

# Flat Wire / Hot Pressed Molded Power Inductor

AMELH5030S

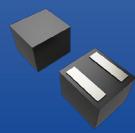
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5.5 x 5.3 x 2.9 mm  
RoHS/RoHS II Compliant  
MSL Level = 1



## Features

- Low-DCR
- Ultra-low AC losses
- High saturation current
- Soft saturation characteristics
- Minimal audible buzzing

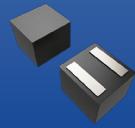
## Applications

- Consumer Electronics
- Industrial Electronics
- Telecom equipment's

## Electrical Specifications

Part Number	Inductance 0.1MHz/1.0V	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current		SRF
			Max	Typ.	Typ.	Max.	Typ.	Max.	
Units	µH	%	mΩ		A		A		MHz
Symbol	L	M	DCR		Isat		Irms		F
AMELH5030S-R18MT	0.18	20	1.6	1.3	45.0	40.0	34.0	30.0	150
AMELH5030S-R33MT	0.33	20	2.2	1.8	35.0	30.0	32.0	28.0	95
AMELH5030S-R40MT	0.40	20	2.7	2.2	31.0	27.0	27.0	24.0	78
AMELH5030S-R50MT	0.50	20	3.0	2.5	28.0	25.0	25.0	22.0	75
AMELH5030S-R52MT	0.52	20	3.0	2.5	27.0	24.0	25.0	22.0	75
AMELH5030S-R56MT	0.56	20	3.2	2.6	26.0	23.0	24.0	21.0	60
AMELH5030S-R60MT	0.60	20	3.2	2.6	25.0	22.0	23.0	20.0	60
AMELH5030S-R68MT	0.68	20	4.2	3.5	23.0	20.0	22.0	19.0	55
AMELH5030S-R70MT	0.70	20	4.2	3.5	22.0	19.0	21.0	18.0	55
AMELH5030S-R87MT	0.87	20	5.1	4.2	21.0	18.0	20.0	17.0	50
AMELH5030S-R90MT	0.90	20	5.1	4.2	20.0	17.0	19.0	16.0	50
AMELH5030S-1R0MT	1.00	20	5.8	4.8	19.0	16.0	18.0	15.0	45
AMELH5030S-1R2MT	1.20	20	6.0	5	18.0	15.0	17.0	14.0	43
AMELH5030S-1R5MT	1.50	20	7.8	6.7	16.0	14.0	15.0	13.0	35
AMELH5030S-1R8MT	1.80	20	8.7	7.5	14.0	12.0	14.5	11.5	28
AMELH5030S-2R0MT	2.00	20	9.9	8.6	13.0	11.5	13.5	11.0	27
AMELH5030S-2R2MT	2.20	20	10.6	9.2	12.5	11.0	13.0	11.0	25
AMELH5030S-3R3MT	3.30	20	16.1	14	11.0	10.0	10.5	9.0	22
AMELH5030S-4R7MT	4.70	20	24.5	21.5	9.0	8.0	8.8	7.5	18
AMELH5030S-5R6MT	5.60	20	26.3	23.5	8.0	7.0	8.0	6.5	16
AMELH5030S-6R8MT	6.80	20	32.1	29.2	7.5	6.5	7.3	6.0	15
AMELH5030S-8R2MT	8.20	20	40.4	36	6.5	5.5	6.5	5.5	13

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## Test Conditions

**Test frequency:** 1.0V/100KHz

**Test Temp:** 25°C Ambient

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

**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)

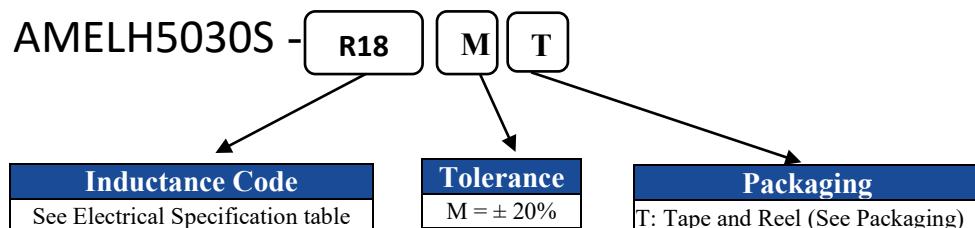
**Rated DC Current:** The lower value of Irms and Isat

