

APPLICATIONS



- Battery-Powered Devices
- High Frequency Switched-Mode Power Supplies (SMPS)
- Internet of Things (IoT)
- Wearables
- Portable Devices
- Input Filters

FEATURES

- Size 2.5mmx2mmx1.2mm
- Low Profile
- Low Audible Noise
- Molded Construction
- Soft Saturation
- Stable across High Temperatures
- Low DCR
- Max Operating Temp +125°C
- RoHS/REACH-Compliant, Halogen-Free

ELECTRICAL CHARACTERISTICS

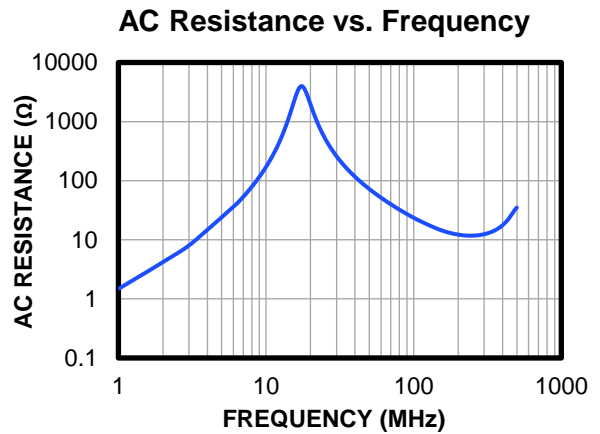
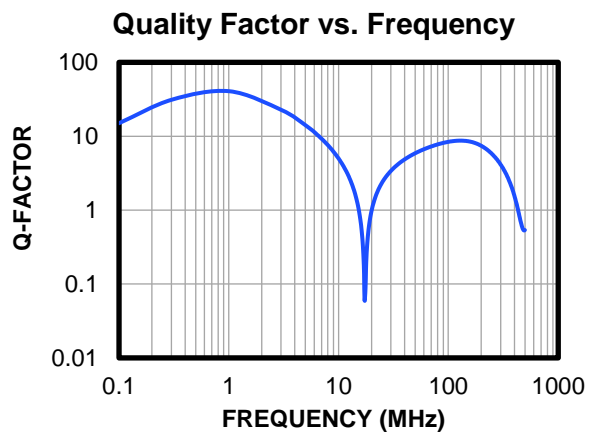
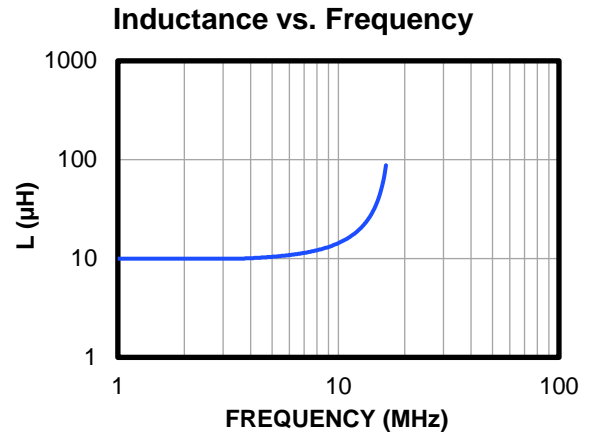
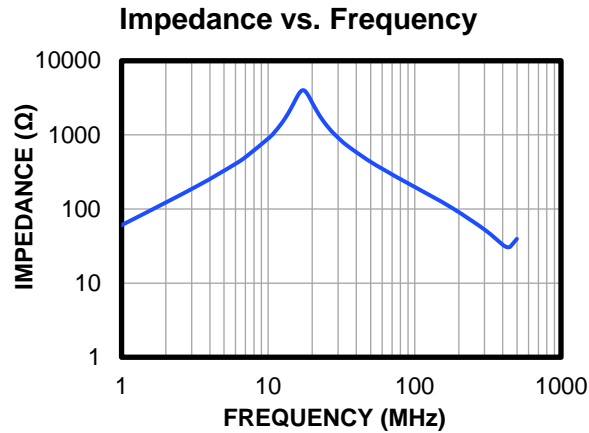
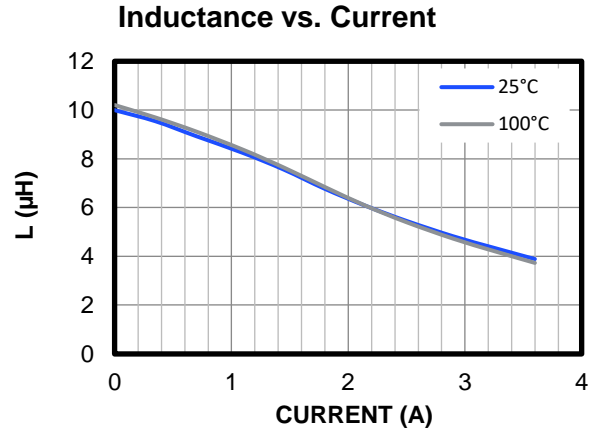
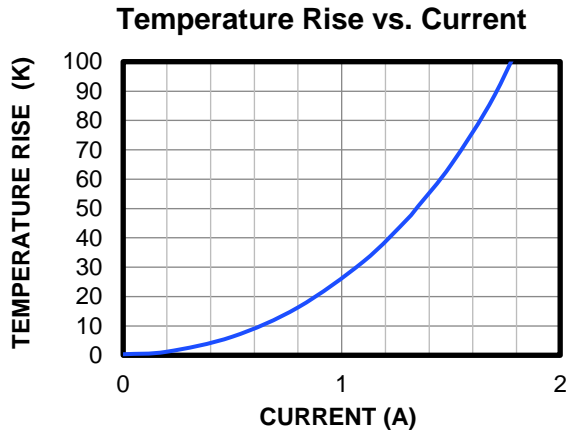
Parameter			Value	Units
Inductance ⁽¹⁾	L	$\pm 20\%$	10	μ H
Resistance	R _{DC}	Typ	335	m Ω
Resistance MAX	R _{DC MAX}	Max	400	m Ω
Rated Current ⁽²⁾	I _R	Typ	1.2	A
Saturation Current 25°C ⁽³⁾	I _{SAT 25°C}	Typ	1.7	A
Saturation Current 100°C ⁽⁴⁾	I _{SAT 100°C}	Typ	1.7	A
Resonance Frequency	f _r	Typ	17	MHz

