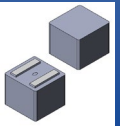


Flat Wire / Hot Pressed Molded Power Inductor



AMELH5050S

Request Samples



Check Inventory



5.5 x 5.3 x 4.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Excellent current capacity – up to 40A
- Exceptionally low DCR – down to only 1.1mΩ
- Soft saturation
- Compact size for high-density designs
- Shielded constructions for low EMI

Applications

- Body electronics
- Lighting
- Motor control
- Solar inverters and solar power
- DC/DC converters in distributed power systems
- Battery powered device

Electrical Specifications

Part Number	Inductance	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current		Self-Resonant Frequency
	0.1MHz/ 1.0V		Typ	Max	Typ	Max	Typ	Max	Min
Units	μH	%	mΩ		A		A		MHZ
Symbol	L	M	DCR		Isat		Irms		SRF
AMELH5050S-R18MT	0.18	20	1.1	1.4	40.0	36.0	35.0	31.0	155
AMELH5050S-R22MT	0.22	20	1.3	1.6	35.0	31.0	31.0	27.0	125
AMELH5050S-R33MT	0.33	20	1.6	2.0	34.0	30.0	30.0	26.0	100
AMELH5050S-R50MT	0.50	20	2.1	2.6	28.0	26.0	27.0	25.0	78
AMELH5050S-R56MT	0.56	20	2.4	2.9	26.0	24.0	25.0	23.0	72
AMELH5050S-R72MT	0.72	20	2.7	3.3	24.0	22.0	23.5	21.5	60
AMELH5050S-R82MT	0.82	20	2.9	3.5	21.0	19.0	23.0	20.0	55
AMELH5050S-1R0MT	1.0	20	3.3	3.9	19.0	17.0	21.0	18.0	50
AMELH5050S-1R2MT	1.2	20	3.9	4.6	17.0	15.0	20.0	17.0	45
AMELH5050S-1R5MT	1.5	20	4.6	5.6	15.0	13.0	18.0	16.0	35
AMELH5050S-1R8MT	1.8	20	6.5	7.8	13.5	12.0	16.0	14.0	33
AMELH5050S-2R2MT	2.2	20	7.4	8.2	12.5	11.0	15.0	13.0	29
AMELH5050S-3R3MT	3.3	20	10.0	11.5	11.0	10.0	12.5	11.0	25
AMELH5050S-4R7MT	4.7	20	14.1	16.0	9.5	8.5	10.0	8.5	19
AMELH5050S-5R6MT	5.6	20	17.5	19.3	8.2	7.5	8.2	7.5	16
AMELH5050S-6R8MT	6.8	20	20.0	23.0	7.8	7.0	7.8	7.0	14
AMELH5050S-8R2MT	8.2	20	24.5	27.5	7.3	6.5	7.3	6.5	13
AMELH5050S-100MT	10.0	20	29.0	33.0	6.5	5.6	6.5	5.6	12
AMELH5050S-120MT	12.0	20	39.1	43.0	6.2	5.2	5.5	5.0	11
AMELH5050S-150MT	15.0	20	50.0	55.0	5.5	4.7	5.0	4.5	9
AMELH5050S-220MT	22.0	20	70.3	79.5	5.0	4.5	4.5	4.0	8

Test Conditions:

Isat: DC current at which the inductance drops 30% from its nominal value.

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

Operating Voltage: 40V

Operating Temperature: -40°C ~ +125°C. (including self-temperature rise)

Storage Condition: -40°C ~ +125°C (on board), -10°C ~ +40°C (with packaging) and R.H. 85% max.

AMELH5050S Series is RoHS Compliant and Pb free.

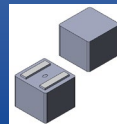


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AMELH5050S

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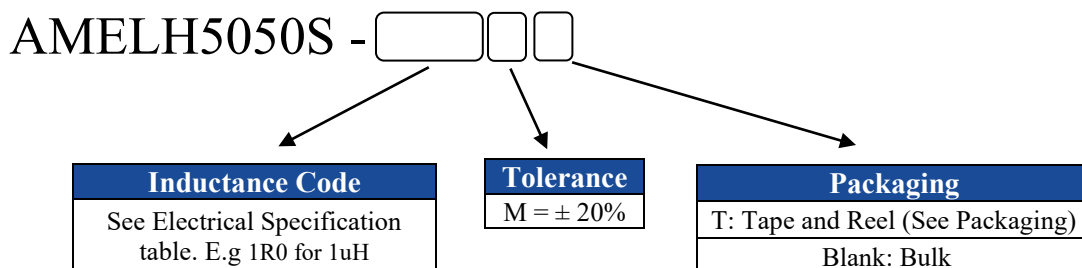


