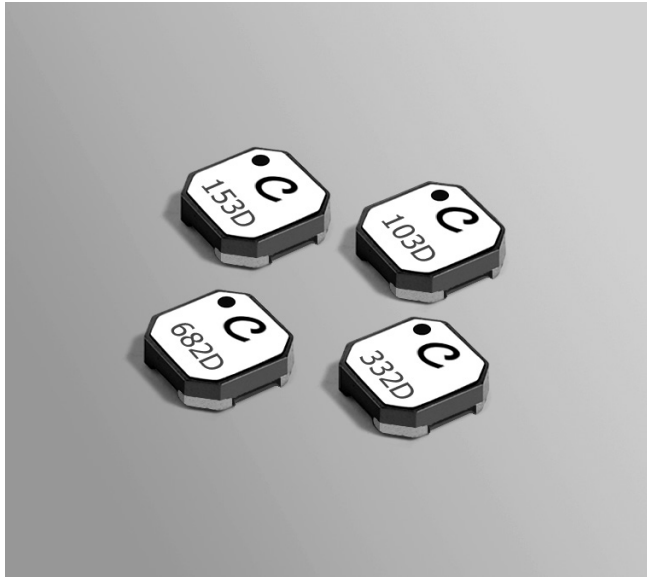


# Common Mode Chokes - LPD4012



- Only 1.1 mm high and 4 mm square
- Ideal for use in both power line and signal line applications
- Common- and differential-mode filtering in a single device
- Up to 600 MHz differential mode cutoff frequency
- Can be used as coupled inductors for SEPIC applications

**Core material** Ferrite

**Weight** 54 – 64 mg

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant matte tin over nickel over silver. Other terminations available at additional cost.

**Ambient temperature** -40°C to +85°C with (40°C rise) 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** 100 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)

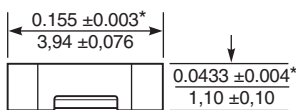
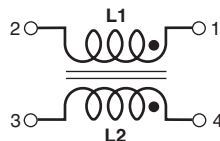
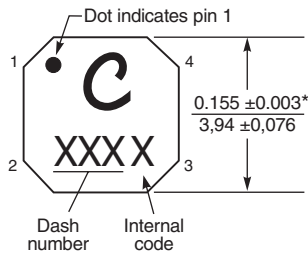
**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

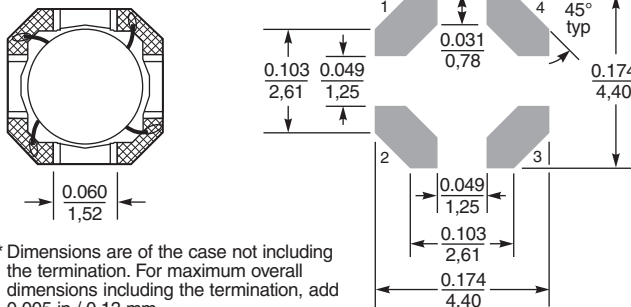
**Packaging** 1000/7" reel; 3500/13" reel Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 1.32 mm pocket depth

**Recommended pick and place nozzle** OD: 4 mm; ID: ≤2 mm

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).



### Recommended Land Pattern



\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.

For optional tin-lead and tin-silver-copper terminations, dimensions are for the mounted part. Dimensions before mounting can be an additional 0.005 in / 0.13 mm.

