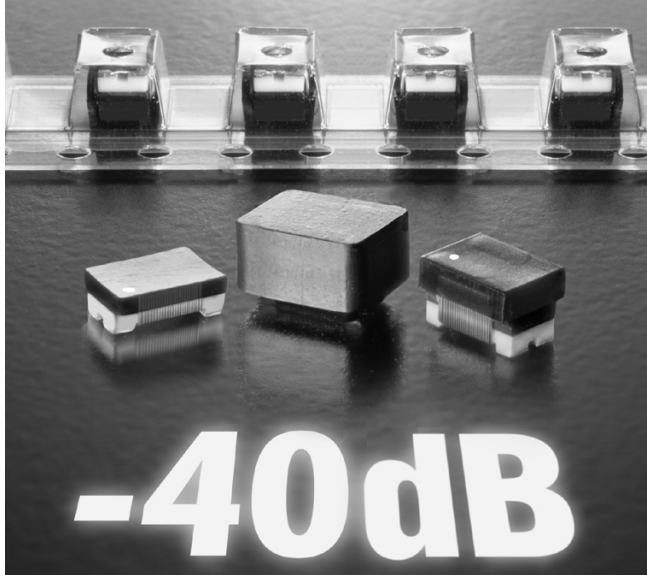


# Common Mode EMI Filters – M2022



- Provide excellent noise attenuation
- Compact, 1812 size surface mount package.
- Available as the standard filter, a low profile (-ALPL) and a shielded (-ASL) version
- Excellent isolation, environmental stability and low cost.

**Core material** Ferrite

**Terminations** RoHS compliant gold over nickel over moly-manganese

**Weight:** M2022-AL 155 mg; M2022-ALPL 85.5 mg; M2022-ASL 319 mg

**Ambient temperature** -40°C to +85°C

**Storage temperature** Component: -40°C to +85°C.

Tape and reel packaging: -40°C to +80°C

**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

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

Part number	Common mode peak impedance (kOhms)	Cutoff frequency <sup>2</sup> (MHz)	Inductance <sup>3</sup> (µH)	DCR max <sup>4</sup> (mOhms)	Isolation <sup>5</sup> (Vrms)	Current max (mA)
M2022-AL_	38.3 @ 120 MHz	170	4.2 ±10%	800	50	500
M2022-ALPL_	40.0 @ 160 MHz	120	4.0 ±10%	990	50	500
M2022-ASL_	32.0 @ 66 MHz	140	11.5 min	850	50	500

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

M2022-ALPLC

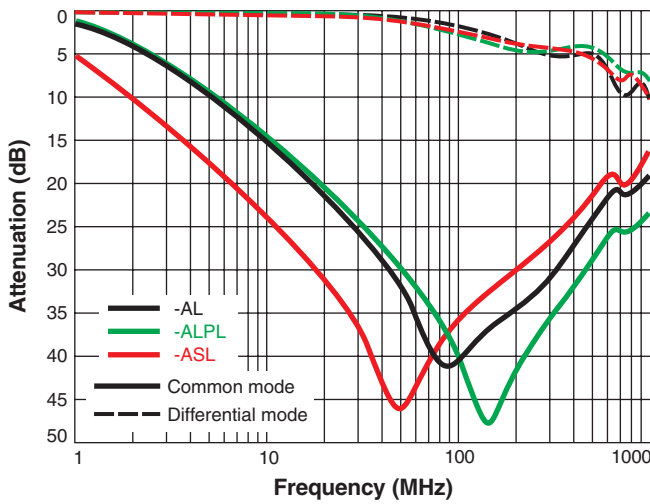
- Packaging:**
- C** = 7" machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel).
  - B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.
  - D** = 13" machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

2. Frequency at which the differential mode attenuation equals -3 dB
3. Inductance is per winding, measured at 10 MHz.
4. DCR is specified per winding.
5. Winding to winding isolation (hipot) tested for one minute.
6. Electrical specifications at 25°C.



