

Common Mode Chokes for DC/DC Embedded Applications

CMC 22 xxx 2WR Series

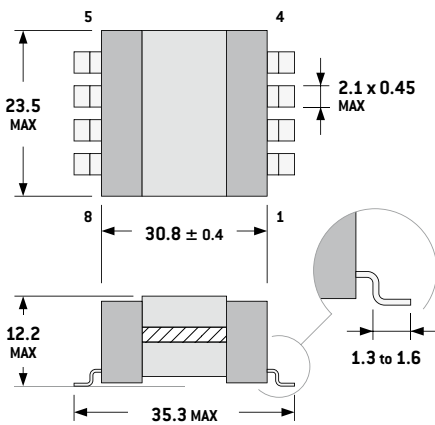


- Based on MicroSpire's «SESI22 Planar Technology»
- Low-profile SMD package (2x4 pins)
- Applied standards: MIL-STD-202, ECSS-Q-70-02, D0-160
- ESCC 3201/009 version upon request
- RMS current range: from 1.9 A to 14.3 A for 40 °C heating above 25 °C
- Excellent impedance attenuation > 100 Ω from 300 kHz to 35 MHz
- Dielectric strength test up to 500 V (50 Hz - 1 min)
- Materials meet UL94-V0 rating
- Thermal index according to IEC85: H (180 °C)
- Operating/storage temperature range: -55 °C to +125 °C
- Approx weight: 26 grams

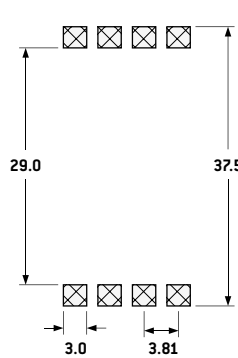
Electrical Data

ID Code	Inductance Value at 25°C (± 40%)	Typical SRF	Max Impedance (Typical)	Max Attenuation (Z = 50Ω)	MAX RMS Current for ΔT = 40°C Heating	MAX DC Resistance (25°C)	Dielectric Strength (50Hz - 1min)
CMC22 58K 2WR	0.06 mH	3 MHz	1.1 kΩ	22 dB	14.3 A	5 mΩ	500 Vrms
CMC22 M14 2WR	0.14 mH	2 MHz	2.9 kΩ	30 dB	9.1 A	10 mΩ	500 Vrms
CMC22 M34 2WR	0.34 mH	1.5 MHz	9.1 kΩ	39 dB	5.8 A	20 mΩ	500 Vrms
CMC22 M74 2WR	0.74 mH	1.1 MHz	21.8 kΩ	47 dB	4.3 A	40 mΩ	500 Vrms
CMC22 1M6 2WR	1.6 mH	0.7 MHz	64.6 kΩ	56 dB	2.8 A	95 mΩ	500 Vrms
CMC22 3M3 2WR	3.3 mH	0.65 MHz	250 kΩ	68 dB	1.9 A	205 mΩ	500 Vrms

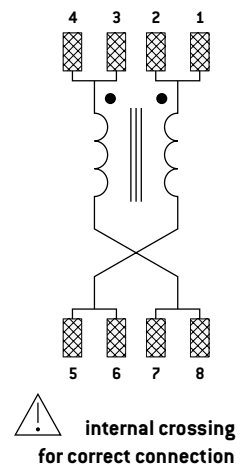
Typical Dimensions (mm, top view)



PCB Layout (suggested)

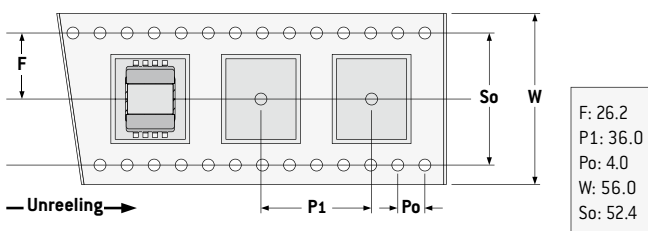


Connections (top view)

