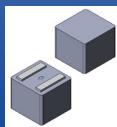


# Flat Wire / Hot Pressed Molded Power Inductor



## AMELH5050S

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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 0.1MHz/ 1.0V	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current		Self-Resonant Frequency
			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**.



12117 Bee Caves Rd, Bldg-3, Suite 200

Bee Cave, TX 78738

Phone: 512-371-6159 Fax: 512-351-8858

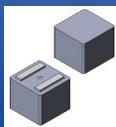
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REVISION Initial Release :  
6/18/2025

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# Flat Wire / Hot Pressed Molded Power Inductor



**AMELH5050S**

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5.5 x 5.3 x 4.8 mm

**RoHS/RoHS II Compliant**

MSL Level = 1

## Part Identification

AMELH5050S -



### Inductance Code

See Electrical Specification  
table. E.g 1R0 for 1uH

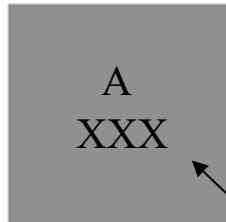
### Tolerance

M =  $\pm 20\%$

### Packaging

T: Tape and Reel (See Packaging)  
Blank: Bulk

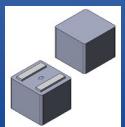
## Marking



Inductance Code  
e.g. 2R2

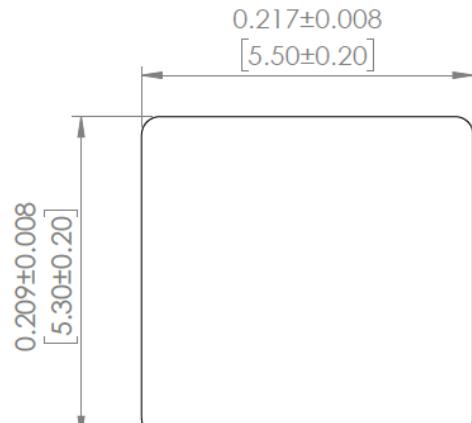
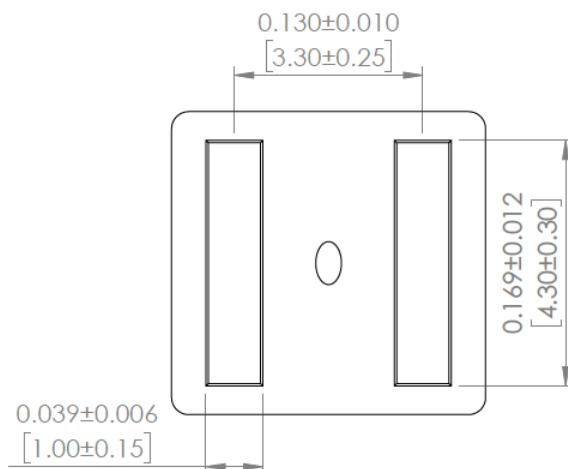
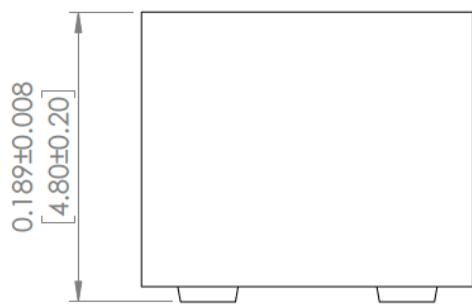
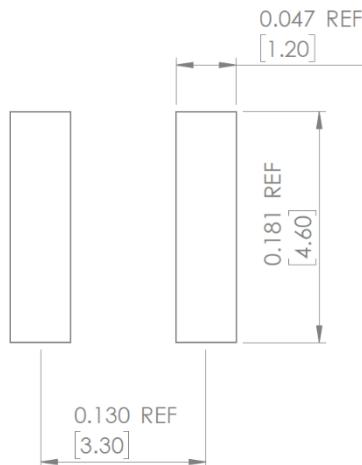
**Marking Method = Ink Marking**

# 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**

## Mechanical Specifications

**TOP VIEW****BOTTOM VIEW****FRONT VIEW****RECOMMENDED LAND PATTERN****NOTES:**

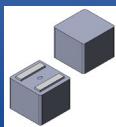
The above PCB layout reference only.

Recommending solder paste thickness at .005[0.15] and above.

Inductance code markings, black.