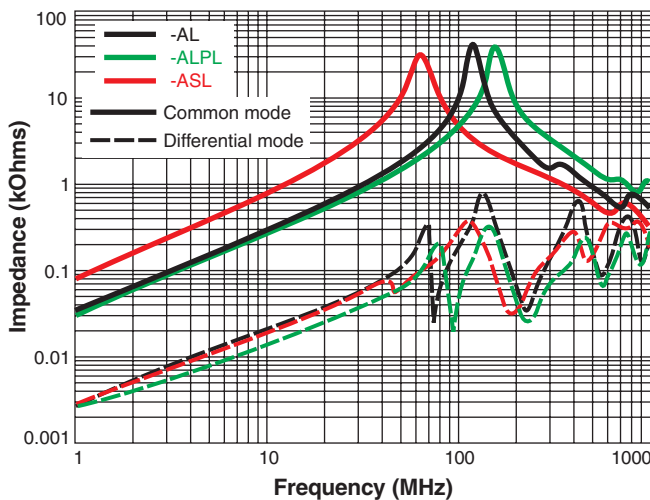
# M2022 Common Mode EMI Filters

## Typical Attenuation\*

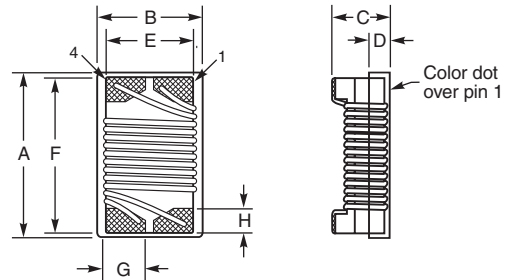


\*Ref: 50 Ohms.

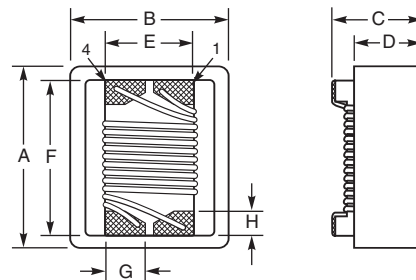
## Typical Impedance vs Frequency



## M2022-AL, M2022-ALPL



## M2022-ASL



### M2022-AL

A max	B max	C max	D ref	E ref	F ref	G min	H
0.195	0.150	0.135	0.070	0.100	0.178	0.04	0.03
4,95	3,81	3,43	1,78	2,54	4,52	1,02	0,76

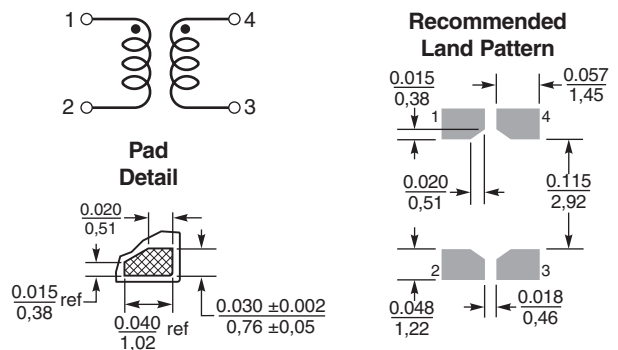
### M2022-ALPL

A max	B max	C max	D ref	E ref	F ref	G min	H
0.195	0.150	0.079	0.070	0.100	0.178	0.04	0.03
4,95	3,81	2,01	1,78	2,54	4,52	1,02	0,76

### M2022-ASL

A max	B max	C max	D ref	E ref	F ref	G min	H
0.231	0.196	0.150	0.107	0.100	0.178	0.04	0.03
5,87	4,98	3,81	2,72	2,54	4,52	1,02	0,76

**Packaging** 600 per 7" reel; 2200 per 13" reel  
 Plastic tape: 12 mm wide, 8 mm pocket spacing  
 M2022-AL: 0.3 mm thick, 3.7 mm pocket depth  
 M2022-ALP: 0.3 mm thick, 2.25 mm pocket depth  
 M2022-AS: 0.25 mm thick, 3.94 mm pocket depth



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