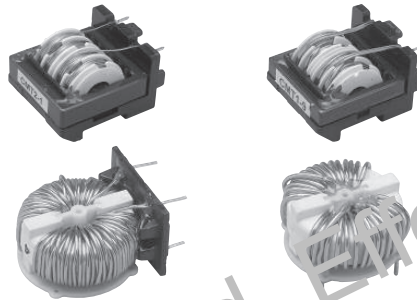


# CMT

## Common mode inductors, through-hole



### Product description

- Four sizes of through-hole off-line common mode inductors
- Inductance range from 0.53 - 66 mH
- Current range up to 6.5 Amps
- Noise attenuation up to 68 dB
- Frequency range up to 6 MHz
- Meets UL94V-0 flammability standard
- Ferrite core material

### Applications

- Protects AC input from effects of switching regulators
- Off-line power supplies
- EMI filters
- DC/DC converters
- Computer, TV, audio and office equipment

### Environmental data

- Storage temperature range (component): -40°C to +125°C
- Operating temperature range: -40°C to +125°C (ambient + self-temperature rise).



**Product specifications**

Part number	OCL (mH) minimum (1-2)	OCL (mH) minimum (4-3)	I rms. Amperes max	DCR (Ω) typ @ 20°C (1-2)	DCR (Ω) typ @ 20°C (4-3)
CMT1-1-R	66.0	66.0	0.74	1.20	1.20
CMT1-2-R	49.0	49.0	0.88	0.85	0.85
CMT1-3-R	28.0	28.0	1.13	0.50	0.50
CMT1-4-R	21	21	1.37	0.35	0.35
CMT1-5-R	13	13	1.76	0.20	0.20
CMT1-6-R	7.50	7.50	2.27	0.13	0.13
CMT1-7-R	4.20	4.20	2.89	0.08	0.08
CMT1-8-R	2.40	2.40	3.85	0.045	0.045
CMT1-9-R	1.85	1.85	4.53	0.033	0.033
CMT1-10-R	0.94	0.94	6.05	0.018	0.018
CMT2-1-R	30	30	1.50	0.350	0.350
CMT2-2-R	20	20	1.95	0.220	0.220
CMT2-3-R	12	12	2.45	0.135	0.135
CMT2-4-R	8.0	8.0	2.8	0.100	0.100
CMT2-5-R	6.0	6.0	3.40	0.070	0.070
CMT2-6-R	4.8	4.8	3.95	0.053	0.053
CMT2-7-R	3.2	3.2	4.40	0.042	0.042
CMT2-8-R	2.4	2.4	4.75	0.037	0.037
CMT2-9-R	2.0	2.0	5.4	0.028	0.028
CMT2-10-R	1.6	1.6	5.75	0.026	0.026
CMT3-1-R	5.4	5.4	2.0	0.12	0.12
CMT3-2-R	3.5	3.5	2.6	0.08	0.08
CMT3-3-R	2.7	2.7	3.0	0.055	0.055
CMT3-4-R	1.3	1.3	4.0	0.032	0.032
CMT3-5-R	0.92	0.92	5.0	0.021	0.021
CMT3-6-R	0.53	0.53	6.5	0.013	0.013
CMT4-1-R	5.4	5.4	2.0	0.12	0.12
CMT4-2-R	3.5	3.5	2.6	0.08	0.08
CMT4-3-R	2.7	2.7	3.0	0.055	0.055
CMT4-4-R	1.3	1.3	4.0	0.032	0.032
CMT4-5-R	0.92	0.92	5.0	0.021	0.021
CMT4-6-R	0.53	0.53	6.5	0.013	0.013

