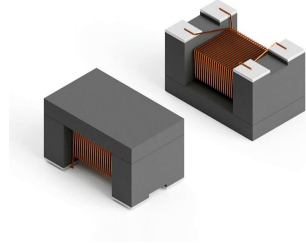




Common Mode Inductors—CMWL Series

FEATURES

- Miniature SMD type common mode filter for fully automated assembly.
- Wide impedance range for noise suppression.
- ROHS, Halogen free and REACH Compliance.
- Excellent solderability.



APPLICATIONS

- USB line for personal computers and peripheral, IEEE 1394 line for personal computers, DVC, STB, LVDS, panel line for liquid display panels, graph card, etc.

PRODUCT IDENTIFICATION



01 TyPe	
CMW	Common Mode Inductor

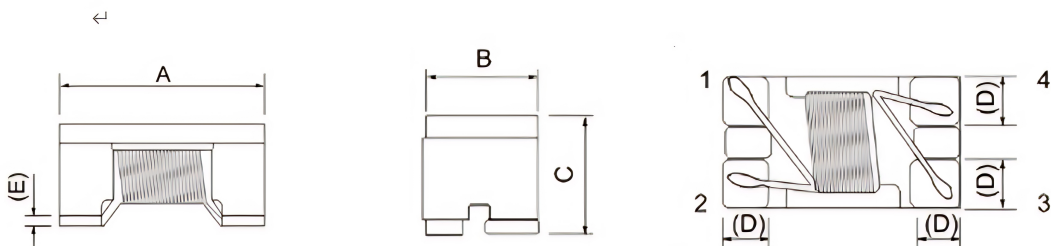
02 External Dimensions (LxW)(mm)	
3225[1210]	3.2x 2.5
3416[1306]	3.4x 1.6
4532[1812]	4.5x 3.2

03 Nominal Inductance	
Example	Nominal value
110	11uh
101	100uh

04 Packaging	
T	Reel

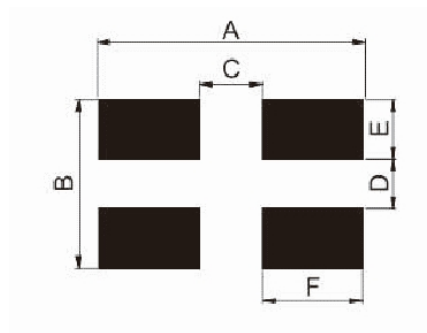
05 E.p	
F	Halogen Free

SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)				
	A Max	B Max	C Max	D	E
CMW3225L	3.2±0.2	2.5±0.2	2.1±0.2	0.8	0.2
CMW3416L	3.4±0.2	1.6±0.2	2.0±0.2	0.7	0.2
CMW4532L	4.5±0.2	3.2±0.2	2.8±0.2	1.0	0.2

RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)					
	A	B	C	D	E	F
CMW3225L	3.4	2.1	1.6	0.4	0.8	1.0
CMW3416L	4.0	2.0	1.8	0.4	0.7	1.0
CMW4532L	4.4	2.8	2.5	0.7	1.0	1.2

SPECIFICATIONS

● CMW3225L TYPE

Part Number	Z(10MHZ)(Ω)	L(uh)	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max(mA)	Withstand Voltage(V)	Insulation Resistance Min (mΩ)
CMW3225L-110-TF	300 min	11	100/0.1	0.40	300	50	10
		+50%/-30%					
CMW3225L-220-TF	500 min	22	100/0.1	0.50	250	50	10
		+50%/-30%					
CMW3225L-510-TF	1000 min	51	100/0.1	0.70	200	50	10
		+50%/-30%					
CMW3225L-101TF	2000 min	100	100/0.1	1.50	150	50	10
		+50%/-30%					
CMW3225L-201-TF	8000 min	200	100/0.1	4.80	70	50	10
		+50%/-30%					



