

CMC 17 Common Mode Chokes Series

High Grade - Improved Temperature Stability

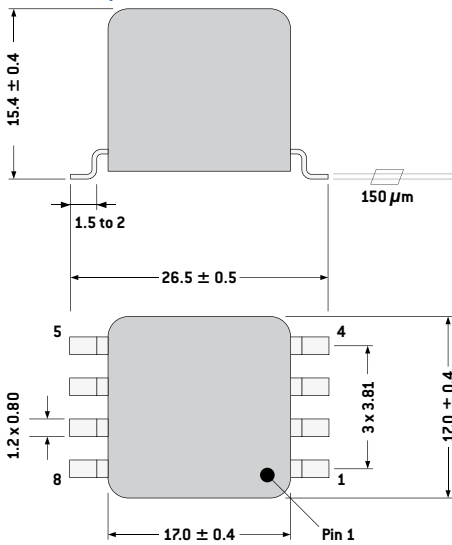


- Less than 20 % performance variations versus temperature (-55 °C/+ 125 °C)
- Minimum impedance attenuation: 100 Ω from 100 kHz to 30 MHz
- Compact SMD package (2x4 pins)
- Applied standards: MIL-STD-202, ECSS-Q-ST-70-02C, D0-160 and ESCC 3201 generic specification for space products
- RMS current range : from 1.1 A to 11.7 A for 40 °C heating above 25 °C
- Materials meet UL94-V0 rating
- Thermal index according to IEC85 : H (180 °C)
- Operating/storage temperature range : -55 °C to + 125 °C
- Approx weight : 10 grams

Electrical Data

ID Code	Inductance Value at 25°C (-40/+35%)	Typical SRF	Max Impedance (Typical)	Max Attenuation (Z = 50Ω)	MAX RMS Current for ΔT = 40°C	MAX DC Resistance (25°C)	Typical Leakage Inductance [100kHz]
CMC17 M45 1WR	0.45 mH	32 MHz	1 kΩ	20 dB	11.7 A	5 mΩ	0.5 μH
CMC17 1M2 1WR	1.15 mH	15 MHz	1.9 kΩ	26 dB	8.3 A	10 mΩ	1.1 μH
CMC17 2M6 1WR	2.59 mH	8 MHz	3.7 kΩ	32 dB	6 A	18 mΩ	2.3 μH
CMC17 5M8 1WR	5.83 mH	1.5 MHz	5.3 kΩ	35 dB	4 A	40 mΩ	6.3 μH
CMC17 13M 1WR	13.1 mH	0.6 MHz	9.4 kΩ	40 dB	2.7 A	90 mΩ	13.4 μH
CMC17 30M 1WR	30.3 mH	0.3 MHz	15.8 kΩ	44 dB	1.7 A	220 mΩ	32 μH
CMC17 69M 1WR	69.2 mH	0.1 MHz	29 kΩ	49 dB	1.1 A	500 mΩ	70 μH

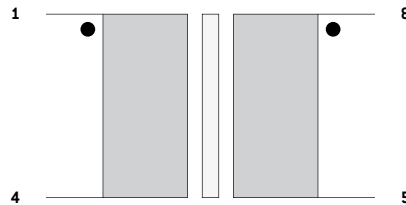
Typical Dimensions (mm, top view)



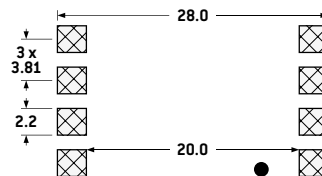
Notes

1. Dielectric strength test : 500v (50Hz - 1min)
2. 1:1 ratio (sector wound construction)

Connections

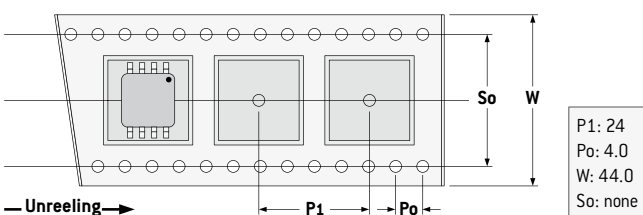


PCB Layout (suggested)

