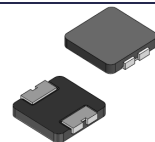


SMD Molded Power Inductors



AMELA5010S Series

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5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Low loss realized with low DCR.
- High Saturation current
- High performance realized by metal alloy core
- Ultra-low buzz noise, due to molded, composite construction.
- Fully Shielded component
- 100% Lead (Pb)-Free and RoHS compliant.

Applications

- DC/DC Switching power supplies
- Power supplies for Notebooks, workstations, and Servers
- Low Profile applications
- High current, transient load applications
- Consumer applications
- Medical applications
- Telecommunication

Electrical Specifications

Part Number	Inductance	Tolerance	DC Resistance		Irms		Isat	
	0.1MHz/1.0V		Typ.	MAX	Typ.	MAX.	Typ.	MAX.
Units	μH	%	mΩ		A	A	A	A
Symbol	L	M	DCR		Irms	Irms	Isat	Isat
AMELA5010S-R47M	0.47	± 20%	18.0	21.6	7.7	7.0	9.0	8.0
AMELA5010S-R68M	0.68	± 20%	22.0	26.4	6.5	6.0	8.5	7.5
AMELA5010S-1R0M	1.00	± 20%	28.0	33.6	6.0	5.5	7.0	6.2
AMELA5010S-1R2M	1.20	± 20%	33.0	39.6	5.7	5.2	6.5	5.9
AMELA5010S-1R5M	1.50	± 20%	37.0	44.4	5.5	5.0	6.2	5.7
AMELA5010S-2R2M	2.20	± 20%	48.0	57.6	4.5	4.0	5.5	5.0
AMELA5010S-3R3M	3.30	± 20%	75.0	90.0	4.0	3.5	4.8	4.3
AMELA5010S-4R7M	4.70	± 20%	100.0	120.0	3.2	2.8	3.9	3.4
AMELA5010S-5R6M	5.60	± 20%	135.0	162.0	2.7	2.4	3.3	2.9
AMELA5010S-6R8M	6.80	± 20%	168.0	201.0	2.5	2.2	3.1	2.7
AMELA5010S-8R2M	8.20	± 20%	200.0	240.0	2.2	1.9	2.8	2.4
AMELA5010S-100M	10.0	± 20%	260.0	312.0	2.0	1.7	2.5	2.2

Test conditions:

Test Frequency: 1.0V/100KHz

All test data referenced to 25°C ambient temperature.

Operating voltage: 40V Max.

Operating Temp.: -40°C to +125°C (including self-temperature rise)

Storage Temp.: -40°C to +125°C (on board)

Isat: DC current at which the inductance drops 30% from its value without current.

Irms: DC current that causes the temperature rise (ΔT , approximate 40 °C) from 25°C ambient.

Rated DC Current: The lower value of Irms and Isat

Part Temperature (Ambient + Temp. Rise): Should not exceed 125°C under worst case operating conditions.

Storage Condition (Component in its packaging)

Temperature: Less than 40°C

Humidity: Less than 85% RH

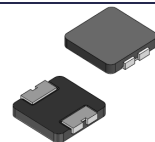


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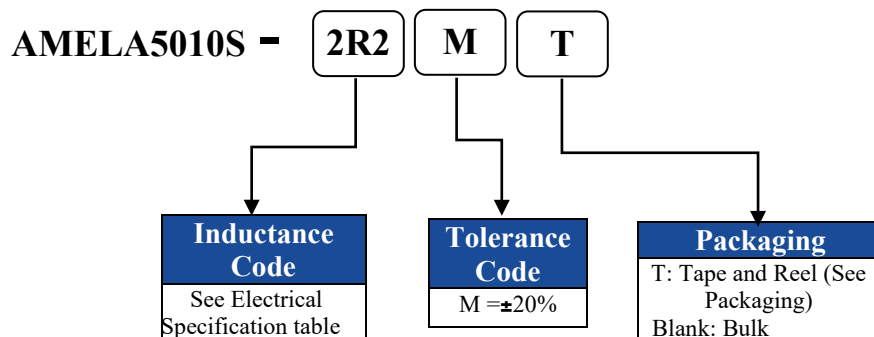


