

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 CHARACTERISTICS

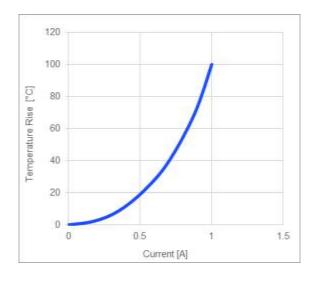
Parameter			Value	Unit
Inductance ⁽¹⁾	L	±20%	22	μH
Resistance	RDC	Тур	885	mΩ
Resistance MAX	RDC MAX	Max	1050	mΩ
Rated Current ⁽²⁾	I R	Тур	0.70	Α
Saturation Current _{25°C} ⁽³⁾	ISAT 25°C	Тур	0.80	Α
Saturation Current 100°C (4)	I SAT 100℃	Тур	0.80	Α
Resonance Frequency	fr	Тур	14	MHz

GENERAL SPECIFICATIONS			
⁽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		

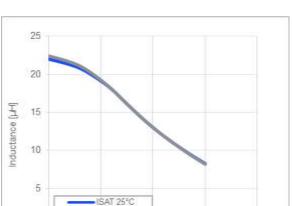
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TYPICAL PERFORMANCE CURVES



Temperature Rise vs. Current



ISAT 100°C

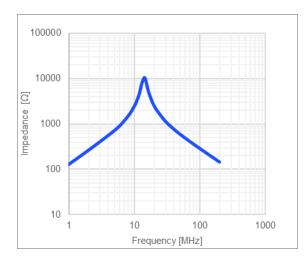
0.5

0

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Inductance vs. Current

Impedance vs. Frequency



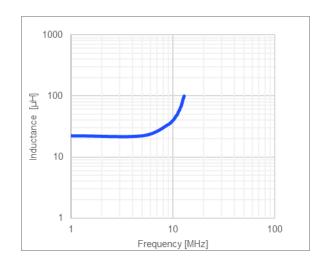
Inductance vs. Frequency

1

Current [A]

1.5

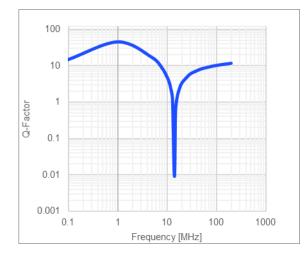
2

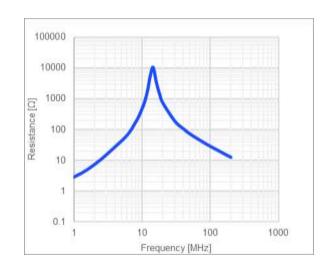




Quality Factor vs. Frequency

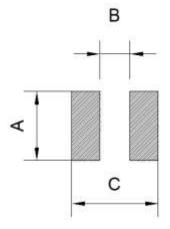
AC Resistance vs. Frequency







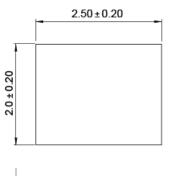
LAND PATTERN			
Dime	ensions		
A	2.40 ref.		
В	0.80 ref.		
С	2.90 ref.		
	(units in mm)		



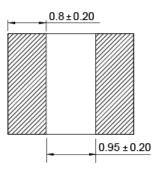
PRODUCT PACKAGE AND DIMENSIONS

Dimensions

(units in mm)









ORDERING INFORMATION

Part Number	<u>L</u> (1)	R _D c	I _R ⁽²⁾	Isat 25°C ⁽³⁾	ISAT 100°C ⁽⁴⁾
	Тур (µН)	Typ (mΩ)	Тур (А)	Тур (А)	Тур (А)
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	0.8

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(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



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
		Updated Electrical Characteristics	1
		Updated Typical Performance Curves	2–3
1.2 1/19/2022	2 1/19/2022 Updated Land Pattern and Product Package Dimensions		4
		Updated Ordering Information	5
		Grammar and formatting updates	All

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