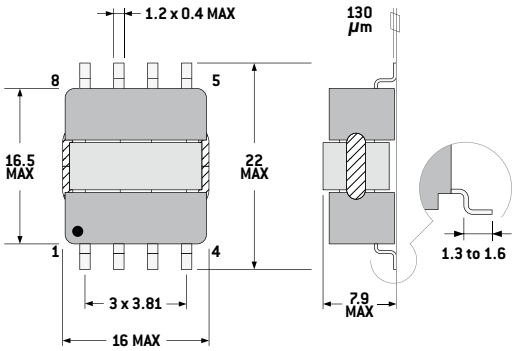
Common Mode Chokes for DC/DC Embedded Applications
CMC 15 xxx 2WR Series

- Based on Microspire's «SESI15 Planar Technology»
- Low-profile SMD package (2x4 pins)
- Applied standards: MIL-STD-202, ECSS-Q-70-02, DO-160
- esa ESCC 3201/009 version upon request
- RMS current range: from 0.6 A to 6.7 A for 40 °C heating above 25 °C
- Excellent impedance attenuation > 100 Ω from 300 kHz to 65 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: 5 grams

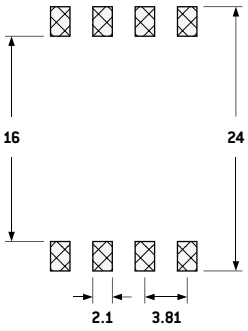
Electrical Data

ID Code	Inductance Value at 25°C (±40%)	Typical SRF	Max Impedance (Typical)	Max Attenuation (Z = 50Ω)	MAX RMS Current for ΔT = 40°C	MAX DC Resistance (25°C)	Dielectric Strength (50Hz - 1min)
CMC15 52K 2WR	0.05 mH	7.3 MHz	1.6 kΩ	25 dB	6.7 A	15 mΩ	500 Vrms
CMC15 M11 2WR	0.11 mH	5.8 MHz	3.7 kΩ	32 dB	4.4 A	35 mΩ	500 Vrms
CMC15 M22 2WR	0.22 mH	3.9 MHz	7.3 kΩ	37 dB	3.3 A	65 mΩ	500 Vrms
CMC15 M47 2WR	0.47 mH	2.4 MHz	15 kΩ	44 dB	2.2 A	150 mΩ	500 Vrms
CMC15 1M0 2WR	1.0 mH	1.8 MHz	33.5 kΩ	51 dB	1.4 A	350 mΩ	500 Vrms
CMC15 2M0 2WR	2.0 mH	1.2 MHz	66.9 kΩ	57 dB	0.95 A	770 mΩ	500 Vrms
CMC15 4M0 2WR	4.0 mH	0.9 MHz	151 kΩ	64 dB	0.55 A	1750 mΩ	500 Vrms

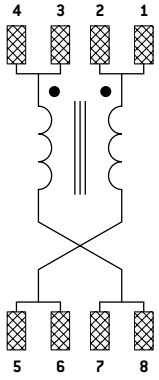
Typical Dimensions
(mm, top view)



PCB Layout
(suggested)



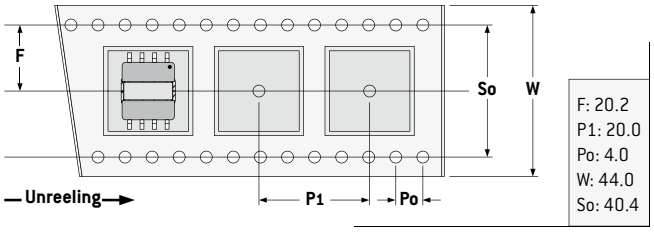
Connections
(top view)



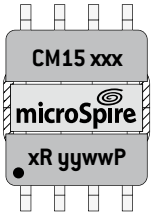
internal crossing
for correct connection

