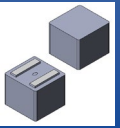


# Flat Wire / Hot Pressed Molded Power Inductor



**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 ( $\Delta T$ , 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.**

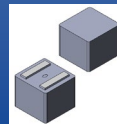


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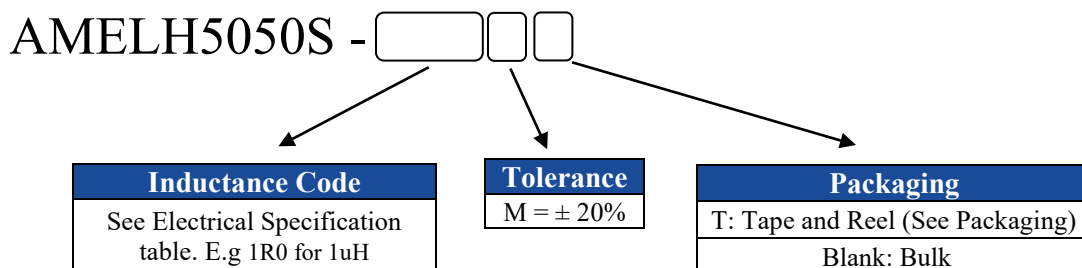


Check Inventory

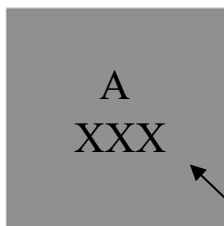


5.5 x 5.3 x 4.8 mm  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## Part Identification



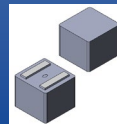
## Marking



Inductance Code  
e.g. 2R2

**Marking Method = Ink Marking**

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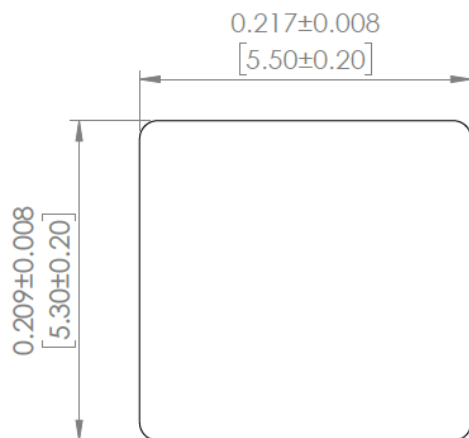


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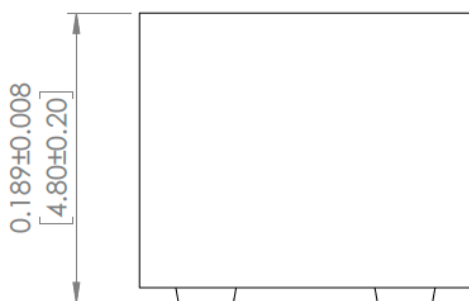


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RoHS/RoHS II Compliant  
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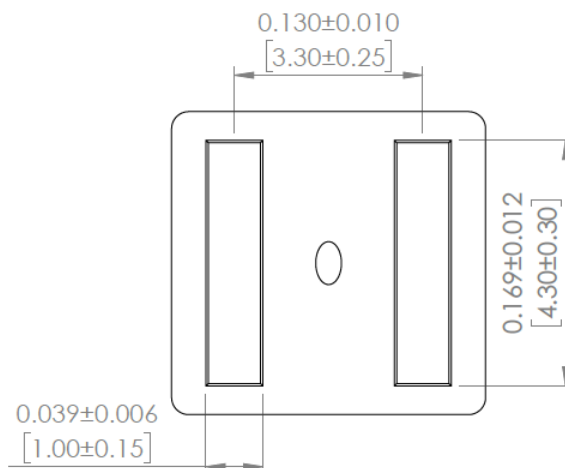
## Mechanical Specifications



