

NIC PRODUCT PROFILE

NMC "X8S" Series

Extended temperature X8S MLCC capacitors

DESCRIPTION:

NIC Components has added extended temperature X8S dielectric) to the NMC series of ceramic chip capacitors; MLCCs. Featuring capacitance stability of $\pm 22\%$ over wide operating temperature range of $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$. X8S dielectric is available in six case sizes; 0603, 0805, 1206, 1210, 1812 and 2220. Covering capacitance range of $1000\text{pF} \sim 0.27\mu\text{F}$ in 25VDC and 50VDC voltage ratings.



CHARACTERISTICS:

Temperature Range : $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$

Capacitance : $1,000\text{pF} \sim .27\mu\text{F}$

Tolerance : $\pm 10\%$, $\pm 20\%$

Rated Voltage: 25Vdc & 50Vdc

Sizes: 0603 ~ 2220

What is X8S?

MLCCs are specified with regards to their capacitance value and tolerance at $+25^{\circ}\text{C}$.

The maximum allowable change in capacitance over a specified operating temperature range is the Temperature Coefficient (TC) of the capacitor. X8S offers a $\pm 22\%$ change over a temperature range of $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$. The next upgrade to X8S is X8R (a $\pm 15\%$ change over $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$)

APPLICATIONS that require X8S dielectrics are applications where extended temperature environments including:

- Power equipment
- Industrial controls
- Down-hole drilling

Get full list of product series, datasheets, Technical Information, and Specification Selection Guides for all NIC Ceramic Capacitors @

<http://www.niccomp.com/ceramic>

:: Key Parameters -

+ MLCC Substitues and Selling Tips

- Temperature Coefficient - "X8" type offers widest temperature range. X8S can replace X7R and X5R as a temperature upgrade.

+ MLCC Capacitors vs. other Capacitor Technologies

- ESR & Impedance - MLCC construction offers the lowest ESR and impedances versus other technologies
- High Frequency Performance (Lower ESL than E-Cap Types)

+ Solderability, Materials, and Packaging Benefits

- Feature a Matte Sn finish over Ni barrier compatible with lead-free reflow soldering processes.
- All NMC series products are RoHS compliant.
- Supplied packaged on tape and reel for use with automated assembly processes.

[Visit www.niccomp.com for more information]

Capacitance range per case size and Voltage

Case Size	Dielectric	Max Cap
0603	25Vdc	.001 ~ .01 μF
0805	25Vdc	.0033 ~ .022 μF
1206	25Vdc	.01 ~ .1 μF
	50Vdc	.01 ~ .1 μF
1210	50Vdc	.056 ~ .22 μF
1812	50Vdc	.056 ~ .22 μF
2220	50Vdc	.27 μF



NIC Components Corp.