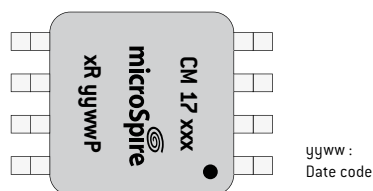


Packaging

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



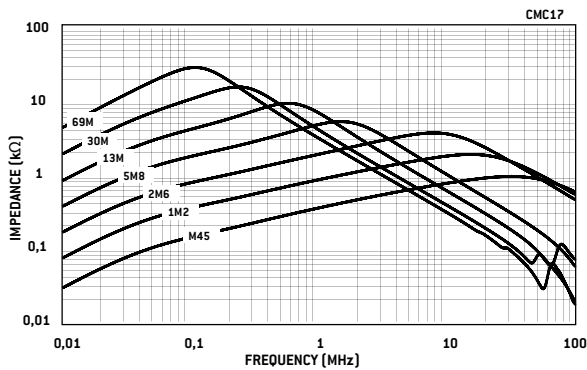
Marking



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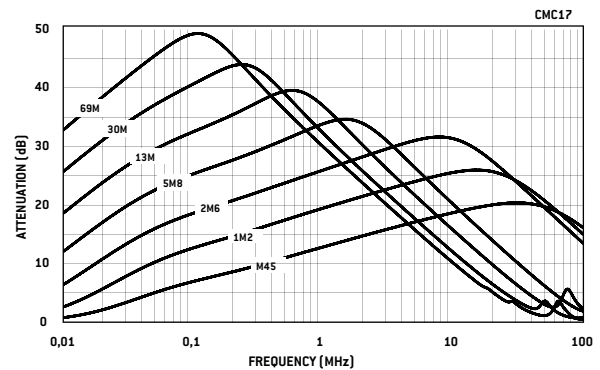
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Impedance



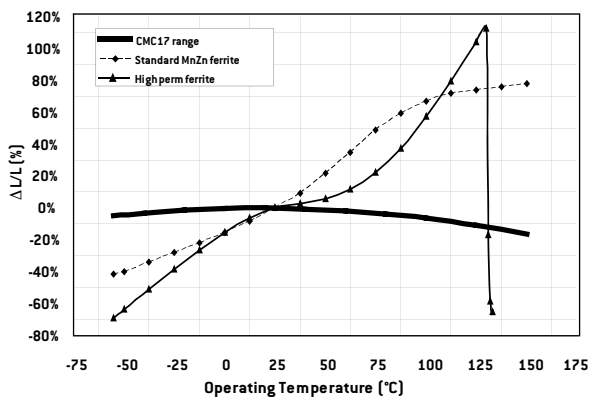
Typical values at 25°C with 1 mT at 10 kHz

Attenuation



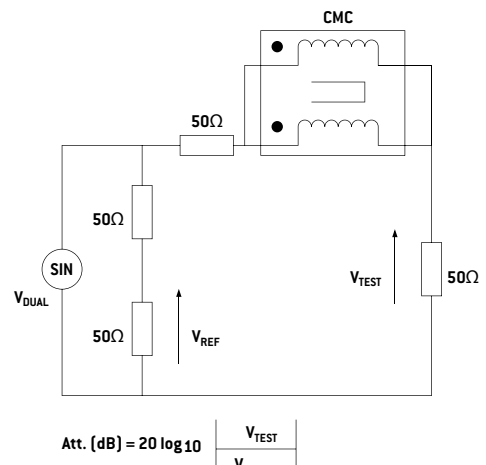
Typical values ($Z=50\Omega$) at 25°C with 1 mT at 10 kHz

