

MPL-SE2512-220

Semi-Shielded Inductor 22µH



APPLICATIONS

- **Battery-Powered Devices**
- IoT
- Wearable
- Portable Devices
- Input Filters

FEATURES

- Size 2mmx2.5mmx1.2mm
- Semi-Shielded Construction
- Low DCR
- Low Profile
- Low Stray Field
- Max Operating Temp +125°C
- RoHS/REACH-Compliant, Halogen-Free

ELECTRICAL CHARACT	ERISTICS			
Parameter			Value	Unit
Inductance (1)	L	±20%	22	μH
Resistance	R _{DC}	Тур	885	mΩ
Resistance MAX	RDC MAX	Max	1050	$\boldsymbol{m\Omega}$
Rated Current (2)	I _R	Тур	0.70	Α
Saturation Current 25°C (3)	SAT 25°C	Тур	0.80	Α
Saturation Current 100°C (4)	ISAT 100°C	Тур	0.80	Α
Resonance Frequency	fr	Тур	14	MHz

GENERAL SPECIFICATION	IS Control of the con
(1) Inductance	Measured at 100kHz, 100mA
(2) Rated Current	Rated current will cause the coil temperature rise ΔT of 40K I_R measured with the inductor soldered in a single-layer PCB. Copper layer thickness 35 μ m Cu / PCB size 30x50mm. Temperature behavior dependent on circuit design, PCB layout, proximity to other components, and trace dimensions and thickness.
(3) Saturation Current 25°C	Saturation current will cause L to drop from 30% at 25°C ambient temperature
(4) Saturation Current 100°C	Saturation current will cause L to drop from 30% at 100°C ambient temperature
Temperature Test Condition	Electrical specifications measured at 25°C, 35% RH if not otherwise noted
Operating Condition	Operating temperature: -40°C to +125°C (including temp rise)
	Should not exceed +125°C under worst-case operation conditions
Storage Condition	Tape and Reel packaging: -10°C to +40°C
	Humidity: <50% RH

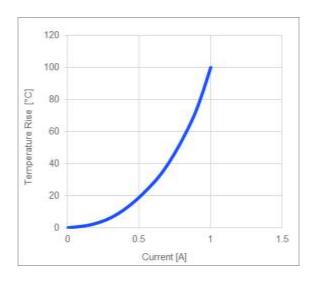
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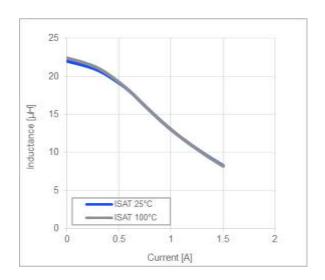


TYPICAL PERFORMANCE CURVES

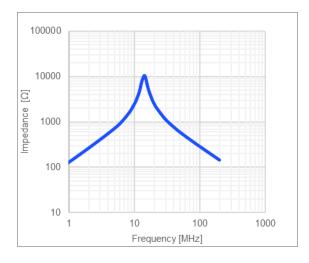
Temperature Rise vs. Current



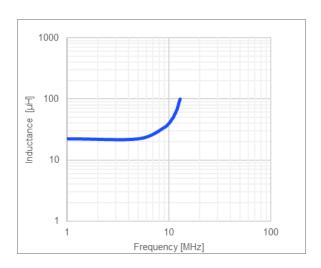
Inductance vs. Current



Impedance vs. Frequency

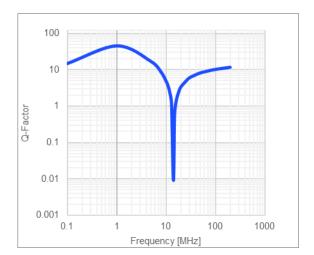


Inductance vs. Frequency

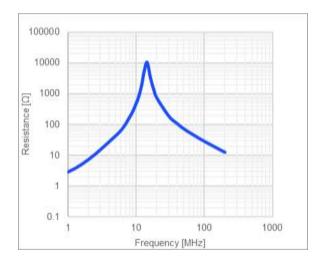




Quality Factor vs. Frequency



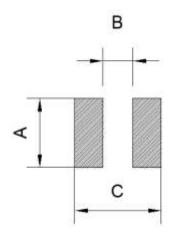
AC Resistance vs. Frequency



3



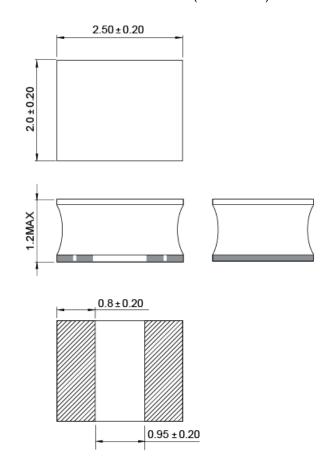
LAND PATTERN			
Dimensions			
Α	2.40 ref.		
В	0.80 ref.		
С	2.90 ref.		
	(units in mm)		



PRODUCT PACKAGE AND DIMENSIONS

Dimensions

(units in mm)





ORDERING INFORMATION					
Part Number	L (1)	RDC	<i>I</i> _R ⁽²⁾	ISAT 25°C (3)	I SAT 100°C ⁽⁴⁾
	Typ (µH)	Typ (mΩ)	Typ (A)	Typ (A)	Typ (A)
MPL-SE2512-R47	0.47	20	4.5	6.5	6.5
MPL-SE2512-R68	0.68	28	3.9	5	5
MPL-SE2512-1R0	1	35	3.4	4.2	4.2
MPL-SE2512-1R5	1.5	50	2.9	3.2	3.2
MPL-SE2512-2R2	2.2	72	2.5	2.7	2.7
MPL-SE2512-3R3	3.3	90	2.1	2.4	2.4
MPL-SE2512-4R7	4.7	165	1.6	1.9	1.9
MPL-SE2512-6R8	6.8	305	1.2	1.6	1.6
MPL-SE2512-100	10	410	1.1	1.3	1.3
MPL-SE2512-150	15	620	0.85	0.9	0.9
MPL-SE2512-220	22	885	0.7	0.8	8.0

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REVISION HISTORY

Revision #	Revision Date	Description	Pages Updated
1.0	7/26/2019	Initial Release	-
1.1	8/2/2019	Updated Impedance vs. Frequency Curve	2
1.2 1/19/2022		Updated Electrical Characteristics	1
		Updated Typical Performance Curves	2–3
	1/19/2022	Updated Land Pattern and Product Package Dimensions	4
		Updated Ordering Information	5
		Grammar and formatting updates	All

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