● **CMW3416L TYPE**

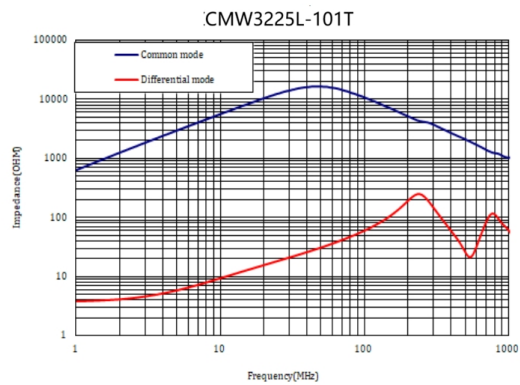
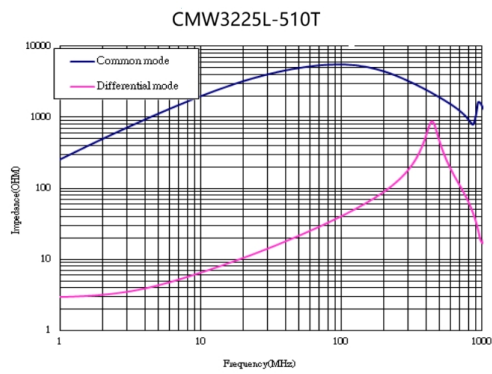
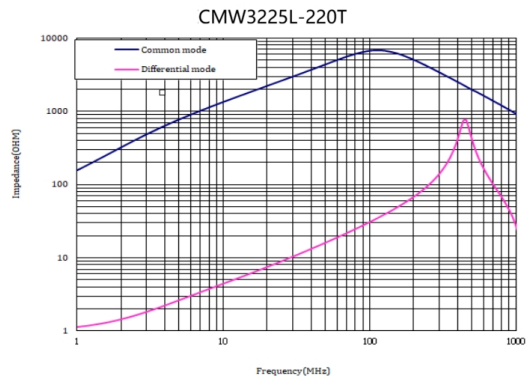
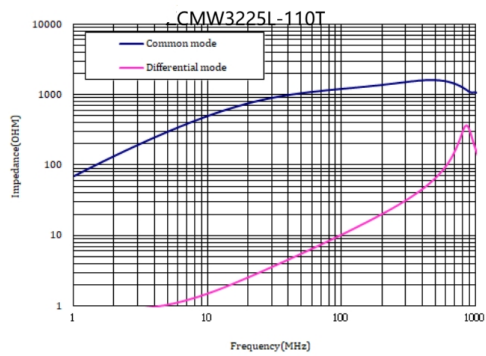
Part Number	Z(10MHZ)(Ω)	L(uh)	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max(mA)	Withstand Voltage(V)	Insulation Resistance Min (mΩ)
CMW3416L-400-TF	500 min	40	100/0.1	2.00	100	50	10
		+50%/-30%					
CMW3416L-600-TF	1000 min	60	100/0.1	1.70	200	50	10
		+50%/-30%					
CMW3416L-600-TF	1000 min	60	100/0.1	1.10	200	50	10
		+50%/-30%					
CMW3416L-600TF	1000 min	60	100/0.1	0.90	200	50	10
		+50%/-30%					
CMW3416L-900-TF	2000 min	200	100/0.1	2.00	100	50	10
		+50%/-30%					

● **CMW4532L TYPE**

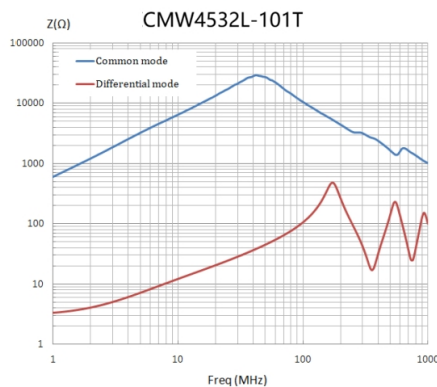
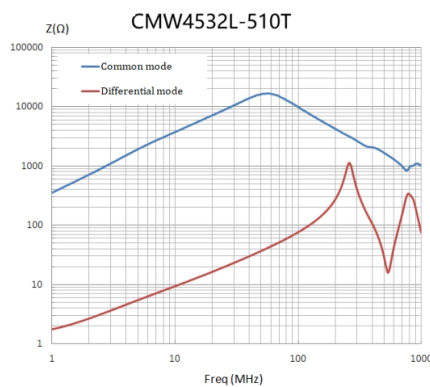
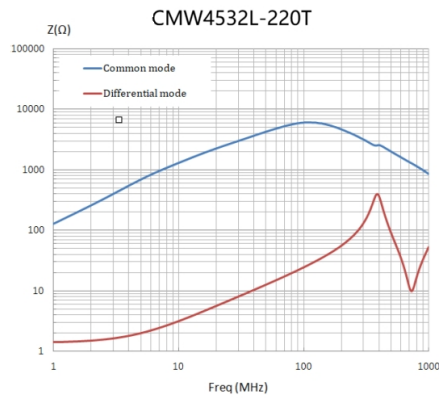
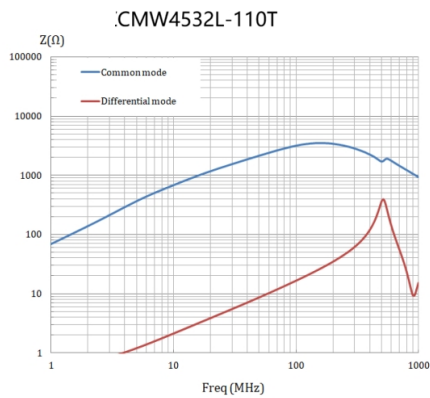
Part Number	Z(10MHZ)(Ω)	L(uh)	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max(mA)	Withstand Voltage(V)	Insulation Resistance Min (mΩ)
CMW4532L-110-TF	300 min	11	100/0.1	0.60	360	50	10
		+50%/-30%					
CMW4532L-220-TF	500 min	22	100/0.1	1.00	310	50	10
		+50%/-30%					
CMW4532L-510-TF	1000 min	51	100/0.1	1.00	230	50	10
		+50%/-30%					
CMW4532L-101TF	2000 min	100	100/0.1	2.00	200	50	10
		+50%/-30%					
CMW4532L-201-TF	5000 min	200	100/0.1	4.50	100	50	10
		+50%/-30%					