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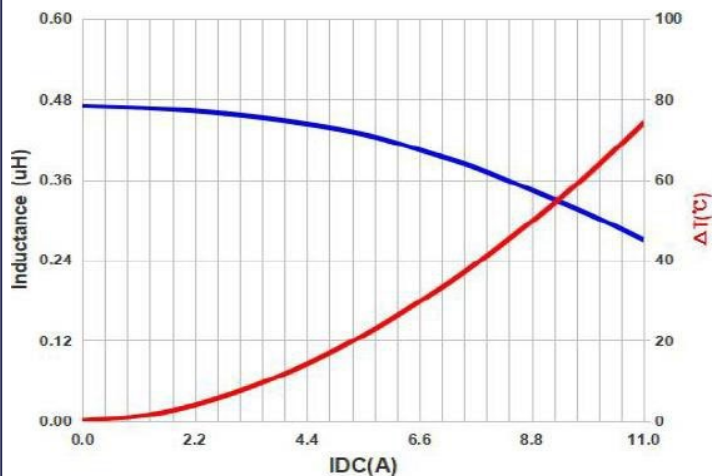
5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Part Identification

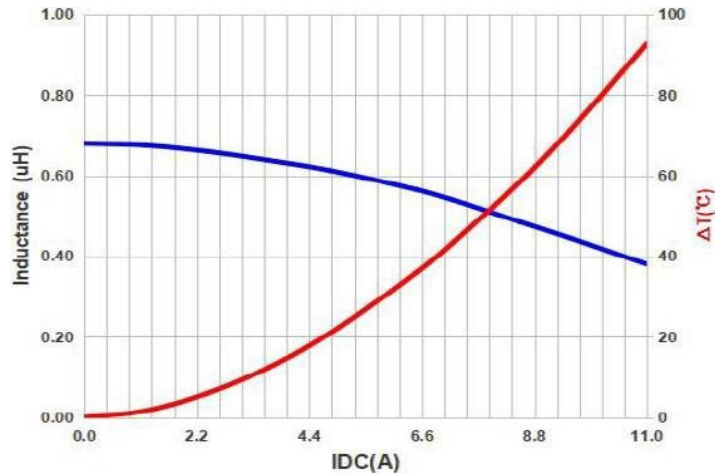


Performance Graphs

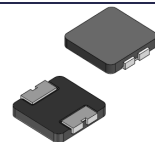
AMELA5010S-R47M



AMELA5010S-R68M



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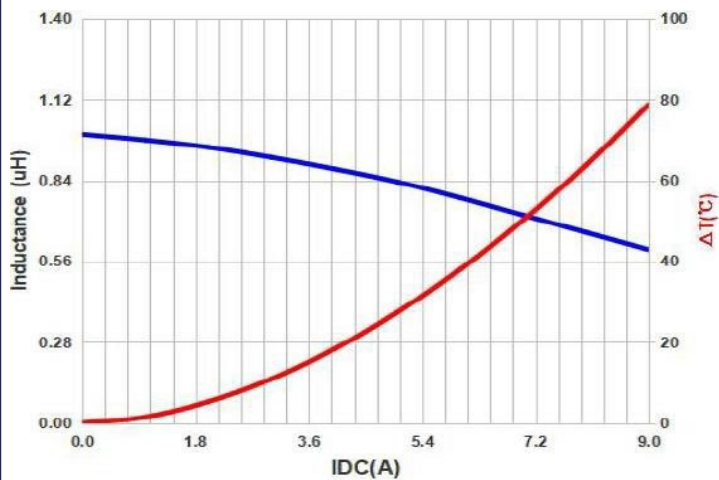