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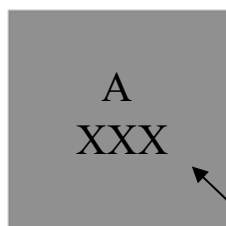


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RoHS/RoHS II Compliant
MSL Level = 1

Part Identification



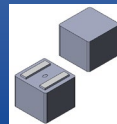
Marking



Inductance Code
e.g. 2R2

Marking Method = Ink Marking

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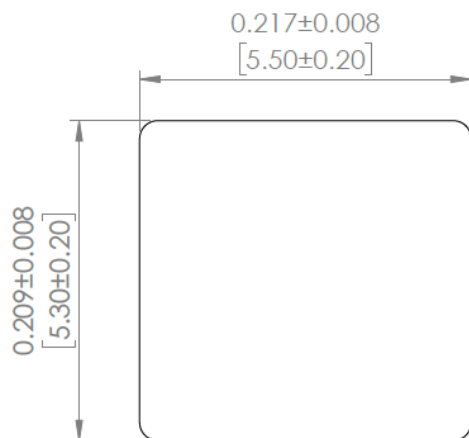


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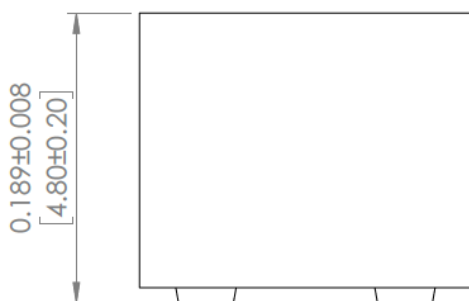


5.5 x 5.3 x 4.8 mm
RoHS/RoHS II Compliant
MSL Level = 1

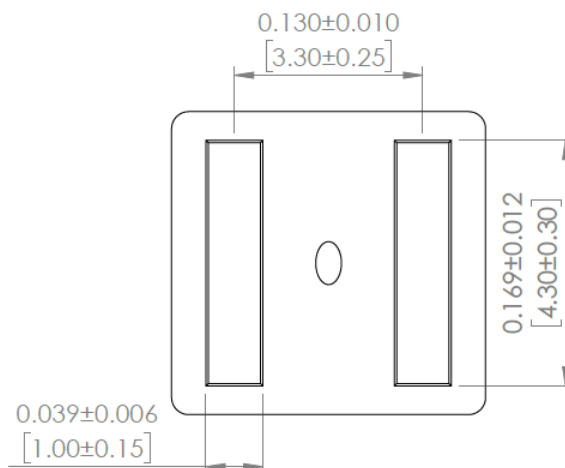
Mechanical Specifications



TOP VIEW

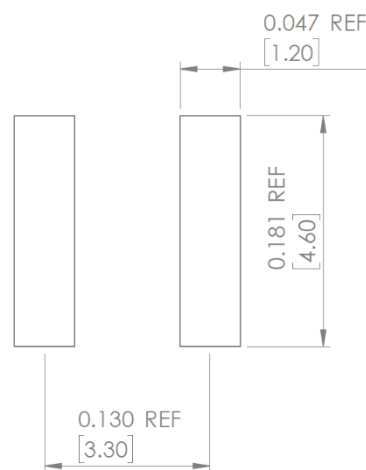


FRONT VIEW



BOTTOM VIEW

RECOMMENDED LAND PATTERN



NOTES:

The above PCB layout reference only.
Recommending solder paste thickness at .005[0.15] and above.
Inductance code markings, black.

DIMENSIONS: INCHES[mm]

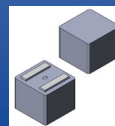


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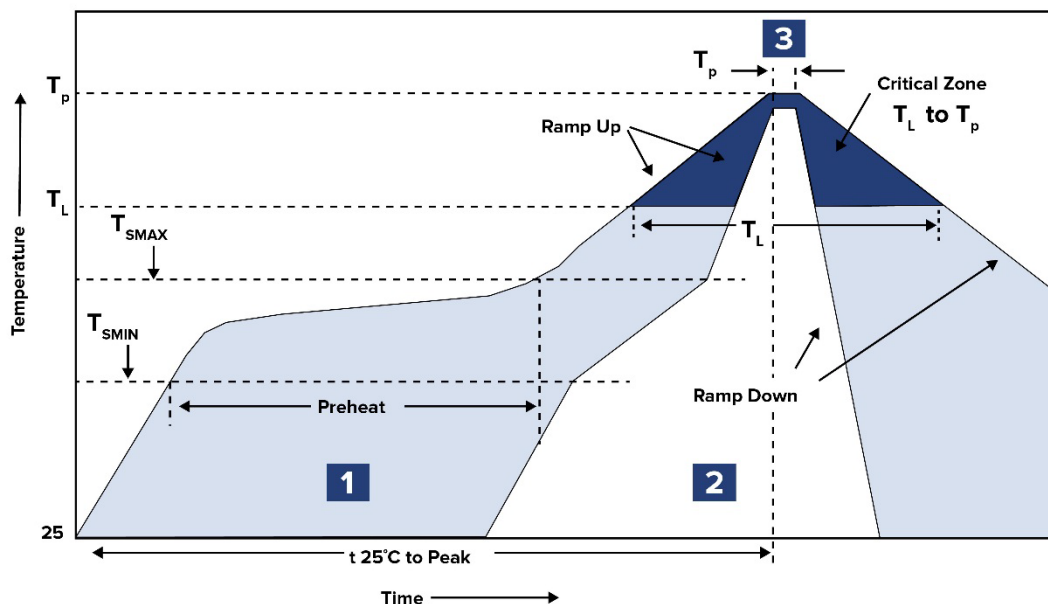