Packaging

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



Marking



yyww :
Date code

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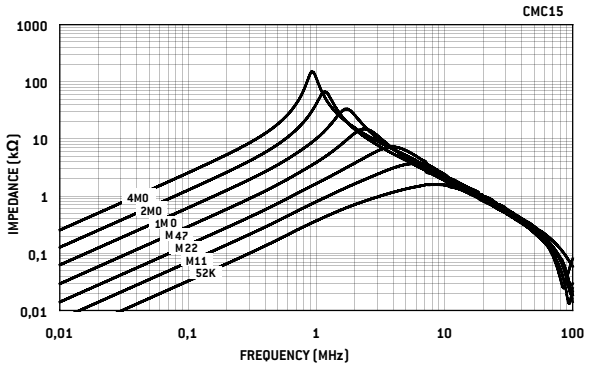
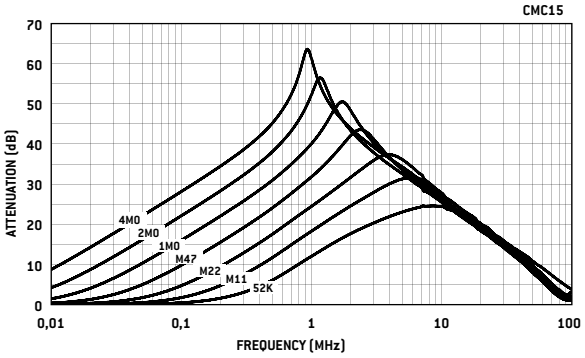
Impedance



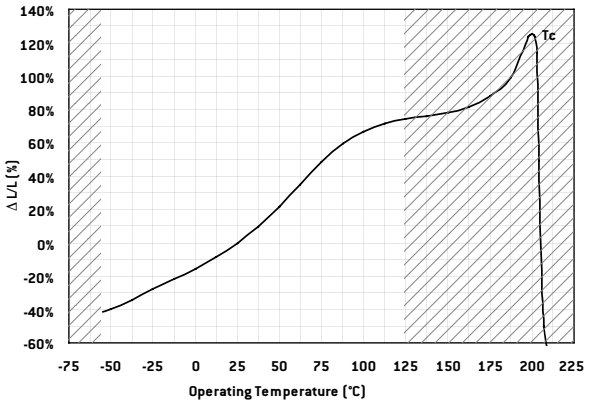
Typical values at 25°C with 1 mT at 10 kHz

Attenuation



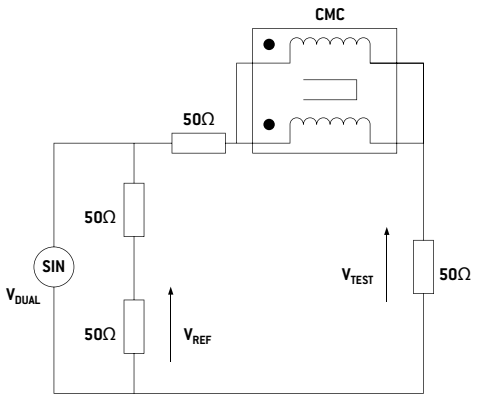
Typical values (Z = 50 Ω) at 25°C with 1 mT at 10 kHz