Dimensions are in inches  
mm



# Common Mode Chokes – LPD4012 Series

Partnumber <sup>1</sup>	Common mode impedance max (kOhms)	Cutoff <sup>2</sup> frequency (MHz)	Inductance (μH) <sup>3</sup>		DCR max <sup>4</sup> (Ohms)	Isolation (Vrms)	Irms (A)
			min	nom			
LPD4012-331NR_	0.75 @ 290 MHz	475	0.231	0.33	0.042	100	1.87
LPD4012-561NR_	0.94 @ 190 MHz	460	0.392	0.56	0.087	100	1.30
LPD4012-821NR_	1.78 @ 160 MHz	400	0.574	0.82	0.100	100	1.21
LPD4012-152NR_	3.27 @ 150 MHz	410	1.05	1.5	0.185	100	1.15
LPD4012-222NR_	4.19 @ 110 MHz	260	1.54	2.2	0.235	100	0.95
LPD4012-332NR_	6.24 @ 90 MHz	220	2.31	3.3	0.32	100	0.75
LPD4012-472MR_	10.19 @ 64 MHz	230	3.76	4.7	0.50	100	0.65
LPD4012-562MR_	12.05 @ 62 MHz	270	4.48	5.6	0.62	100	0.55
LPD4012-682MR_	10.18 @ 54 MHz	210	5.44	6.8	0.53	100	0.60
LPD4012-822MR_	13.16 @ 54 MHz	160	6.56	8.2	0.60	100	0.55
LPD4012-103MR_	16.26 @ 49 MHz	200	8.0	10	0.75	100	0.50
LPD4012-153MR_	21.01 @ 35 MHz	110	12.0	15	1.13	100	0.43
LPD4012-223MR_	28.19 @ 28 MHz	85	17.6	22	1.63	100	0.34
LPD4012-333MR_	30.67 @ 22 MHz	110	26.4	33	1.83	100	0.31
LPD4012-473MR_	35.31 @ 19 MHz	93	37.6	47	2.52	100	0.28
LPD4012-683MR_	47.06 @ 15 MHz	69	54.4	68	3.23	100	0.25
LPD4012-823MR_	48.72 @ 13 MHz	37	65.6	82	3.66	100	0.23
LPD4012-104MR_	58.90 @ 12 MHz	33	80.0	100	4.76	100	0.20
LPD4012-124MR_	69.63 @ 11 MHz	27	96.0	120	5.54	100	0.19
LPD4012-154MR_	94.73 @ 9.5 MHz	42	120	150	6.90	100	0.17
LPD4012-184MR_	114.84 @ 8 MHz	37	144	180	8.75	100	0.14
LPD4012-224MR_	129.43 @ 7.2 MHz	26	176	220	11.24	100	0.12
LPD4012-334MR_	162.61 @ 5.5 MHz	19	264	330	17.00	100	0.10

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

#### LPD4012-334MRC

**Termination: R** = Matte tin over nickel over silver

Special order, added cost:

**Q** = RoHS tin-silver-copper (95.5/4/0.5) or

**P** = non-RoHS tin-lead (63/37)

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (1000 parts per full reel).

**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (3500 parts per full reel).

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.



