% <b>M</b> = ±20%	<b>160</b> = 16V <b>250</b> = 25V <b>500</b> = 50V <b>101</b> = 100V <b>201</b> = 200V <b>251</b> = 250V <b>501</b> = 500V <b>631</b> = 630V	<b>N</b> = Nickel barrier with 100% matte tin plating. RoHS compliant. Lead free.	<b>H</b> = High Temp Screening - if required <b>T</b> = 178mm (7") reel 330mm (13") reel <b>None</b> = Bulk pack - tubs



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