**DIMENSIONS: INCHES[mm]**

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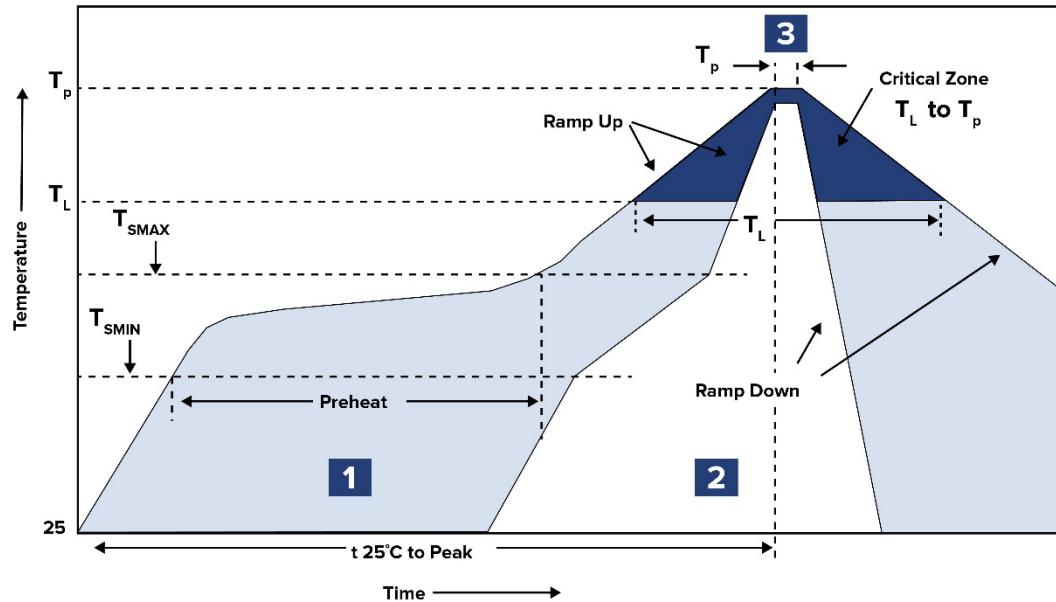


5.5 x 5.3 x 4.8 mm

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	$T_p$ 250°C ± 5°C	10 sec. MAX

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

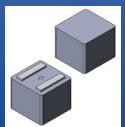
Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

Time from 25C to  $T_p$ : 8mins Max

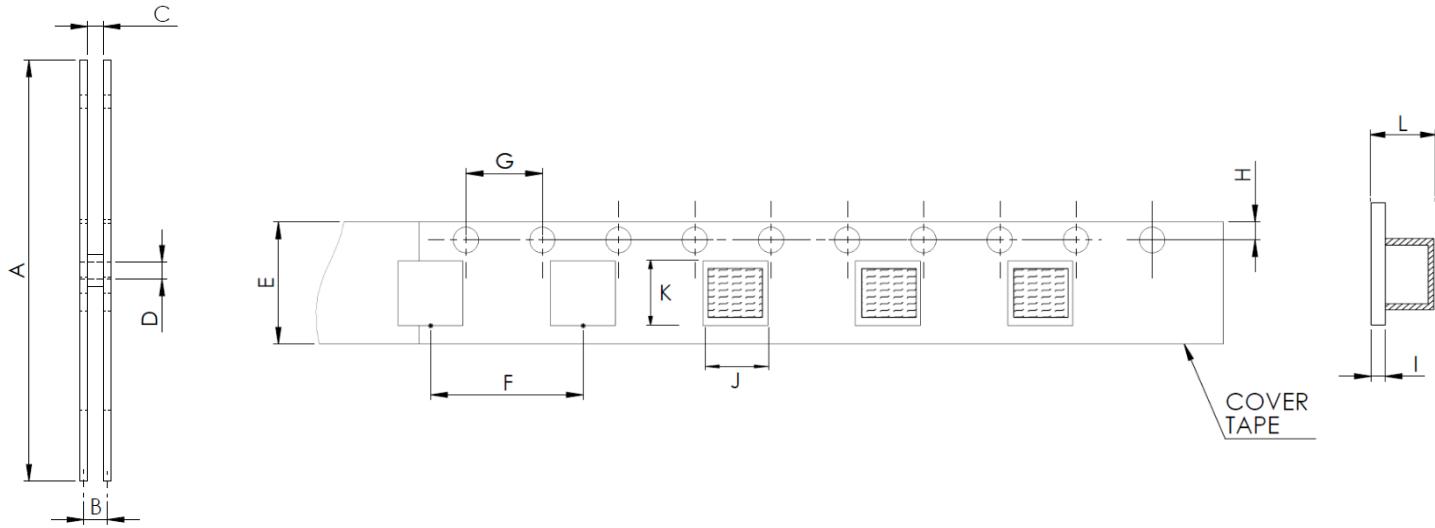
Refer to standard IPC/JEDEC J-STD-020E for more information

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## 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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[AMELH5050S-5R6MT](#) [AMELH5050S-R56MT](#) [AMELH5050S-R50MT](#) [AMELH5050S-R72MT](#) [AMELH5050S-R33MT](#)  
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