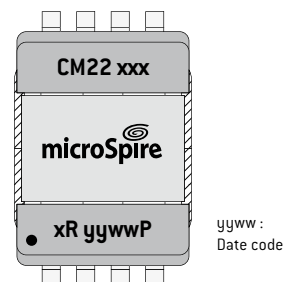


Packaging

Tape and Reel:
100 units per reel of diameter 330 mm



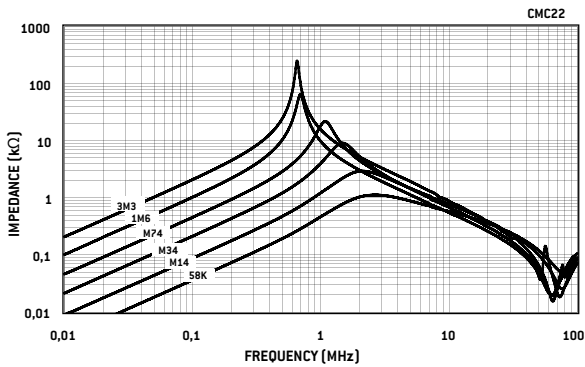
Marking



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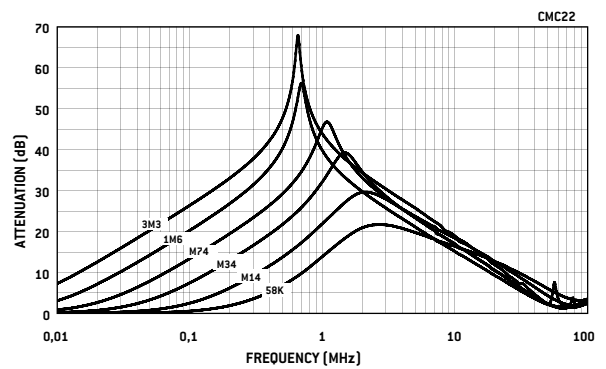
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Impedance



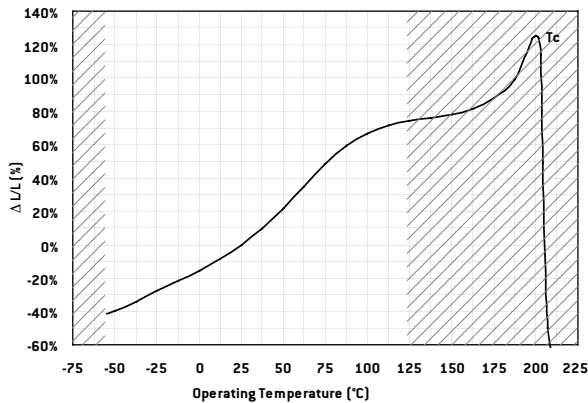
Typical values at 25°C with 1 mT at 10 kHz

Attenuation



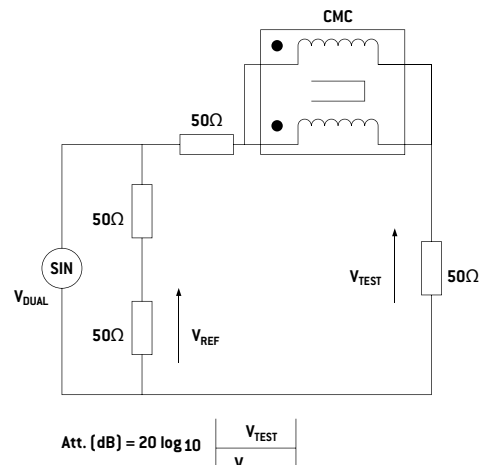
Typical values ($Z = 50 \Omega$) at 25°C with 1 mT at 10 kHz

Variation vs Temperature



Change in inductance value (< 1 mT at 10 kHz)