● CMW3225L IMPEDENCE CURVE



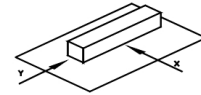
● CMW4532L IMPEDENCE CURVE



DETAIL ELECTRICAL CHARACTERISTICS

1. Operating temperature range: -40 to + 105°C(Includes temperature when the coil is heated) .
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y

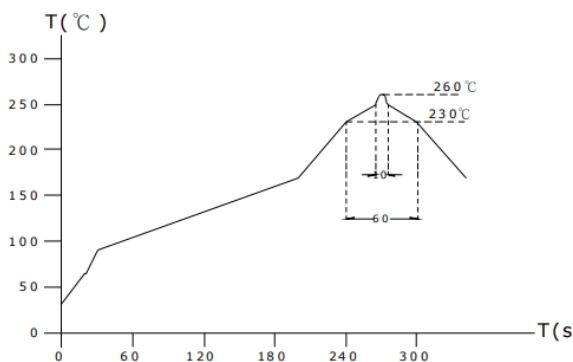
withstanding at below conditions.



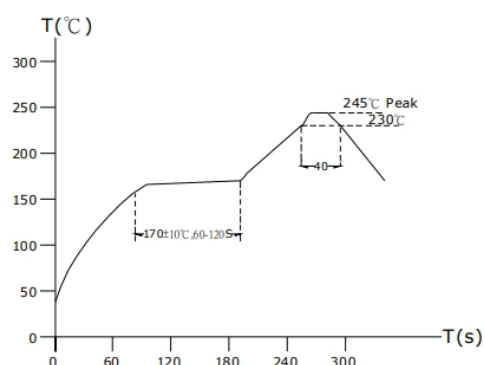
Terminal should not peel off. (refer to figure at right) 5. 0N 60 sec.

4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$ (-25~+80°C degree Celsius), inductance deviation within $\pm 5.0\%$, after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within $\pm 5\%$, after 96 hours in 90~95% relative humidity at $40 \pm 2^{\circ}\text{C}$ and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within $\pm 5\%$, after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within $\pm 5\%$, after being dropped once with 981m/s² (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds(See attached recommend reflow) .
11. Storage condition: Temperature Range: 0°C ~ 35°C; -40°C ~ 105°C (after PCB), Humidity Range: 50% ~ 70% RH.
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:

Lead-free heat endurance test



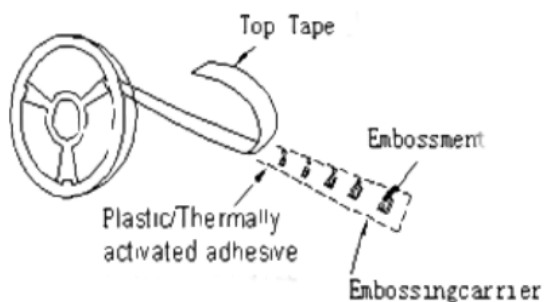
Lead-free the recommended reflow condition



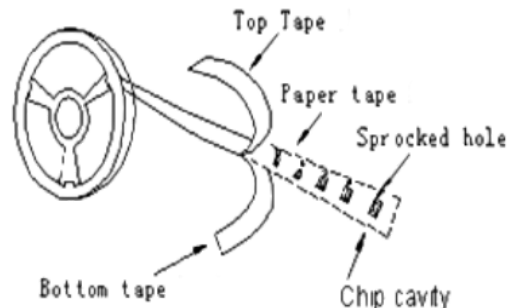
PACKAGING STYLE

• Taping Material

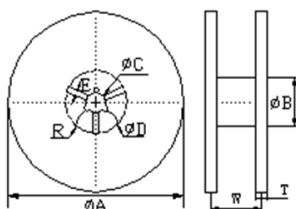
Embossing Tape



Paper Tape



• Reel Dimensions(mm)



Tape Width	A	B	C	D	E	W	T	R
8mm	178±2	60±1	13±0.5	21±0.8	2±0.5	10±1	1.5±0.5	1
12mm	178±2	60±1	13±0.5	21±0.8	2±0.5	14±1	1.5±0.5	1

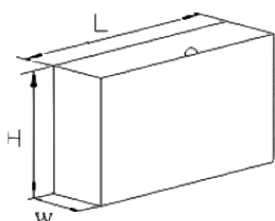
STORAGE

• Quantity

Type	PCS/REEL	PCS/INNERBOX	PCS/OUTERBOX
3225	500	2000	10000
3416	500	2000	10000
4532	500	2000	10000

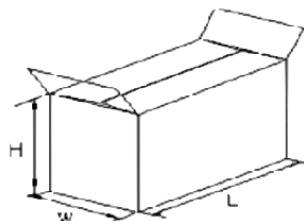
• Packing Dimensions(mm)

Inner Box Dimensions



L	W	H	THICK
180±3	70±3	190±3	2±0.8

Outer Box Dimensions



L	W	H	THICK
370±3	200±3	210±3	2±0.8

• Storage

Please be sure to the parts at 40°C, or less, 70%RH or less, and isolate the parts from sulphic and chloric atmosphere.