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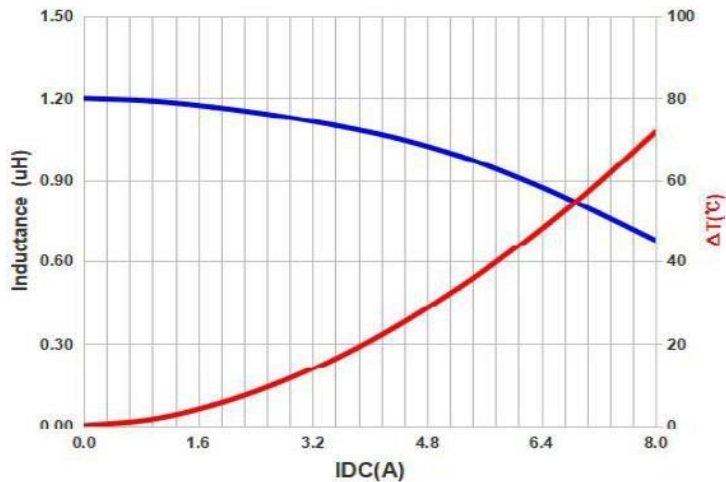


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

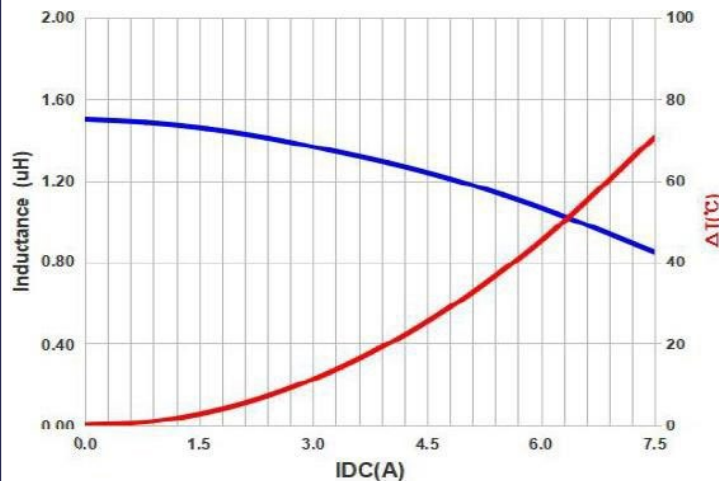
AMELA5010S-1R0M



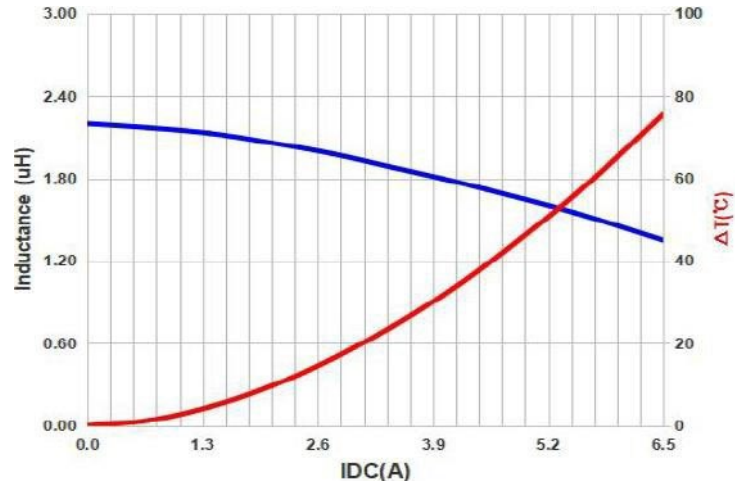
AMELA5010S-1R2M



AMELA5010S-1R5M



AMELA5010S-2R2M