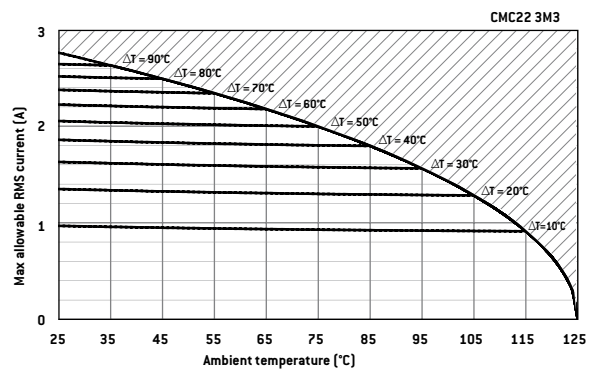
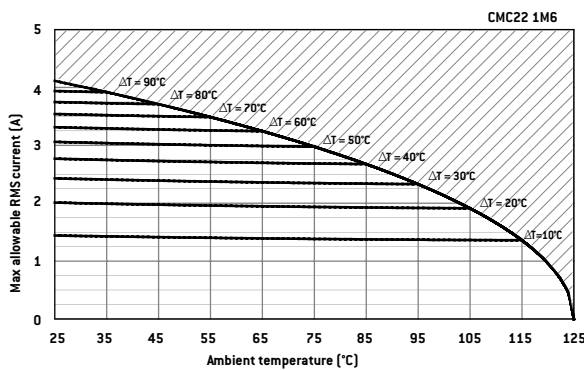
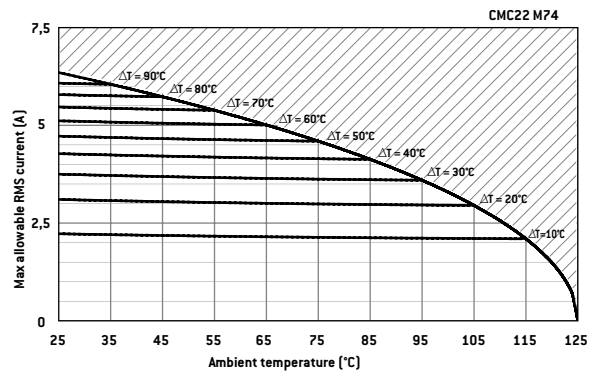
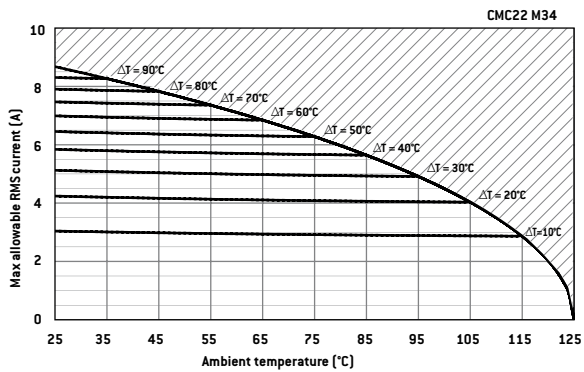
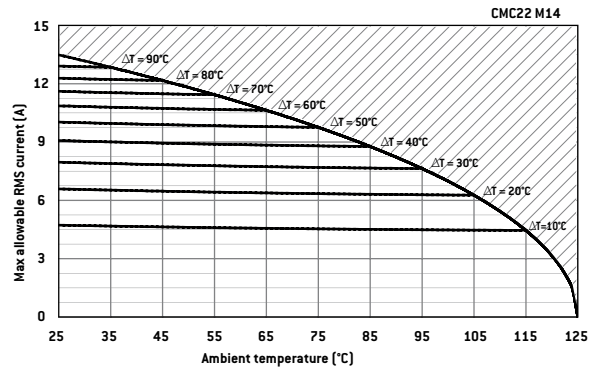
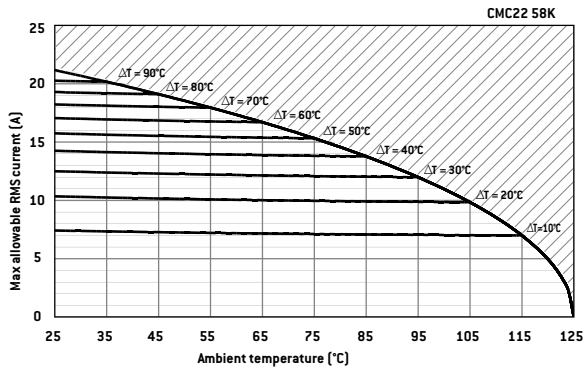
Attenuation Measurement Circuit



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Derating Curves



All thermal measurements under atmospheric conditions with component mounted on 1 dm² PCB without cooling device. All above graphs indicate maximum RMS current allowed through component v. ambient temperature for a defined ΔT . Maximum operating temperature is +125°C.

Example:
CMC22 58K for application with $T_{amb} = +85^\circ\text{C}$. Max current allowed is $< 14\text{ Arms}$ with $\Delta T < 40^\circ\text{C}$.
If temp increase allowed in application is limited to $\Delta T < 20^\circ\text{C}$, current must be reduced to 10 Arms.

