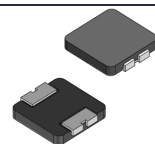


SMD Molded Power Inductors



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-5R8M	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

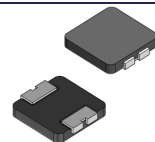


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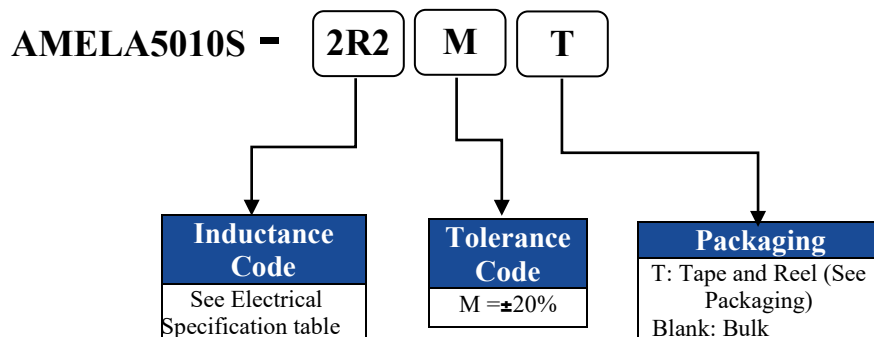


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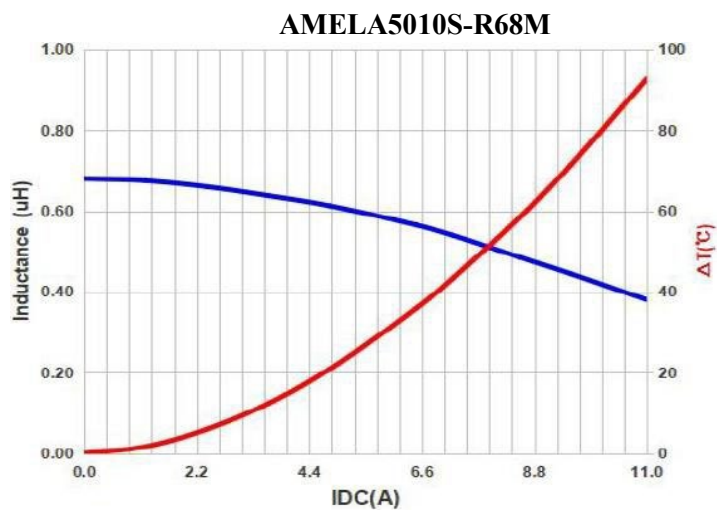
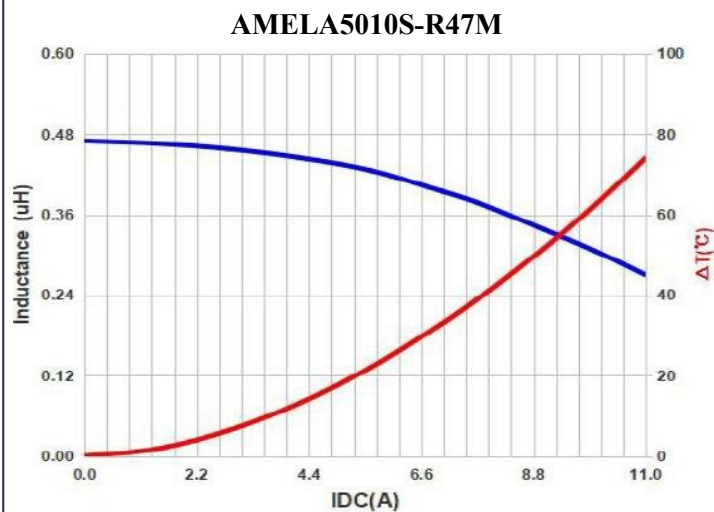