Variation vs Temperature



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

Attenuation Measurement Circuit

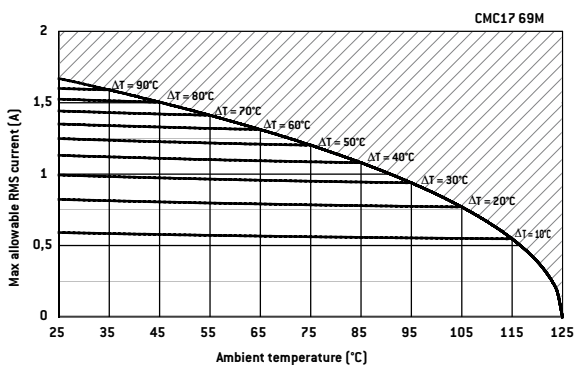
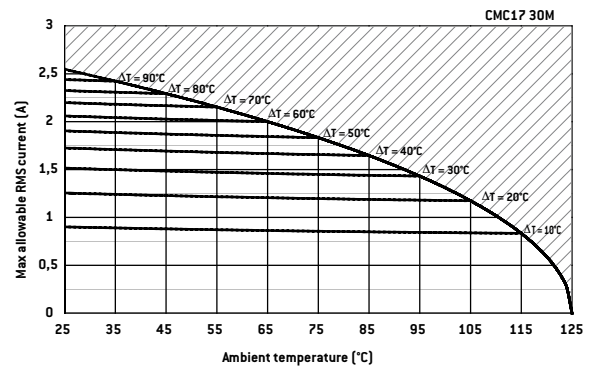
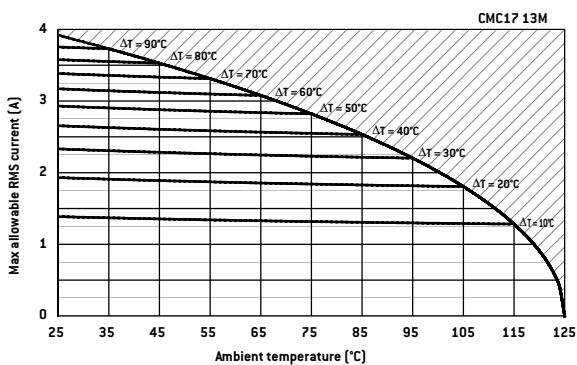
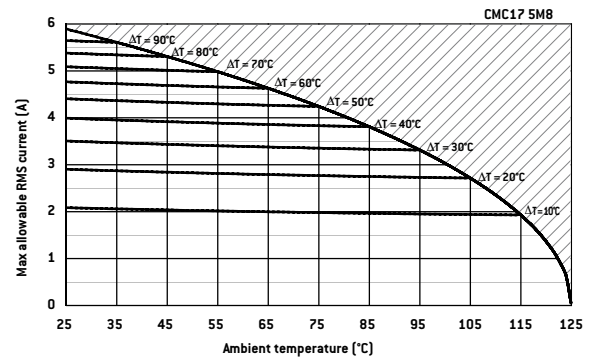
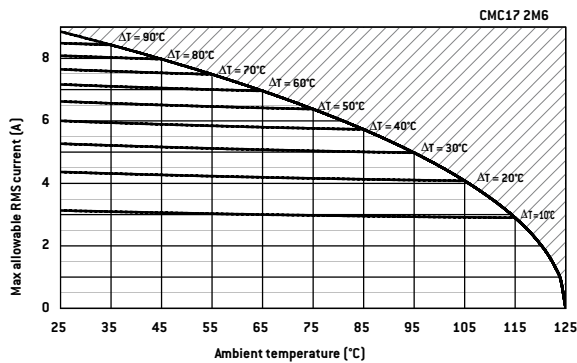
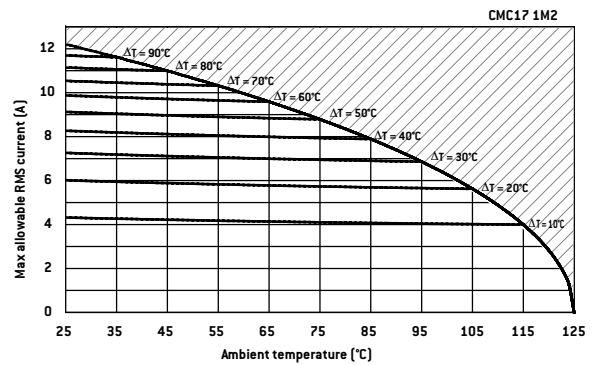
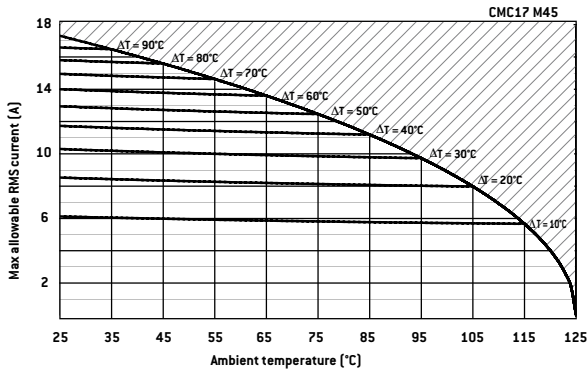


CMC17 range uses very high performance materials and therefore, offers remarkable temperature stability figures compared to standard or high-perm ferrite cores.

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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:

CMC17 M45 for application with T_{amb} = +85 °C Max current allowed is < 11 Arms with ΔT < 40°C.

If temp increase allowed in application is limited to ΔT < 20°C, current must be reduced to 8 Arms.