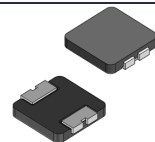


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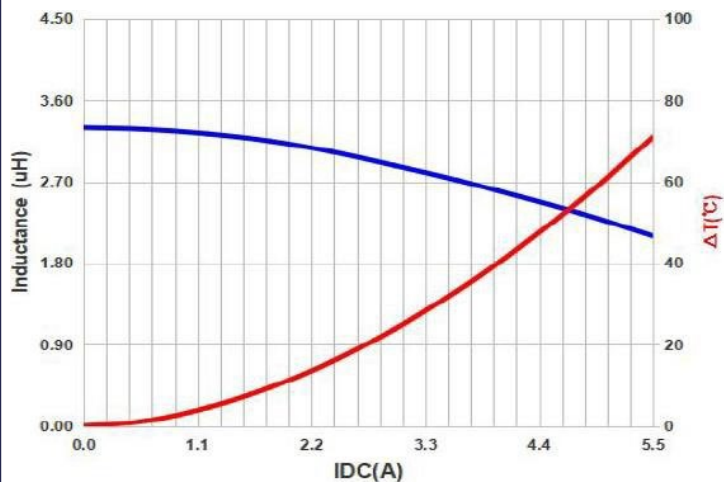


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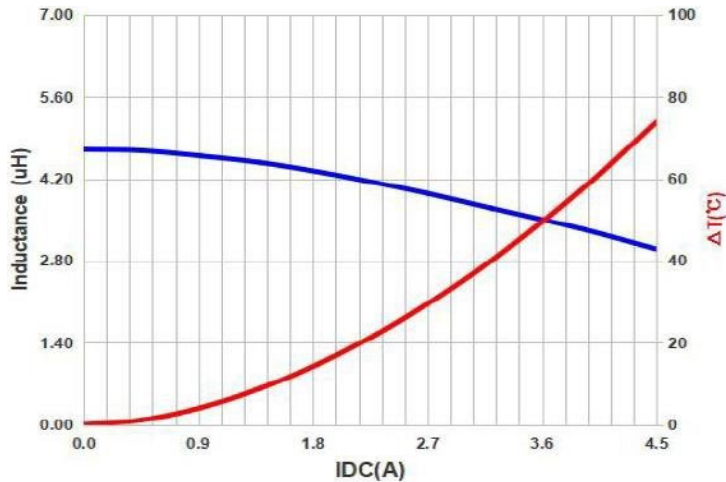


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RoHS/RoHS II Compliant
MSL Level = 1