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

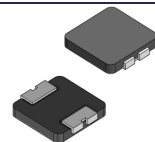
Part Identification



Performance Graphs



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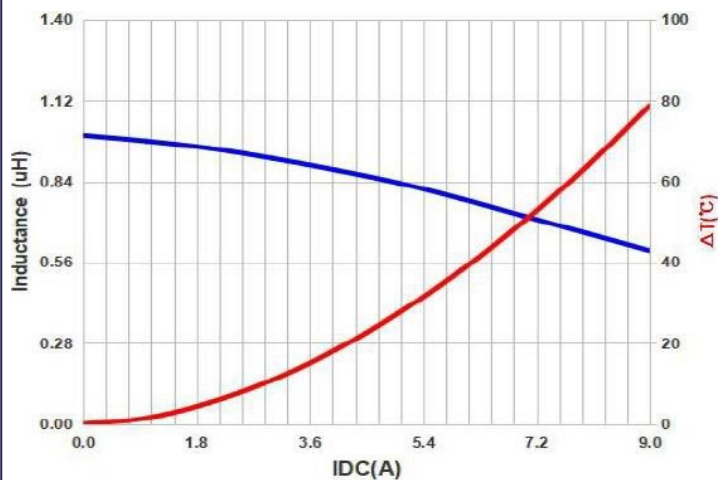


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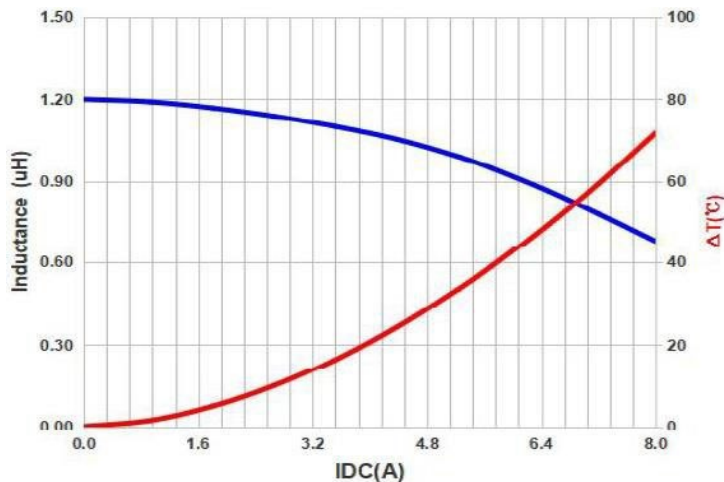