**TOP VIEW**

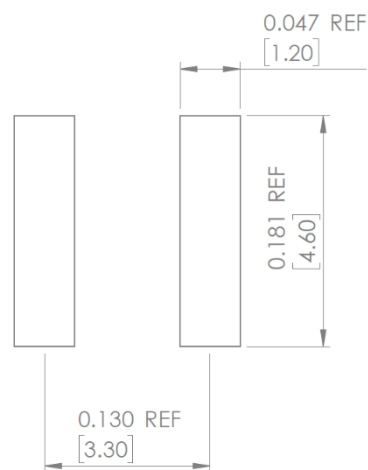


**FRONT VIEW**



**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]**

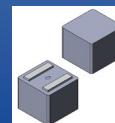


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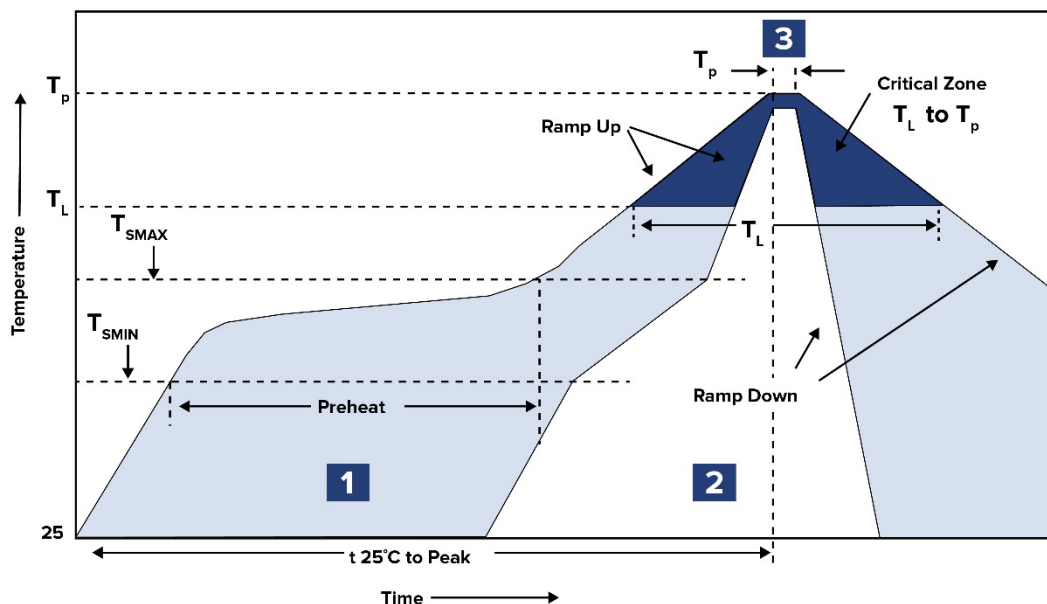


Check Inventory



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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	$T_P$ 250°C±5°C	10 sec. MAX

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

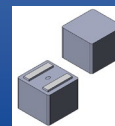
Ramp up rate: 3°C/s Max.

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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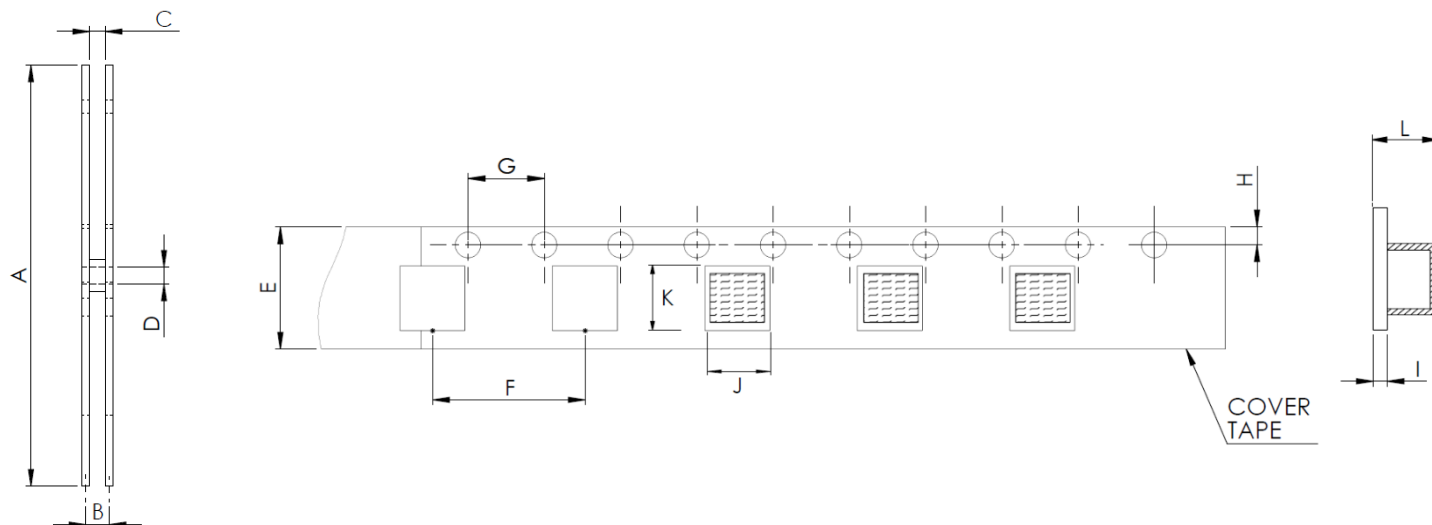
Check Inventory



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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**

**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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