Common Mode Chokes – MSD1278

- Only 12.3 mm square and 8 mm high
- Ideal for use in both power line and signal line applications
- Common- and differential-mode filtering in a single device
- Up to 110 MHz differential mode cutoff frequency
- 500 Vrms, one minute winding-to-winding isolation
- Can be used as coupled inductors for SEPIC applications

Core material Ferrite

Weight: 3.7 – 4.4 g

Terminations RoHS compliant matte tin over nickel over phos bronze. Other terminations available at additional cost.

Ambient temperature –40°C to +85°C with Irms current.

Maximum part temperature +125°C (ambient + temp rise).

Storage temperature Component: –40°C to +125°C. Tape and reel packaging: –40°C to +80°C

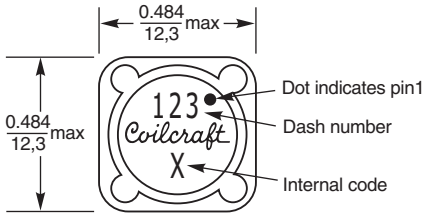
Winding-to-winding isolation 500 Vrms, one minute

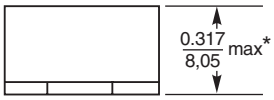
Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

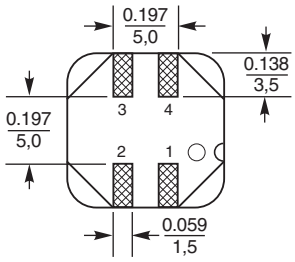
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging 500/13″ reel; Plastic tape: 24 mm wide, 0.5 mm thick, 16 mm pocket spacing, 8.7 mm pocket depth

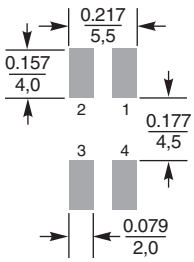
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.





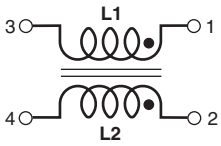


Recommended Land Pattern



* For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.012 inch (0,3 mm).

Dimensions are in inches / mm



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Common Mode Chokes – MSD1278 Series

Partnumber[1]	Common mode impedance max (kOhms)	Cutoff[2] frequency (MHz)	Inductance (µH)[3] min	Inductance (µH)[3] nom	DCR max[4] (Ohms)	Isolation (Vrms)	Irms (A)
MSD1278-472ML_	7.74 @ 32 MHz	110	3.76	4.7	0.038	500	3.16
MSD1278-562ML_	7.70 @ 25 MHz	81	4.48	5.6	0.046	500	2.87
MSD1278-682ML_	9.71 @ 22 MHz	63	5.44	6.8	0.048	500	2.81
MSD1278-822ML_	10.77 @ 21 MHz	87	6.56	8.2	0.050	500	2.76
MSD1278-103ML_	11.29 @ 19 MHz	58	8.00	10	0.058	500	2.56
MSD1278-123ML_	13.41 @ 17 MHz	57	9.60	12	0.062	500	2.48
MSD1278-153ML_	17.44 @ 16 MHz	53	12.0	15	0.072	500	2.30
MSD1278-183ML_	16.96 @ 15 MHz	43	14.4	18	0.080	500	2.18
MSD1278-223ML_	19.54 @ 12 MHz	35	17.6	22	0.096	500	1.99
MSD1278-273ML_	22.40 @ 11 MHz	39	21.6	27	0.12	500	1.78
MSD1278-333ML_	39.00 @ 9.8 MHz	37	26.4	33	0.15	500	1.59
MSD1278-393ML_	47.17 @ 9.0 MHz	42	31.2	39	0.16	500	1.54
MSD1278-473ML_	48.28 @ 8.6 MHz	28	37.6	47	0.18	500	1.45
MSD1278-563ML_	55.35 @ 7.7 MHz	26	44.8	56	0.19	500	1.41
MSD1278-683ML_	63.59 @ 6.8 MHz	22	54.4	68	0.21	500	1.35
MSD1278-823ML_	76.76 @ 6.1 MHz	22	65.6	82	0.28	500	1.16
MSD1278-104ML_	79.30 @ 5.8 MHz	22	80.0	100	0.30	500	1.13
MSD1278-124KL_	95.79 @ 4.9 MHz	18	108	120	0.41	500	0.96
MSD1278-154KL_	80.01 @ 4.3 MHz	23	135	150	0.46	500	0.91
MSD1278-184KL_	82.56 @ 3.9 MHz	13	162	180	0.51	500	0.86
MSD1278-224KL_	114.9 @ 3.7 MHz	13	198	220	0.69	500	0.74
MSD1278-274KL_	140.0 @ 2.9 MHz	12	243	270	0.90	500	0.65
MSD1278-334KL_	101.7 @ 2.8 MHz	9.4	297	330	1.02	500	0.61
MSD1278-394KL_	87.12 @ 2.6 MHz	9.4	351	390	1.12	500	0.58
MSD1278-474KL_	159.6 @ 2.3 MHz	11	423	470	1.43	500	0.50
MSD1278-564KL_	142.6 @ 2.2 MHz	8.7	504	560	1.69	500	0.47
MSD1278-684KL_	165.0 @ 1.9 MHz	7.4	612	680	2.29	500	0.41
MSD1278-824KL_	138.0 @ 1.8 MHz	6.9	738	820	2.55	500	0.39
MSD1278-105KL_	154.0 @ 1.7 MHz	6.0	900	1000	2.83	500	0.37