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

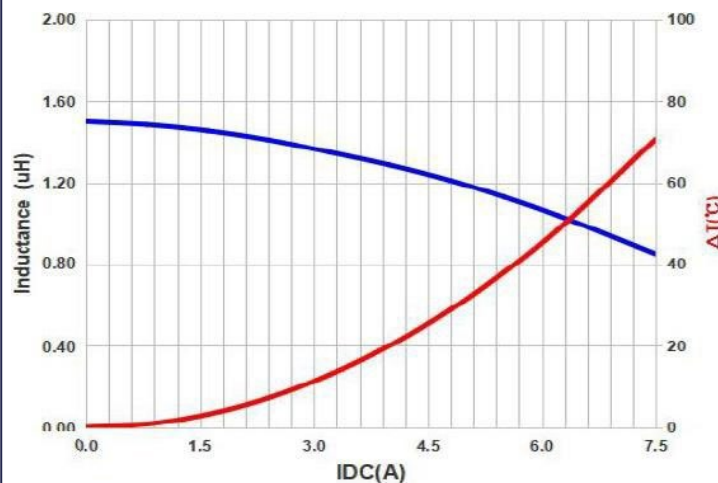
AMELA5010S-1R0M



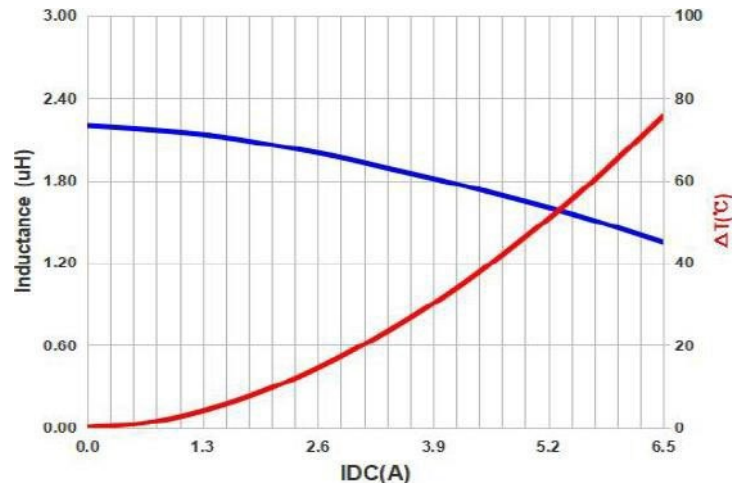
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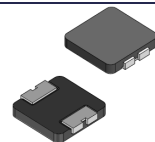
AMELA5010S-1R5M



AMELA5010S-2R2M



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AMELA5010S Series

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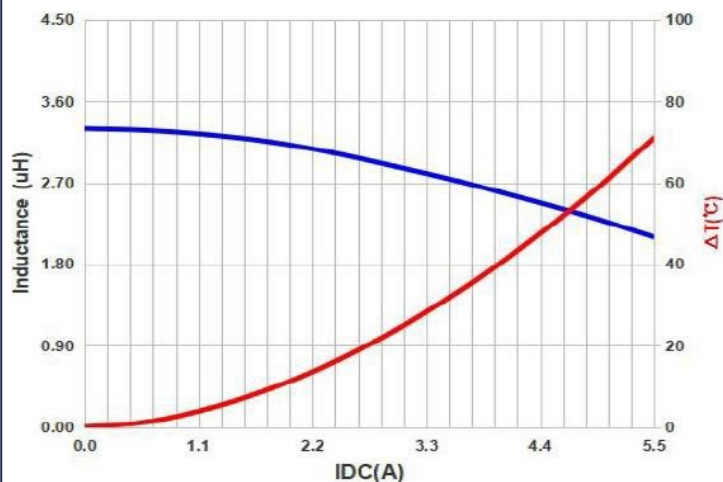


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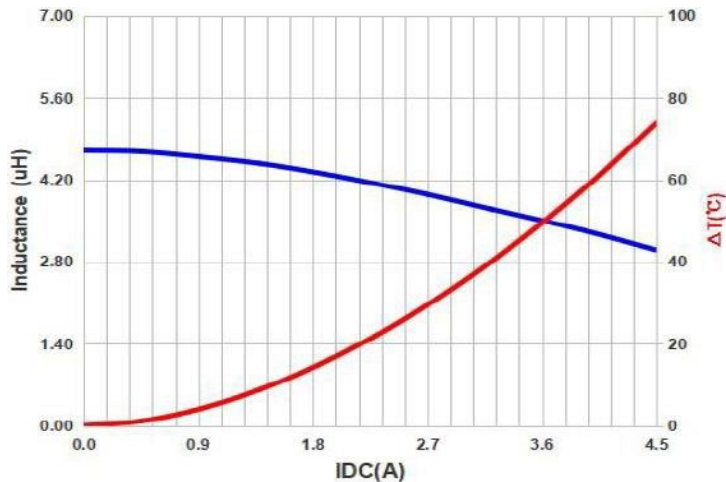