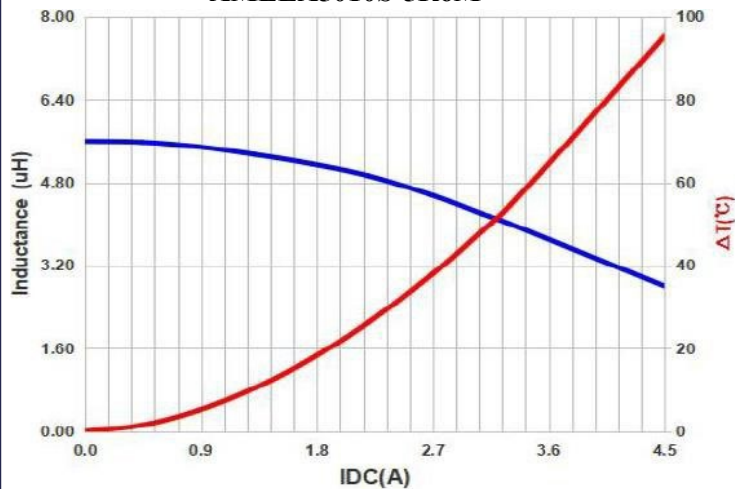
AMELA5010S-3R3M



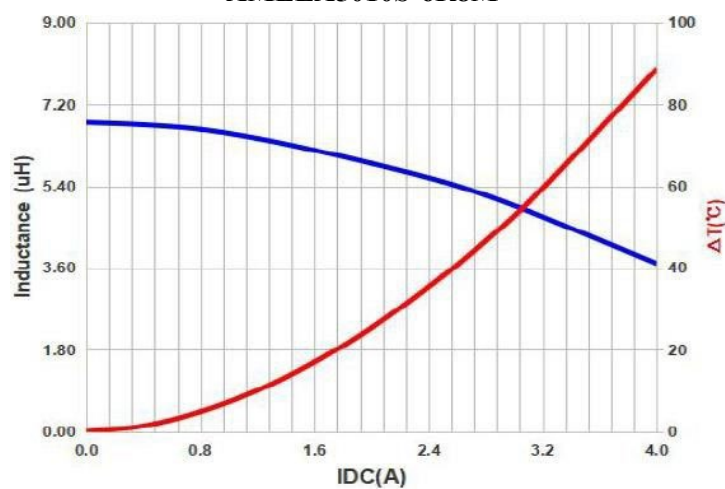
AMELA5010S-4R7M



AMELA5010S-5R6M

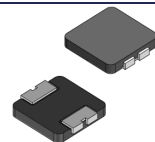


AMELA5010S-6R8M



S

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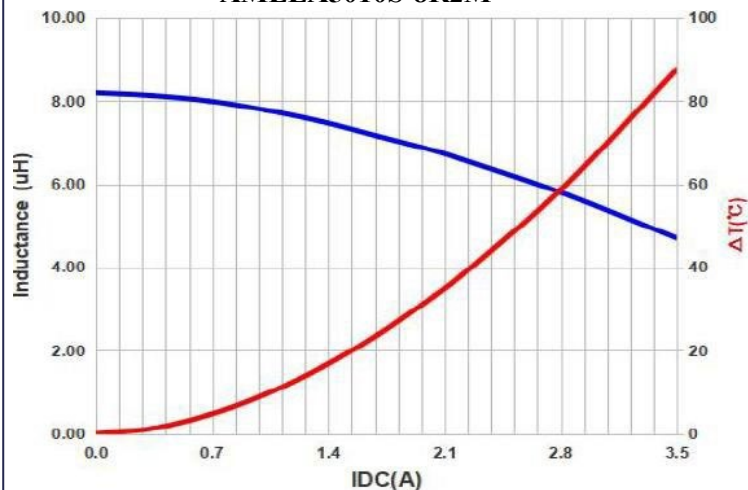


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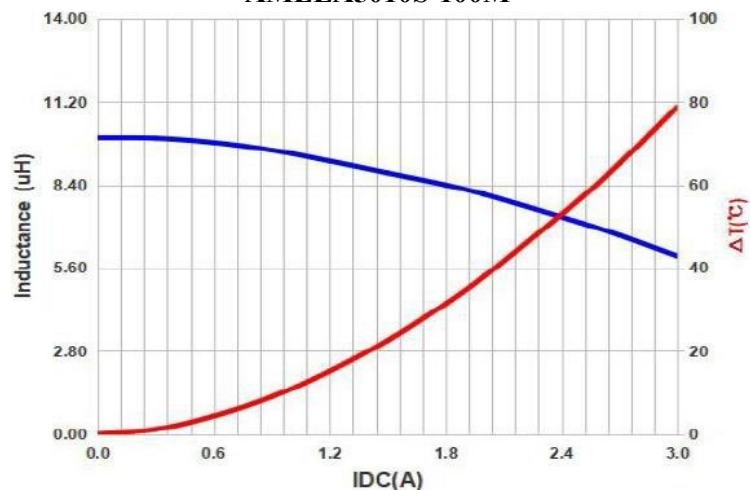


