



MPL-AT2514-4R7

2.4

2.4

28

typ

typ

typ

Α

Α

MHz

Low-Profile Molded Inductor 4.7µH

APPLICATIONS



- · Battery-powered devices
- High switching frequency SMPS

ELECTRICAL CHARACTERISTICS

- IoT
- Wearable
- Portable devices

Saturation Current _{25°C} (3)

Saturation Current 100°C (4)

Resonance Frequency

• Input filters

FEATURES

- Size 2.5mmx2.0mmx1.4mm
- Low Profile
- Low Audible Noise
- Molded Construction
- Soft Saturation
- Stable Over High Temperatures
- Low DCR
- Max Operating Temp +125°C
- RoHS/REACH-Compliant, Halogen-Free

Parameter			Value	Unit
Inductance (1)	L	±20%	4.7	μH
Resistance	R _{DC}	typ	180	mΩ
Resistance MAX	RDC MAX	max	215	mΩ
Rated Current (2)	I _R	typ	1.7	Α

ISAT 25°C

ISAT 100°C

GENERAL SPECIFICATIONS

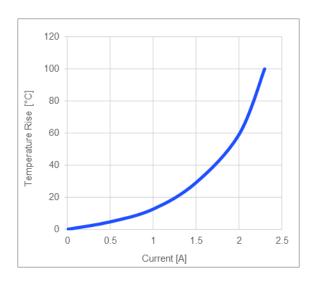
(1) Inductance	Measured at 100kHz, 100mA
(2) Rated Current	Rated current will cause the coil temperature rise ΔT of 40K I_R measured with the inductor soldered in a single-layer PCB. Copper layer thickness 35 μ m Cu / PCB size 30x50mm. Temperature behavior dependent on circuit design, PCB layout, proximity 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 given differently
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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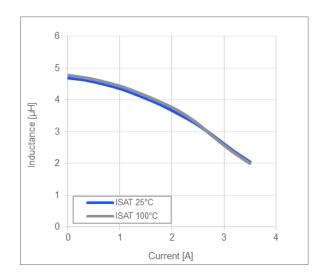


TYPICAL PERFORMANCE CURVES

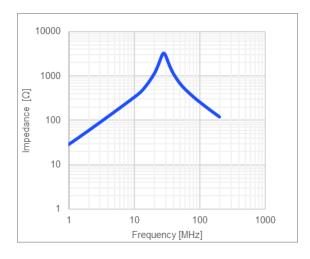
Temperature Rise vs. Current



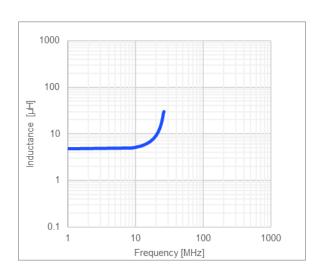
Inductance vs. Current



Impedance vs. Frequency

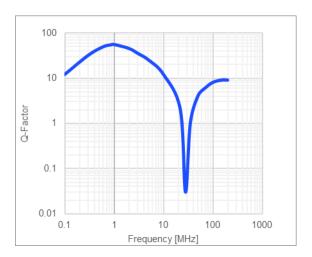


Inductance vs. Frequency

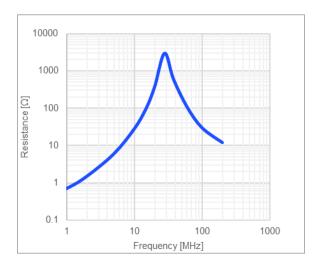




Quality Factor vs. Frequency

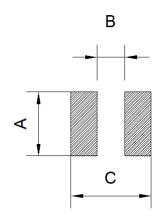


AC Resistance vs. Frequency





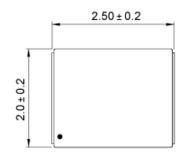
LAND PATTERN		
Dimensions		
Α	2.0 ref.	
В	1.20 ref.	
С	2.80 ref.	
	(unit in mm)	



PRODUCT PACKAGE AND DIMENSIONS

Dimensions

(unit in mm)







 0.60 ± 0.2



1.40 MAX



ORDERING INFORMATION					
Part Number	L (1)	RDC	I _R ⁽²⁾	I _{SAT 25°C} (3)	ISAT 100°C (4)
	typ (µH)	typ (mΩ)	typ (A)	typ (A)	typ (A)
MPL-AT2512-R33	0.33	13.5	6.4	8.5	8.5
MPL-AT2512-R47	0.47	19	5.5	6.4	6.4
MPL-AT2512-R68	0.68	26	4.7	6	6
MPL-AT2512-1R0	1.0	35	4.0	5.2	5.2
MPL-AT2512-1R5	1.5	56	3.2	4.2	4.2
MPL-AT2514-2R2	2.2	70	2.6	3.4	3.4
MPL-AT2512-3R3	3.3	121	2.0	2.7	2.7
MPL-AT2514-4R7	4.7	180	1.7	2.4	2.4
MPL-AT2512-6R8	6.8	280	1.4	2.2	2.2
MPL-AT2512-100	10	355	1.2	1.7	1.7

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Storage Condition	Tape and Reel packaging: -10°C to +40°C Humidity: <50% RH	

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