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

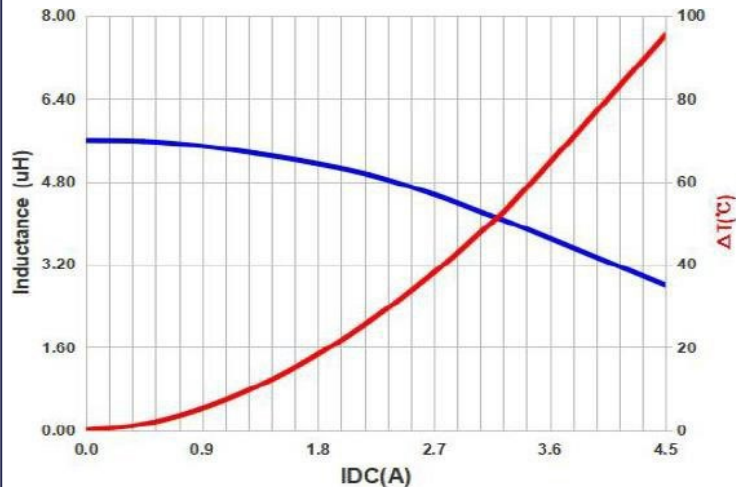
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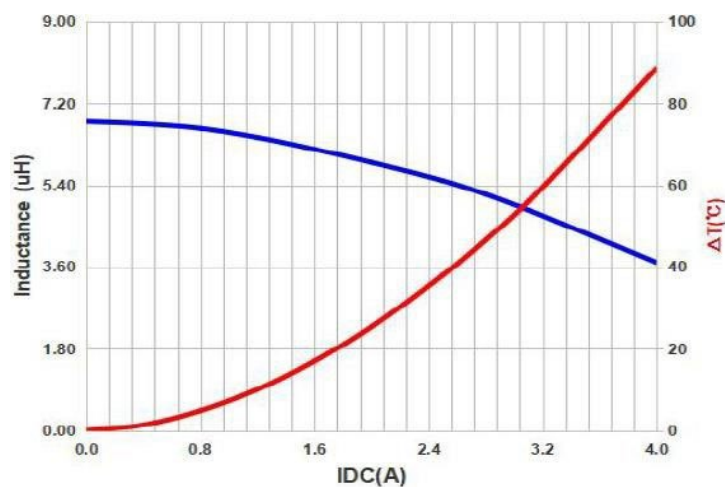
AMELA5010S-4R7M



AMELA5010S-5R6M

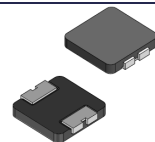


AMELA5010S-6R8M



s

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AMELA5010S Series

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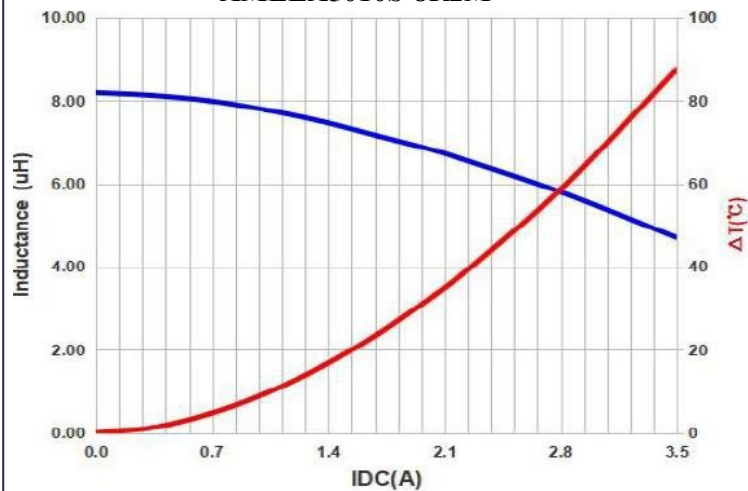


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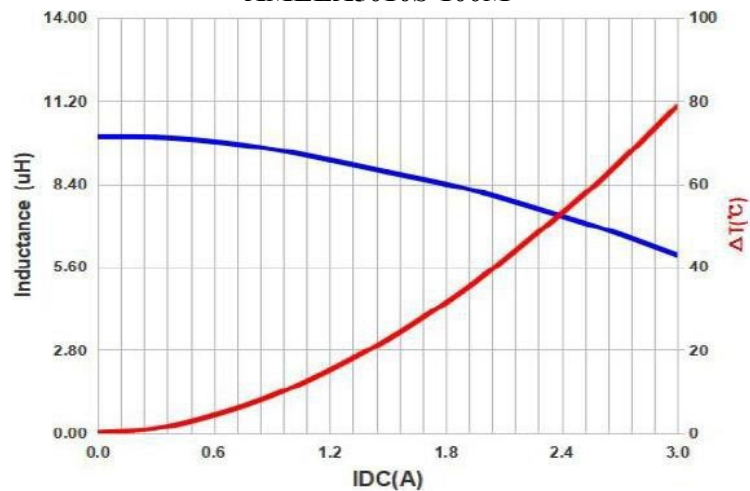