www.coilcraft.com

**US** +1-847-639-6400 sales@coilcraft.com

**UK** +44-1236-730595 sales@coilcraft-europe.com

**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw

**China** +86-21-6218 8074 sales@coilcraft.com.cn

**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

Document 1327-2 Revised 07/13/16

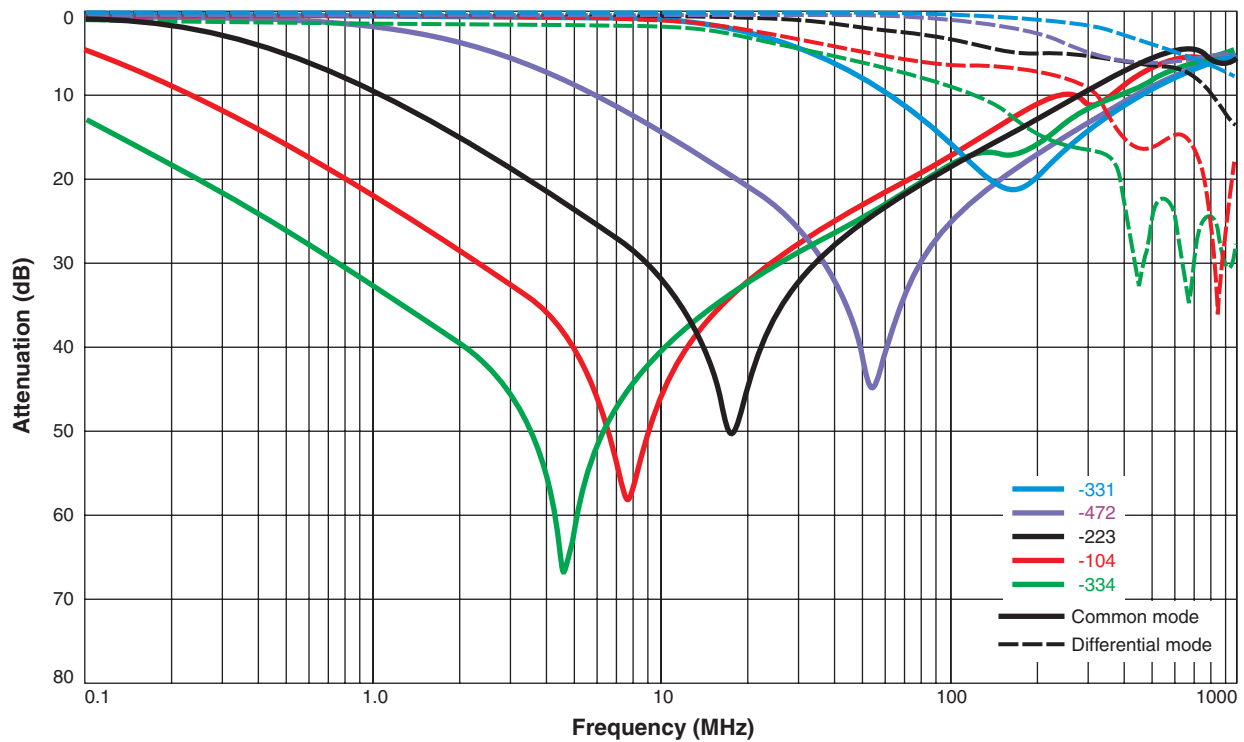
© Coilcraft Inc. 2018

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.

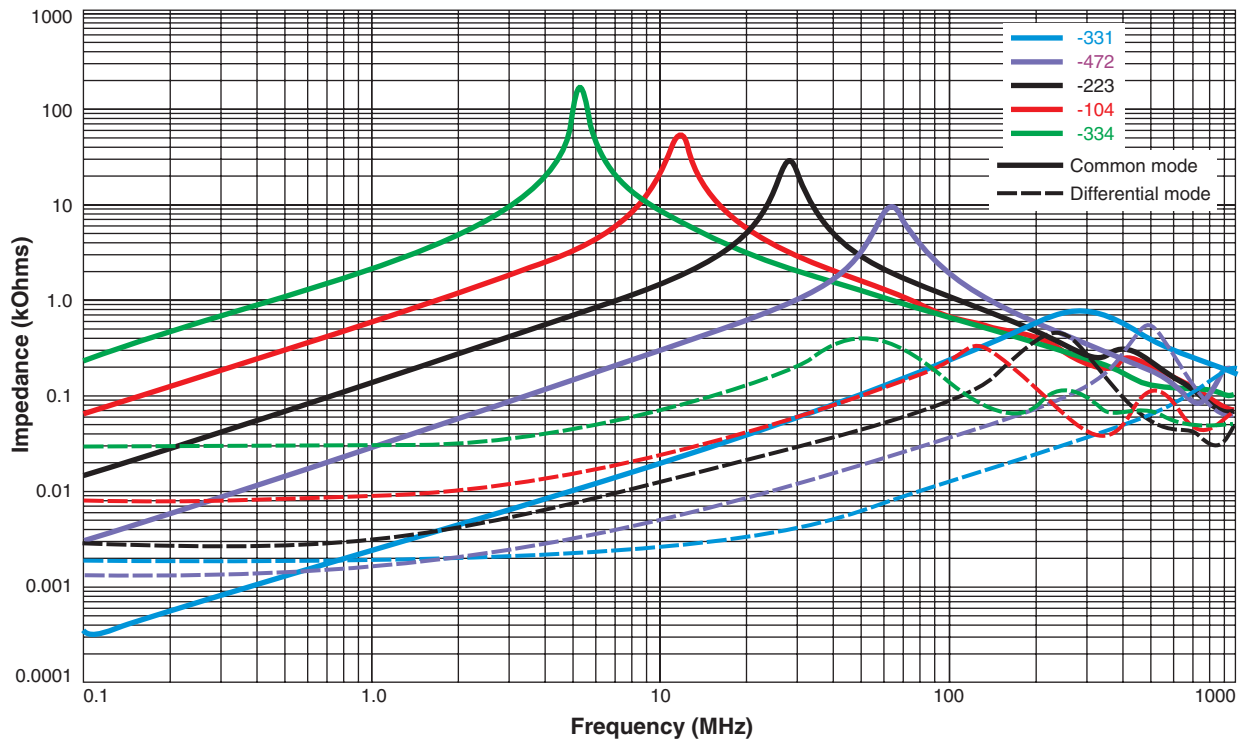


# Common Mode Chokes – LPD4012 Series

Typical Attenuation (Ref: 50 Ohms)



Typical Impedance vs Frequency



**US** +1-847-639-6400 sales@coilcraft.com  
**UK** +44-1236-730595 sales@coilcraft-europe.com  
**Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw  
**China** +86-21-6218 8074 sales@coilcraft.com.cn  
**Singapore** + 65-6484 8412 sales@coilcraft.com.sg

Document 1327-3 Revised 07/13/16  
 © Coilcraft Inc. 2018  
 This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.