**Definitions:**

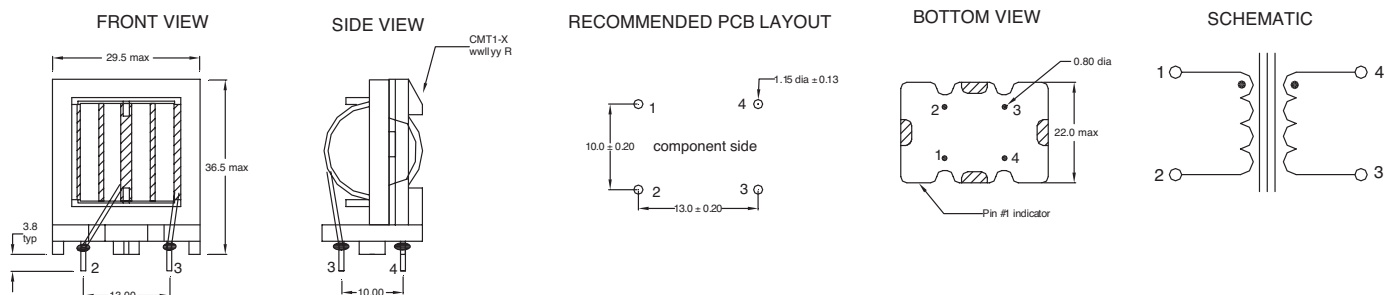
OCL = Open Circuit Inductance  
DCR = Direct Current Resistance  
I<sub>rms</sub> = rms current for 40°C max temperature rise at worst case ambient temperature of 85°C.

**Electrical Characteristics:**

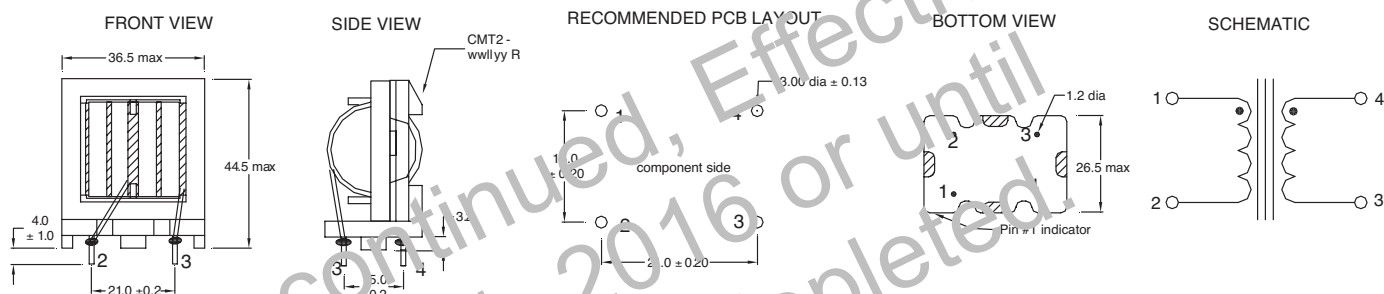
OCL (1-2) 0.10Vrms, 10kHz, 0.0Adc: (See Chart)  
OCL (4-3) 0.10Vrms, 10kHz, 0.0Adc: (See Chart)  
DCR (1-2) typ @ 20°C: (See Chart)  
DCR (4-3) typ @ 20°C: (See Chart)  
Hipot rating: winding to winding: 2400 Vac for 1 second. Turns Ratio: (1-2):(4-3) 1:1

