NIC Components Corp.

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September 2013

Doc: MLCC-Voltage-Current-Guideline-Sept2013r2

CURRENT & VOLTAGE GUIDELINE

Product Type: MLCC Ceramic Chip Capacitors

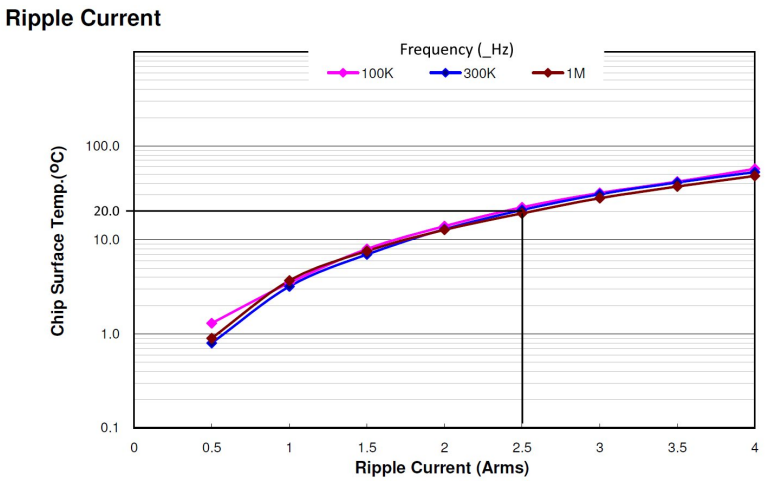
NIC Product Series:
NCA, NMC, NMC-A, NMC-AP, NMC-H, NMC-L, NMC-M, NMC-P, NMC-Q, NMC-R & NMC-T

Voltage & Current Guideline

1.) **Voltage** - Combination of applied VDC and peak ripple voltage (Vp-p or Vo-p) should not exceed the rated voltage of the component. Surge or pulse voltages should not exceed rated voltage of the component. When using MLCC in surge or pulse voltage applications, or when using MLCC in high frequency application, please review your requirements with NIC technical support: tpmg@niccomp.com

2.) **Current** - Capacitor self-heating temperature rise (ΔT) caused by ripple current should not exceed **20°C** above the ambient temperature, nor the combined temperature (component self-heating and ambient) exceed the maximum operating temperature limit of the component (+85°C for X5R & Y5V and +125°C for NPO & X7R)

Example: NMC1206X7R106K16__F (10uF, 16V, 1206, X7R MLCC)
100KHz ~ 1MHz Current limit is 2.5Arms, as shown in below graph



➔ For ripple current rating of MLCC part number(s), please contact NIC technical support: tpmg@niccomp.com

➔ NIC Ceramic capacitors: https://www.niccomp.com/products/pType.php?pType=Ceramic%20Capacitors

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Ripple Current Curves

2021/11/09 NIC Components Corp.

PN: NMC0603X5R475K25TRPF