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Reflow Profile



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 250°C±5°C	10 sec. MAX

Ref. Solder paste: Sn/3.0Ag/0.5Cu (Pb-free assembly)

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

Time from 25C to T_P : 8mins Max

Refer to standard IPC/JEDEC J-STD-020E for more information

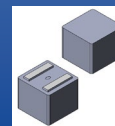


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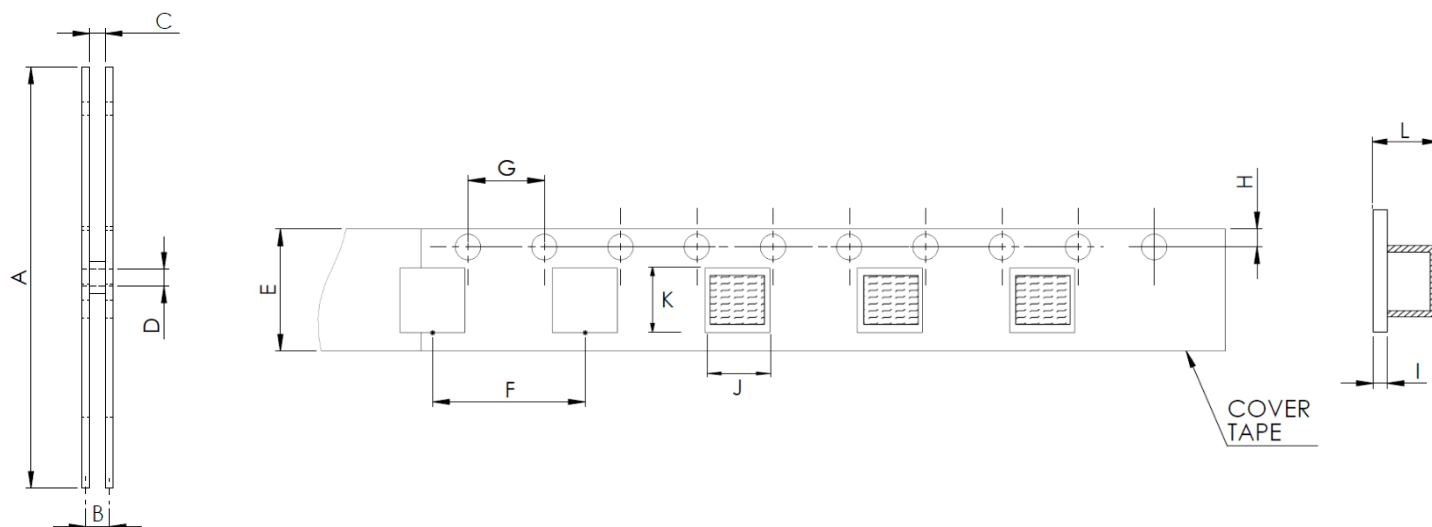
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MSL Level = 1

Packaging

T: Tape & Reel, 1500 pcs/reel



A	B	D	E	F	G	H	I	J	K	L
330.0	16.4±2	13.0±0.5	16.0±0.3	8.0±0.1	4.0±0.1	1.75±0.1	0.35±0.1	6.00 Ref.	5.70 Ref.	5.3 Ref.

Dimensions: mm

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<u>AMELH5050S-5R6MT</u>	<u>AMELH5050S-R56MT</u>	<u>AMELH5050S-R50MT</u>	<u>AMELH5050S-R72MT</u>	<u>AMELH5050S-R33MT</u>
<u>AMELH5050S-120MT</u>	<u>AMELH5050S-1R0MT</u>	<u>AMELH5050S-4R7MT</u>	<u>AMELH5050S-2R2MT</u>	<u>AMELH5050S-6R8MT</u>
<u>AMELH5050S-1R2MT</u>	<u>AMELH5050S-1R8MT</u>	<u>AMELH5050S-R18MT</u>	<u>AMELH5050S-150MT</u>	<u>AMELH5050S-8R2MT</u>
<u>AMELH5050S-R82MT</u>				