Dimensions—mm

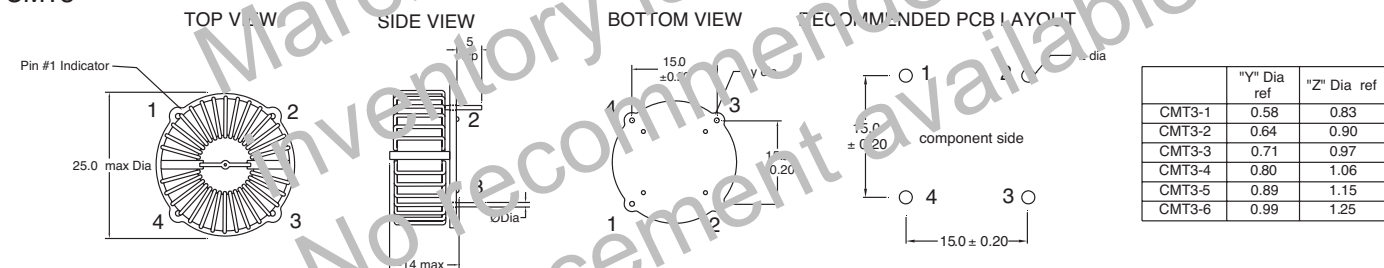
CMT1



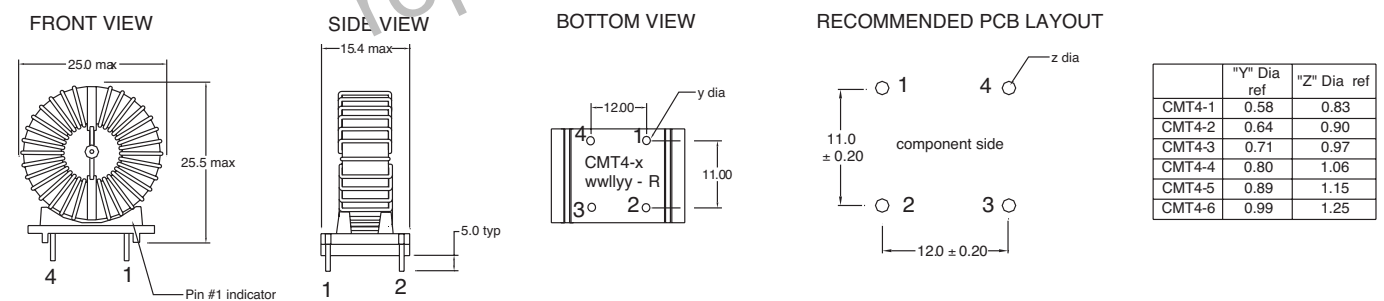
CMT2



CMT3

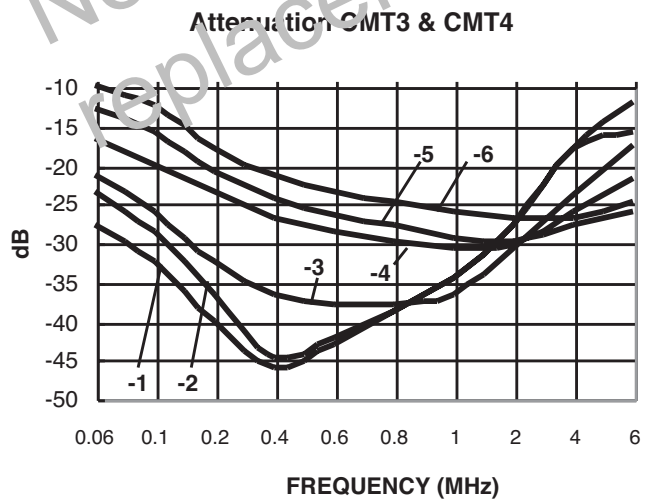
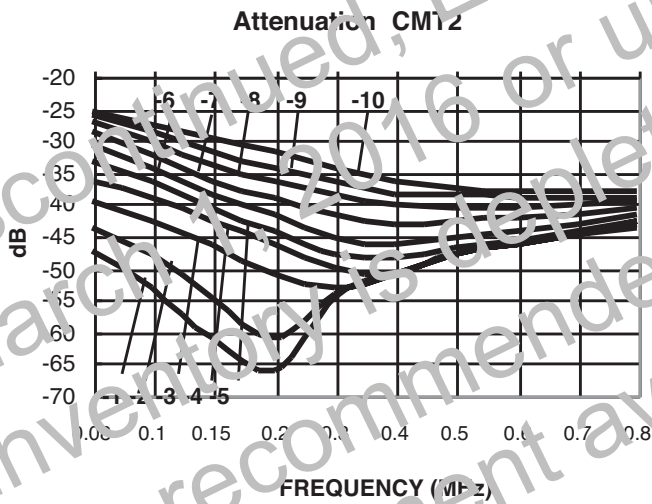
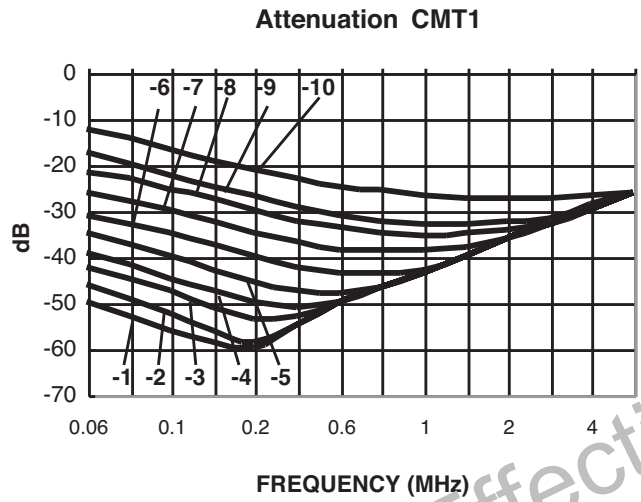