5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

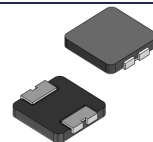
AMELA5010S-8R2M



AMELA5010S-100M



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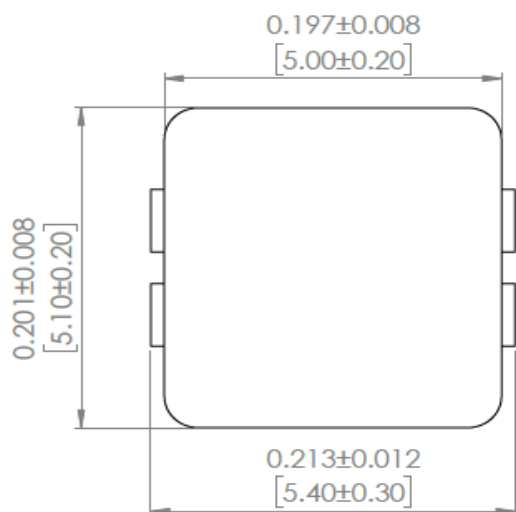
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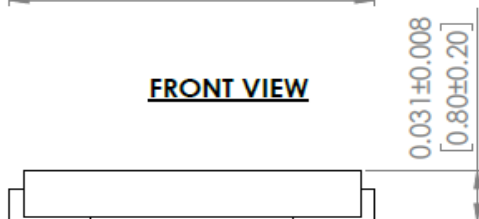
5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Mechanical Specifications

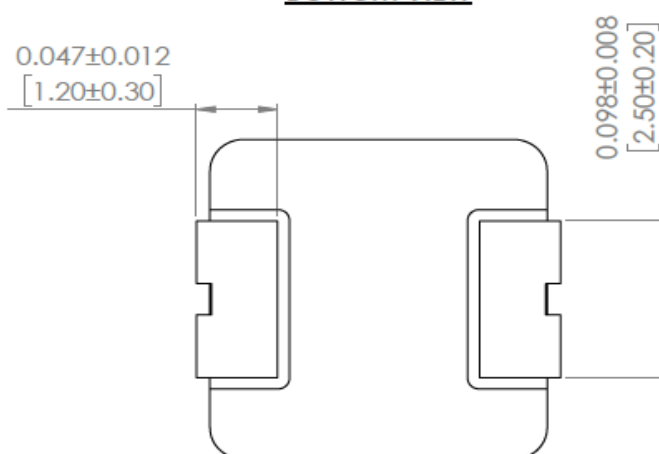
TOP VIEW



FRONT VIEW



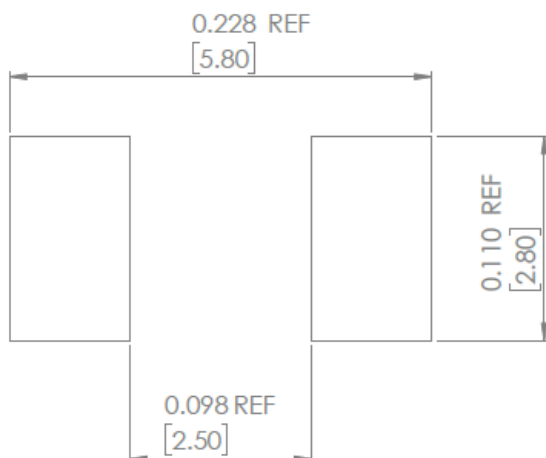
BOTTOM VIEW



SIDE VIEW



RECOMMENDED LAND PATTERN

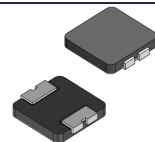


DIMENSIONS: INCHES[mm]