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

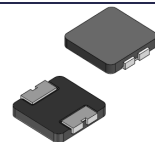
AMELA5010S-8R2M



AMELA5010S-100M



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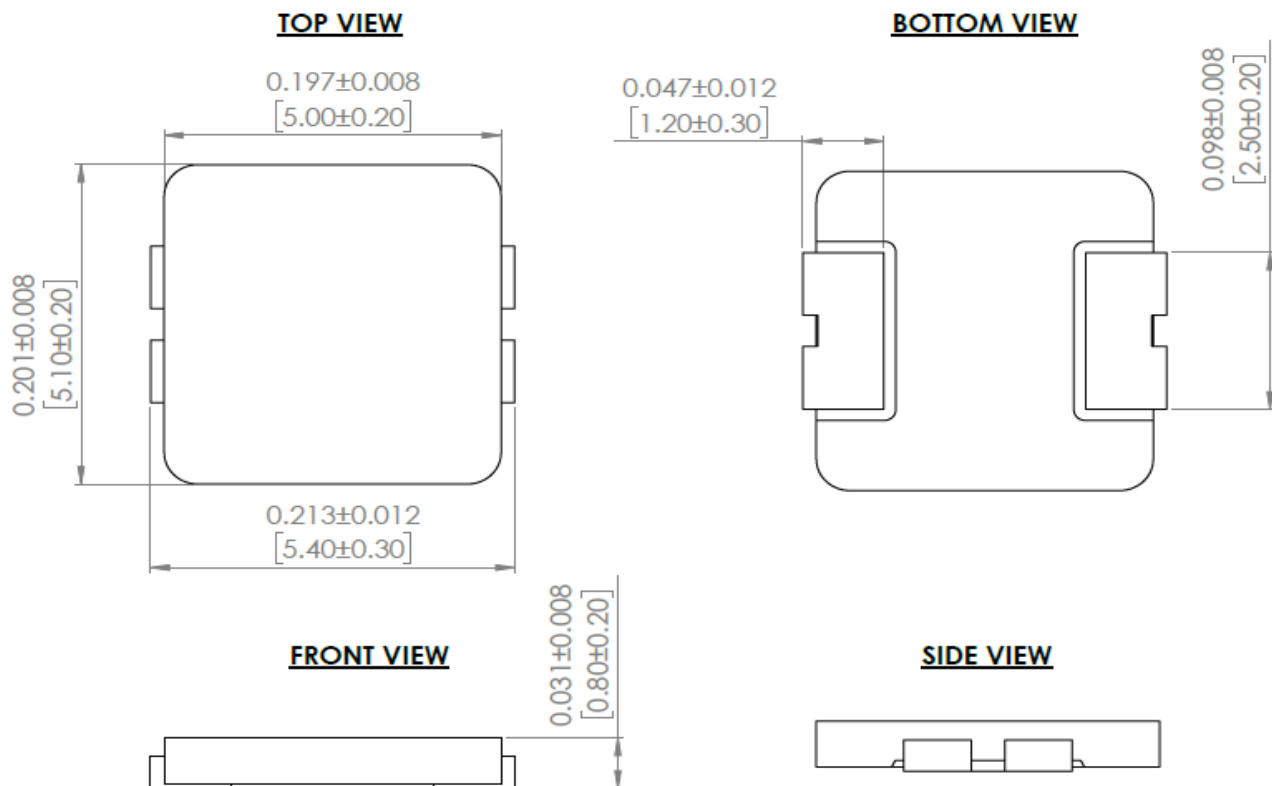


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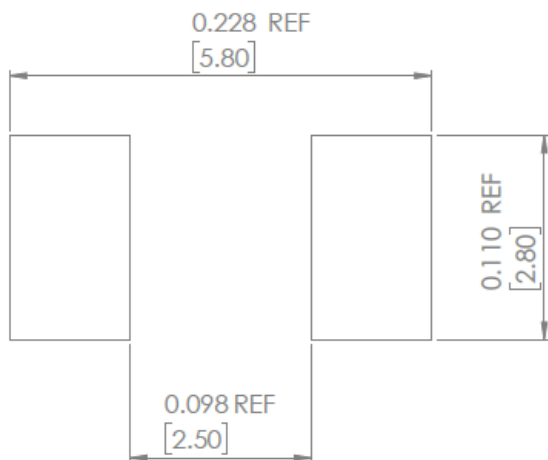


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Mechanical Specifications



RECOMMENDED LAND PATTERN

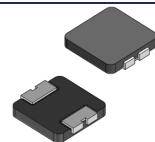


DIMENSIONS: INCHES[mm]

Notes:

- The above PCB layout reference only.
- Recommend solder paste thickness at 0.12mm and above.