CMT4

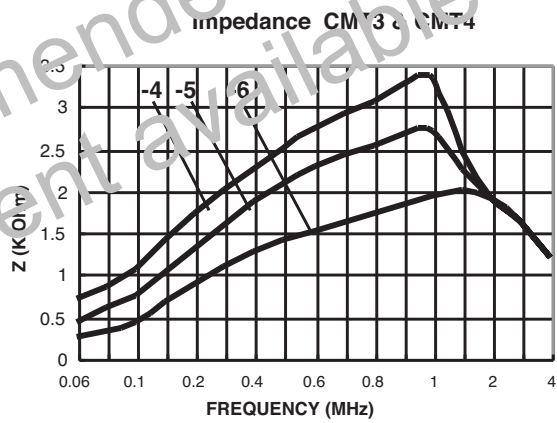
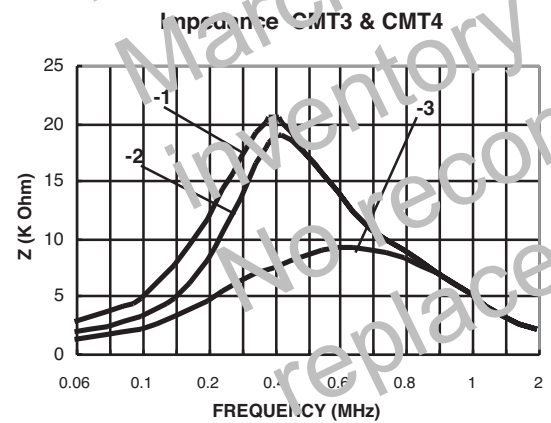
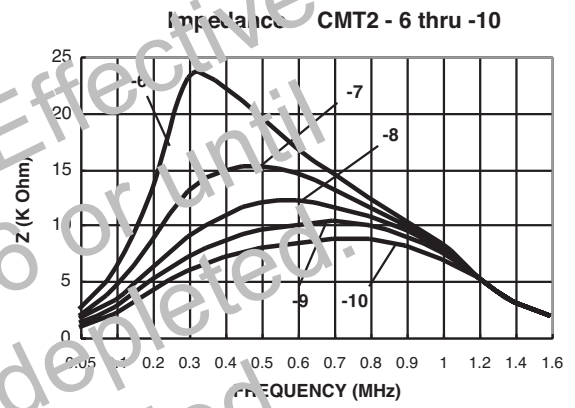
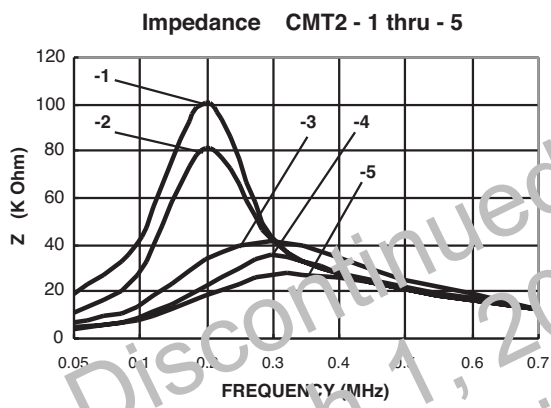
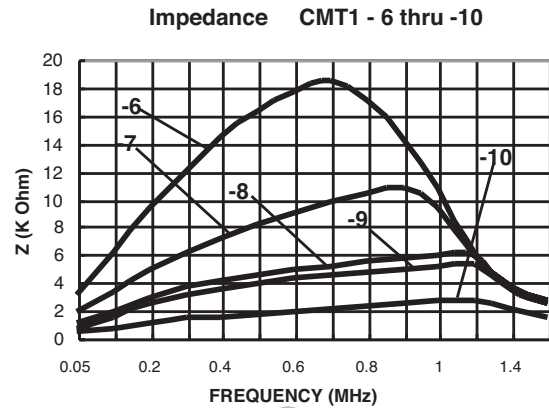
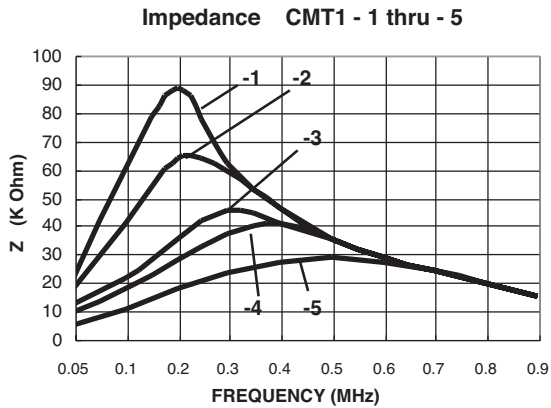