GENERAL SPECIFICATIONS

(1) Inductance	Measured at 100kHz, 100mA
(2) Rated Current	The rated current causes the coil temperature to rise ΔT of 40K. I _R is measured with the inductor soldered in a single-layer PCB. Copper layer thickness 35 μ m Cu, 30mmx50mm PCB size. Temperature behavior is dependent on circuit design, PCB layout, proximity to other components, as well as trace dimensions and thickness.
(3) Saturation Current 25°C	The saturation current causes L to drop from 30% at a 25°C ambient temperature.
(4) Saturation Current 100°C	The saturation current causes L to drop from 30% at a 100°C ambient temperature.
Temperature Test Conditions	Electrical specifications measured at 25°C, 35% RH if not given differently.
Operating Conditions	Operating temperature: -40°C to +125°C (including temp rise) Should not exceed +125°C under worst-case operation conditions.
Storage Conditions	Tape and Reel packaging: -10°C to +40°C Humidity: <50% RH

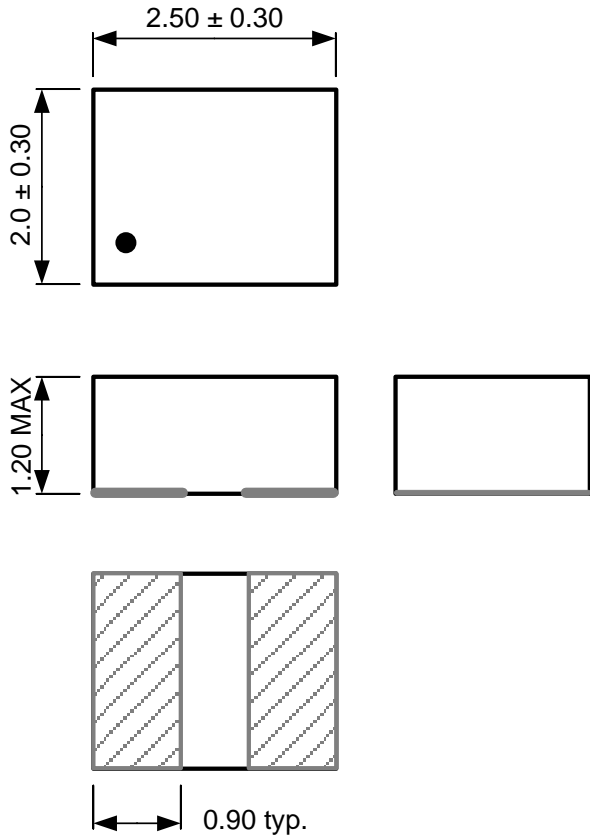
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TYPICAL PERFORMANCE CURVES



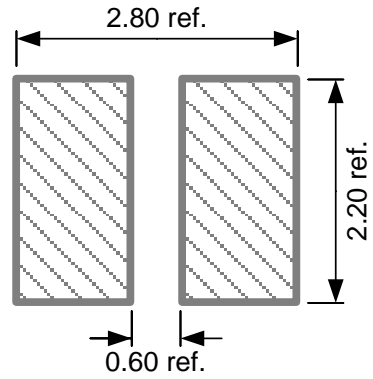
DIMENSIONS

PRODUCT PACKAGE



(units in mm)

RECOMMENDED LAND PATTERN



(units in mm)

TOP MARKING

Marking

Start of Winding · (dot)

ORDERING INFORMATION

Part Number	L ⁽¹⁾	R _{DC}	I _R ⁽²⁾	I _{SAT} 25°C ⁽³⁾	I _{SAT} 100°C ⁽⁴⁾
	±20% (μ H)	Typ (m Ω)	Typ (A)	Typ (A)	Typ (A)
MPL-AT2512-R33	0.33	13	6.4	7.8	7.8
MPL-AT2512-R47	0.47	14	5.8	6.4	6.4
MPL-AT2512-R68	0.68	23	4.8	6	6
MPL-AT2512-1R0	1	33	4.1	5.2	5.2
MPL-AT2512-1R5	1.5	43	3.4	4.2	4.2
MPL-AT2512-2R2	2.2	68	2.8	3.4	3.4
MPL-AT2512-3R3	3.3	116	2.2	3	3
MPL-AT2512-4R7	4.7	170	1.8	2.4	2.4
MPL-AT2512-6R8	6.8	260	1.4	2.2	2.2
MPL-AT2512-100C	10	335	1.2	1.7	1.7

REVISION HISTORY

Revision #	Revision Date	Description	Pages Updated
1.0	1/20/2026	Initial Release	-

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