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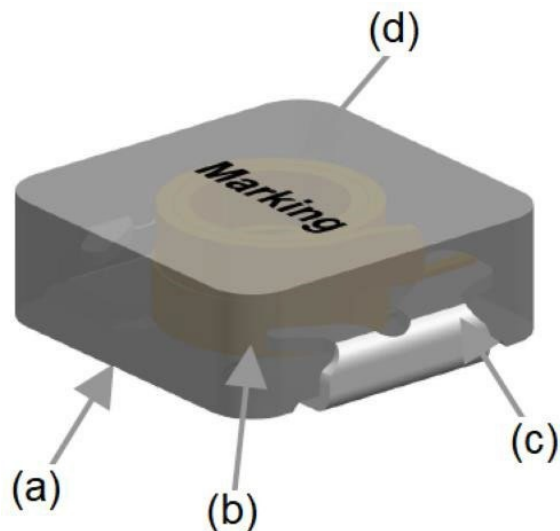


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5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

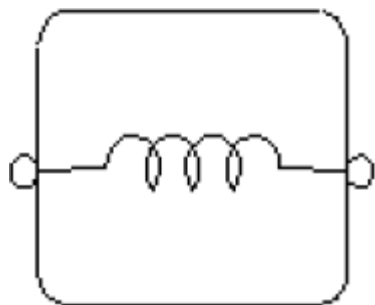
Materials



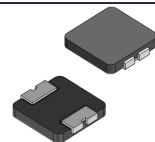
- (a) Core
- (b) Wire
- (c) Clip
- (d) Ink

Components	Material
Core	Metal Alloy
Wire	Polyester Wire
Clip	100% Pb free solder (Ni+Sn Plating)
Ink	Halogen-free ketone

Schematic:



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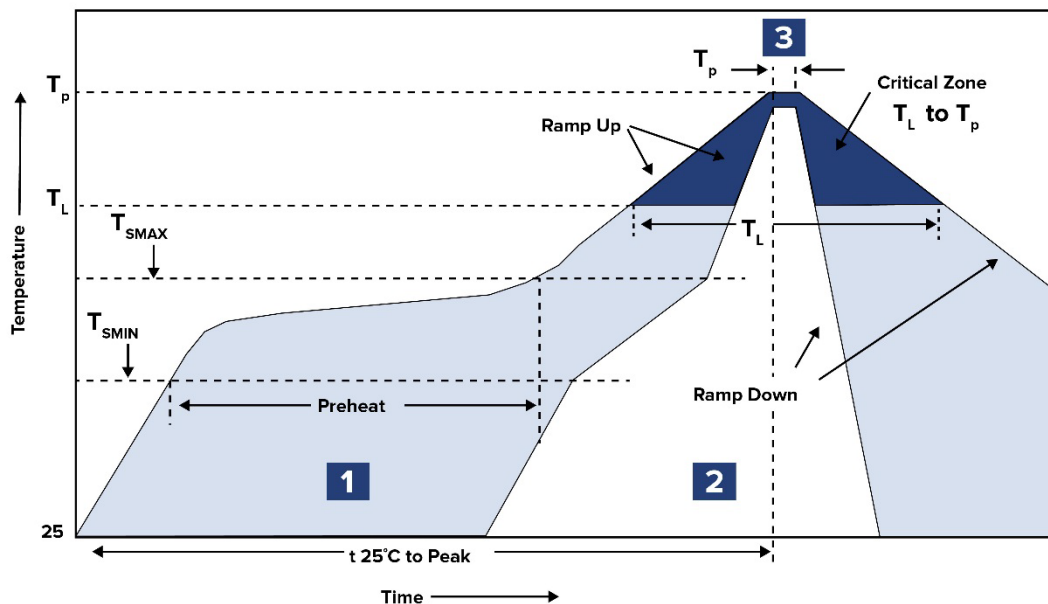


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5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak heat	T_p 255°C	< 30 seconds

Ref.

Solder paste: Sn/3.0Ag/0.5Cu

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

Reflow is referred to standard IPC/JEDEC J-STD-020E.