Variation vs Temperature



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

Attenuation Measurement Circuit



$$Att.\,(dB) = 20 \log 10 \frac{V_{TEST}}{V}$$

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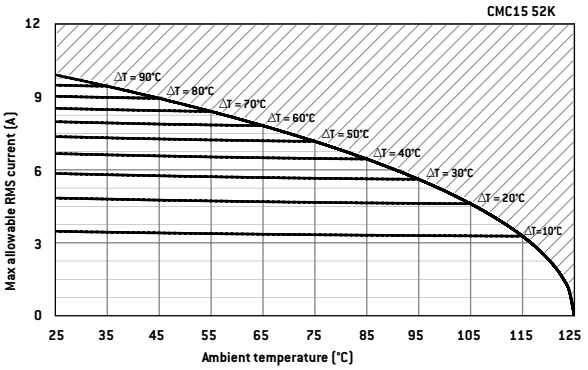
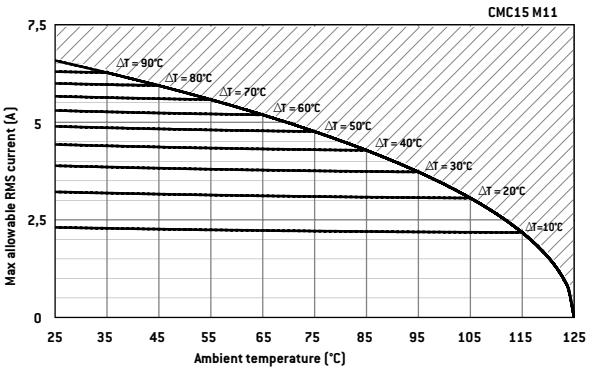
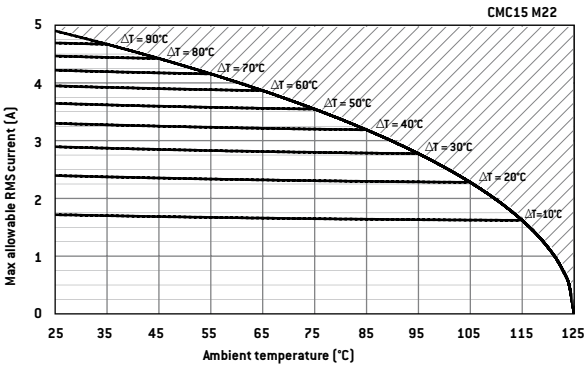
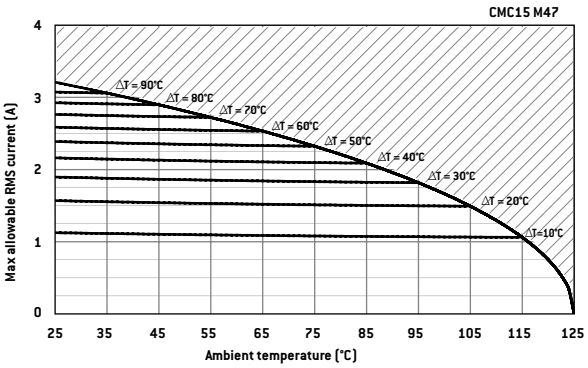
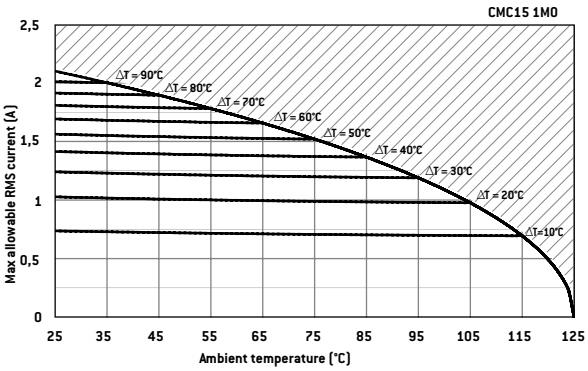
Derating Curves

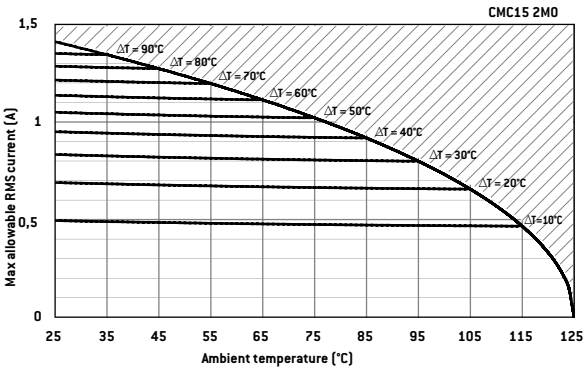


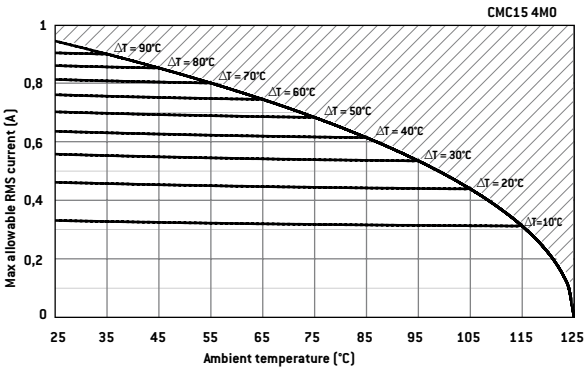












All thermal measurements under atmospheric conditions with component mounted on 1 dm^2 PCB without cooling device.

All above graphs indicate maximum RMS current allowed through component v. ambient temperature for a defined ΔT.

Maximum operating temperature is +125°C.

Example:

CMC15 52K for application with Tamb = + 85 °C Max current allowed is < 6.5 Arms with ΔT < 40°C.

If temp increase allowed in application is limited to ΔT < 20°C, current must be reduced to 4.5 Arms.