Notes:

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

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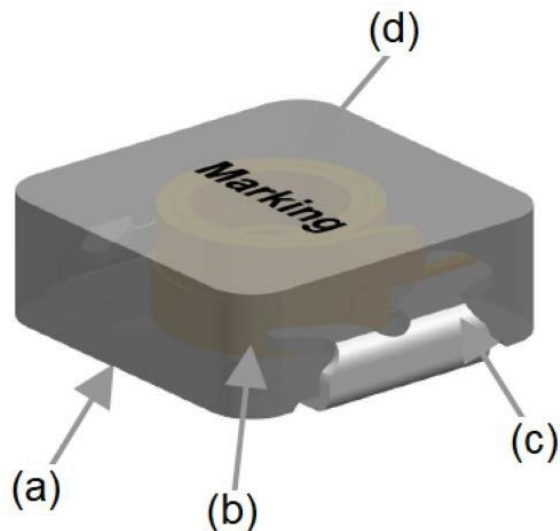


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MSL Level = 1

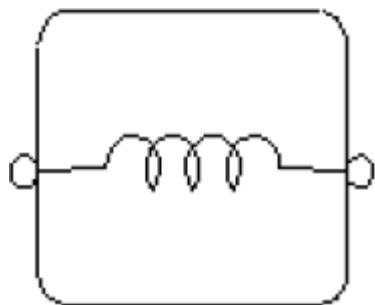
Materials



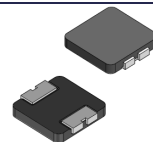
- (a) Core
- (b) Wire
- (c) Clip
- (d) Ink

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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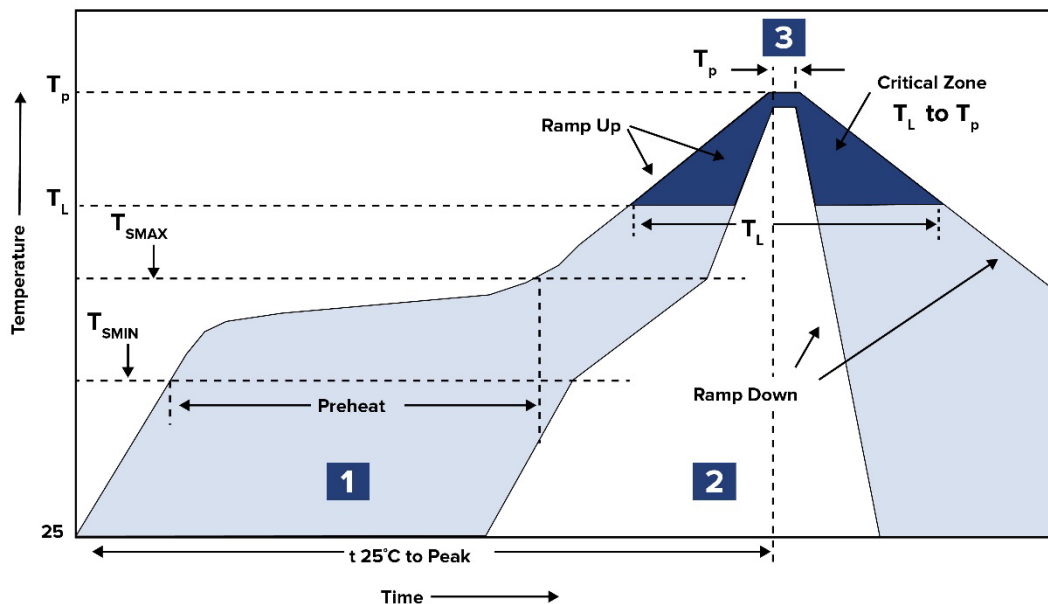


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5.4 x 5.1 x 0.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