- (1) All Dimensions are in millimeters unless otherwise specified
  - (2) Tolerances are +/- 0.20mm unless stated otherwise.
  - (3) wwlyy = (Date Code) R = (Revision Level)
- Schematic is the same for all the series

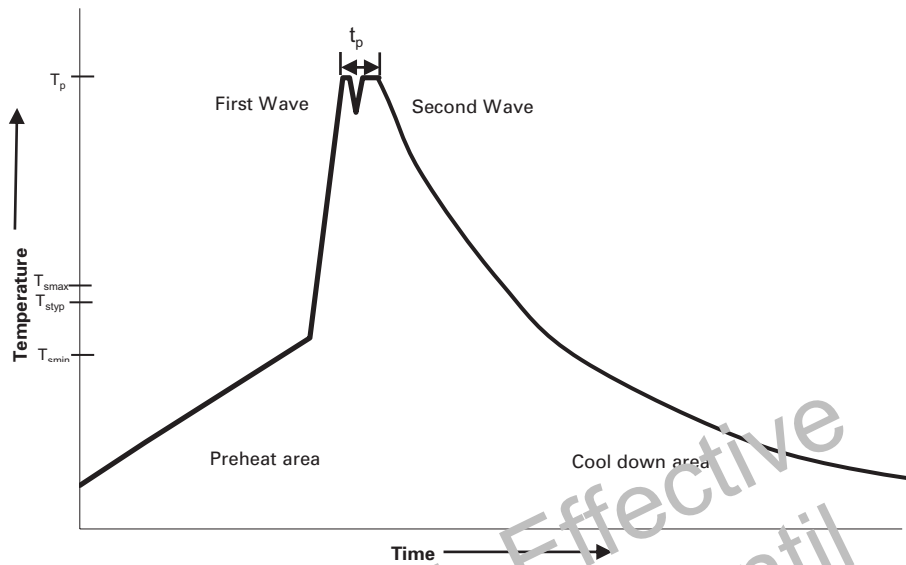
Attenuation Curves



Impedance Curves



**Wave solder profile**



**Reference EN 61760-1:2006**

Profile Feature	Standard 61SnPb Solder	Lead (Pb) Free Solder
Preheat		
• Temperature min. ( $T_{smin}$ )	100°C	100°C
• Temperature typ. ( $T_{styp}$ )	120°C	120°C
• Temperature max. ( $T_{smax}$ )	130°C	130°C
• Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	70 seconds	70 seconds
$\Delta$ preheat to max Temperature	150°C max.	150°C max.
Peak temperature ( $T_p$ )*	235°C - 260°C	230°C - 260°C
Time at peak temperature ( $t_p$ )	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate	~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25°C to 25°C	4 minutes	4 minutes

**Manual solder**

350°C, 4-5 seconds. (by soldering iron), generally manual, hand soldering is not recommended.

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