1. When ordering, please specify **termination** and **packaging** code:

MSD1278-105KLD

Termination: L = RoHS compliant matte tin over nickel over phos bronze
Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

Packaging: D = 13″ machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

2 Frequency at which the differential mode attenuation equals –3 dB

3 Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.

4 DCR is for each winding.

5 Interwinding isolation (hipot) tested for one minute.

6 Current that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

9. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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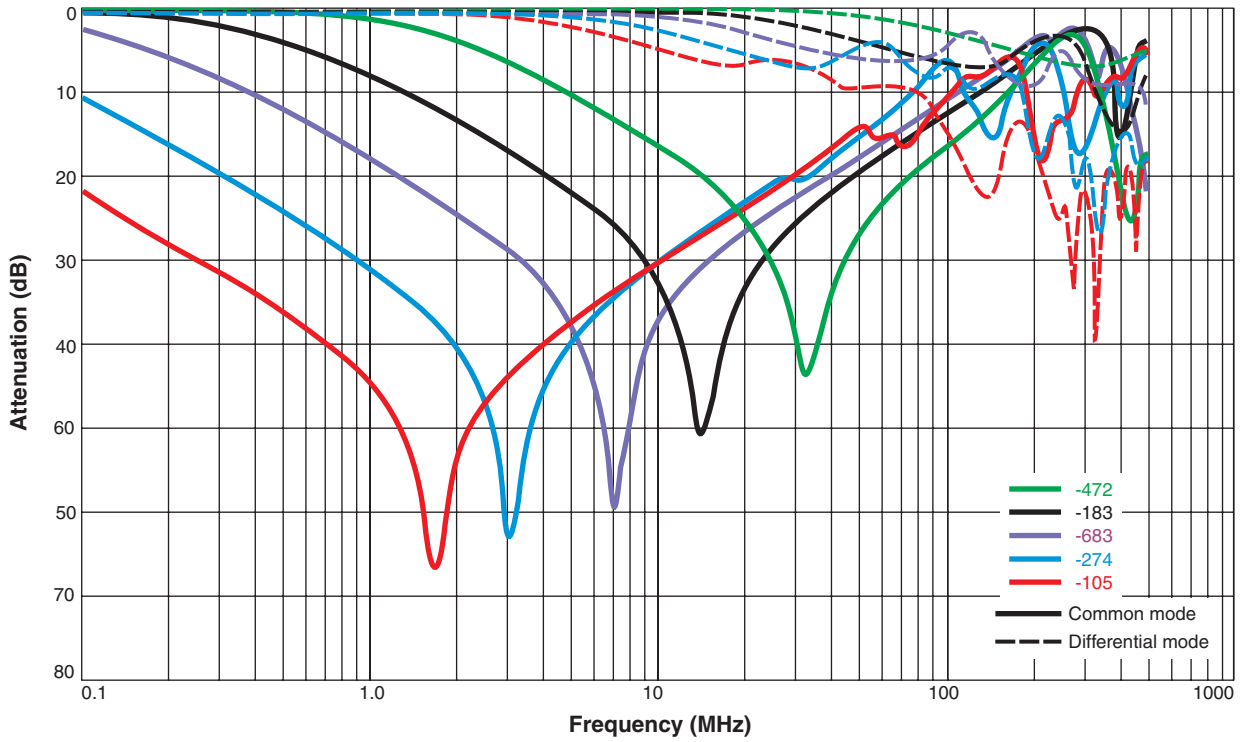
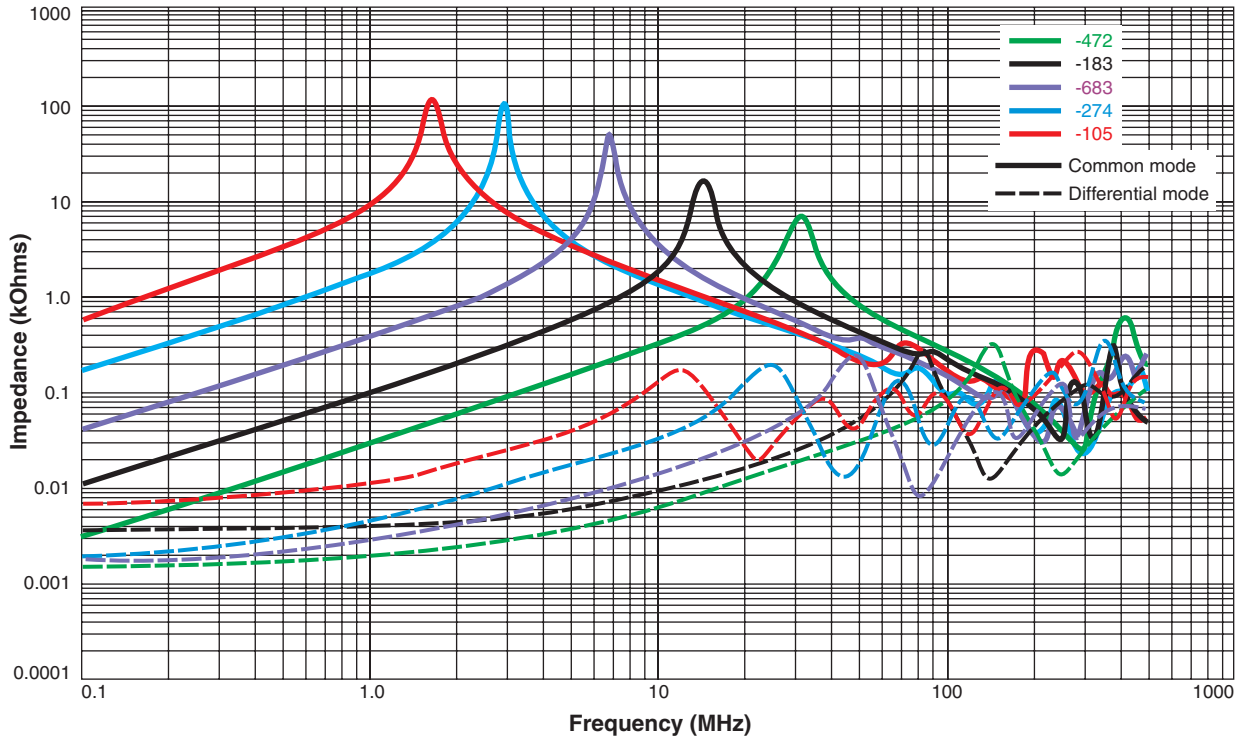
Typical Attenuation (Ref: 50 Ohms)



Typical Impedance vs Frequency



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