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

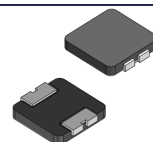


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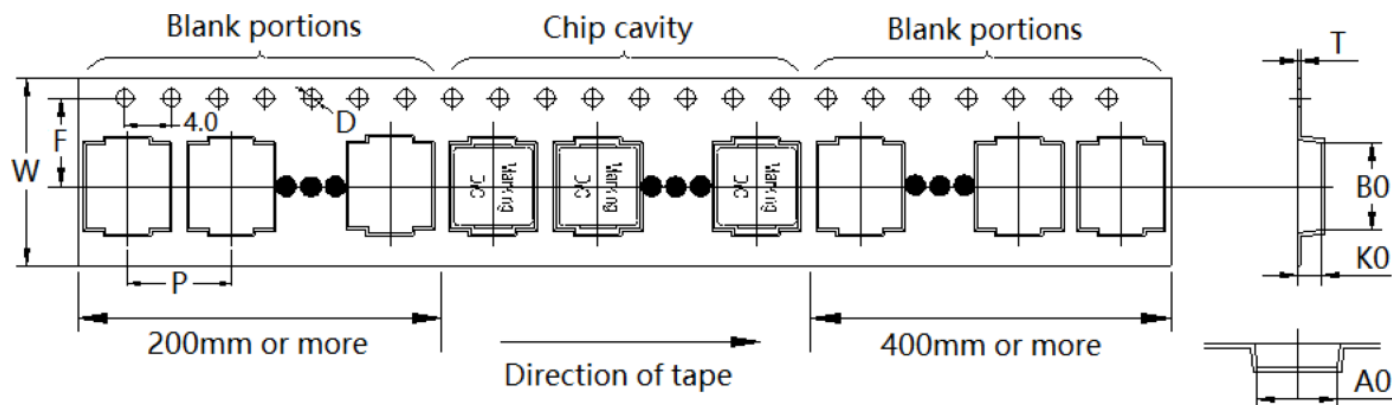
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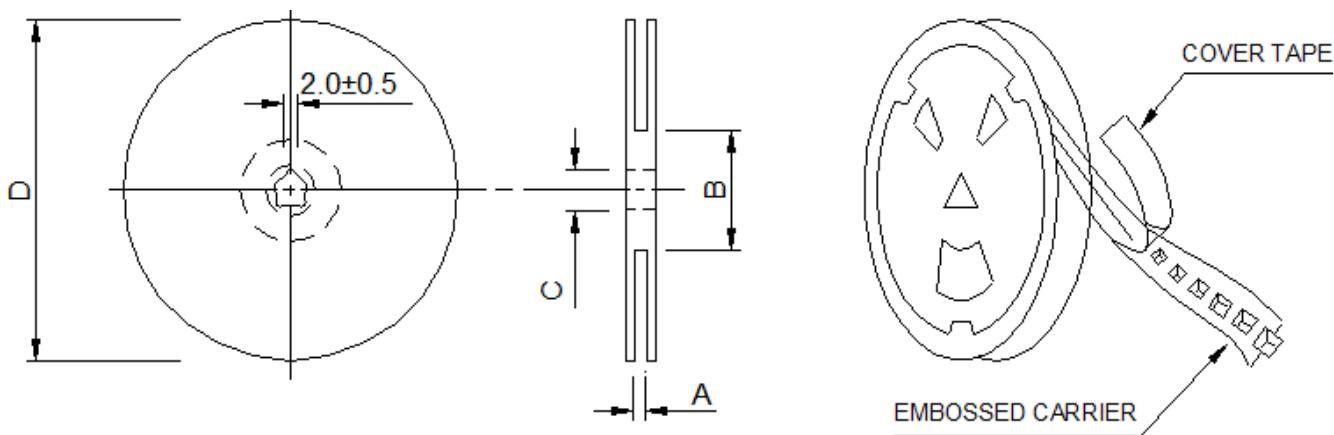
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RoHS/RoHS II Compliant
MSL Level = 1

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

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[AMELA5010S-1R5MT](#) [AMELA5010S-6R8MT](#) [AMELA5010S-1R0MT](#) [AMELA5010S-4R7MT](#) [AMELA5010S-3R3MT](#)
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