Reflow times: 3 times maximum

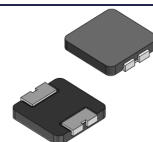


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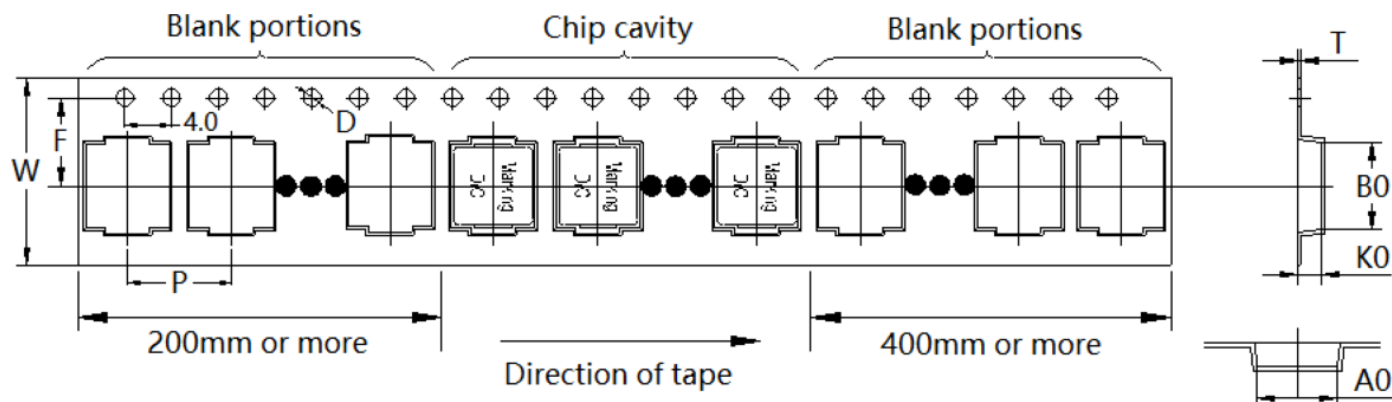
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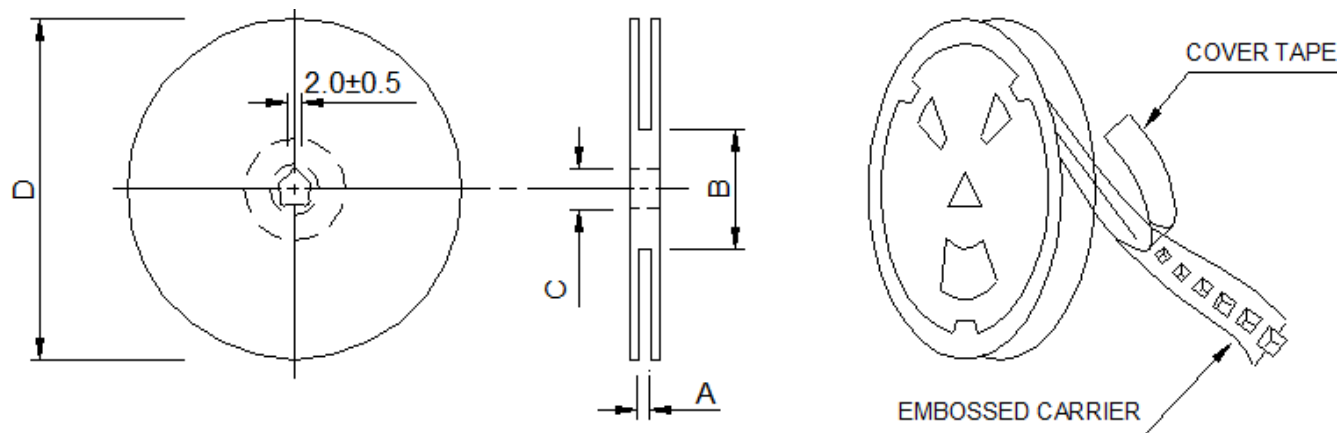
5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Packaging

Tape & Reel: 4000 pcs/reel



B0	A0	K0	P	W	F	T	D
6.20 Ref	5.60 Ref	1.20 Ref	8.00±0.10	12.00±0.30	5.50±0.10	0.35±0.05	1.50±0.10



Type	A	B	C	D
13"x12mm	12.4+2.0/-0.0	100.0±2.0	13.0+0.5/-0.2	330.0

Dimensions: mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS, which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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