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

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

**AMELH5030S Series is RoHS Compliant and Pb free.**

## Part Identification



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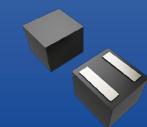
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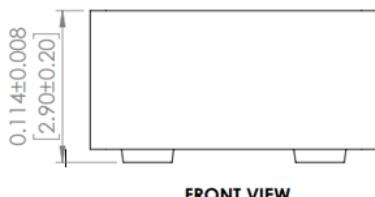
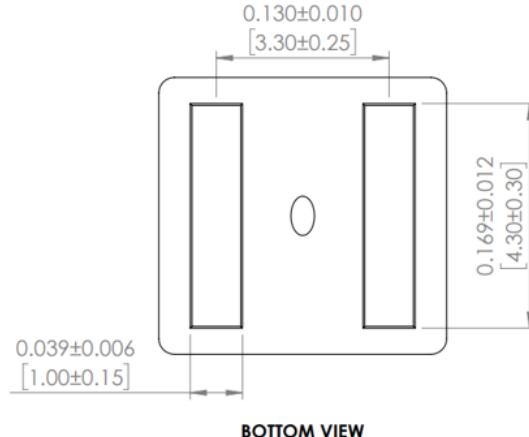
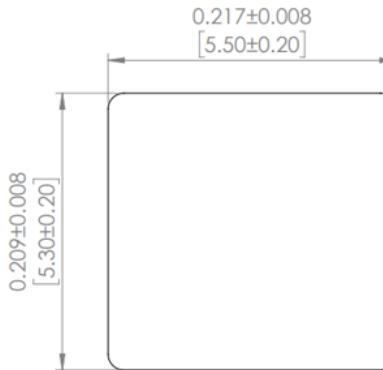
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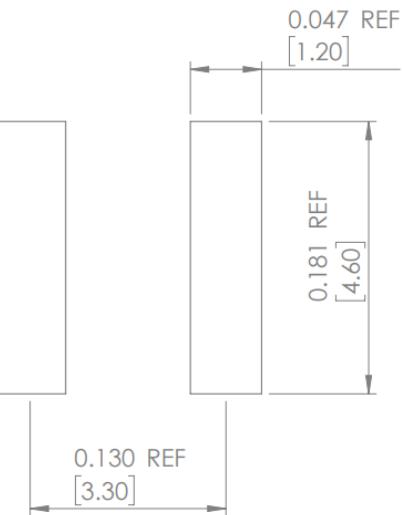
5.5 x 5.3 x 2.9 mm  
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## Mechanical Specifications



## RECOMMENDED LAND PATTERN

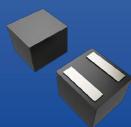


## DIMENSIONS: INCHES[mm]

### NOTES:

1. THE ABOVE PCB LAYOUT REFERENCE ONLY.
2. RECOMMEND SOLDER PASTE THICKNESS AT .004[0.12] AND ABOVE.

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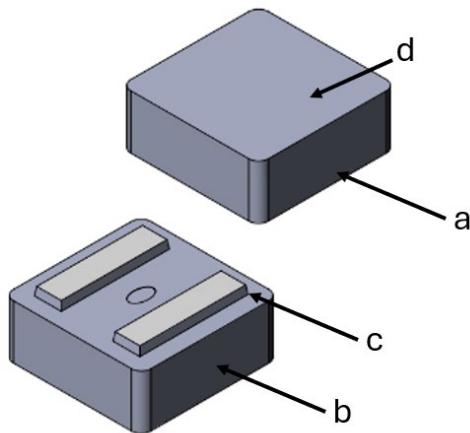


5.5 x 5.3 x 2.9 mm

**RoHS/RoHS II Compliant**

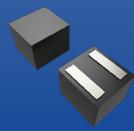
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## Materials



a	Core
b	Wire
c	Solder
d	Coating

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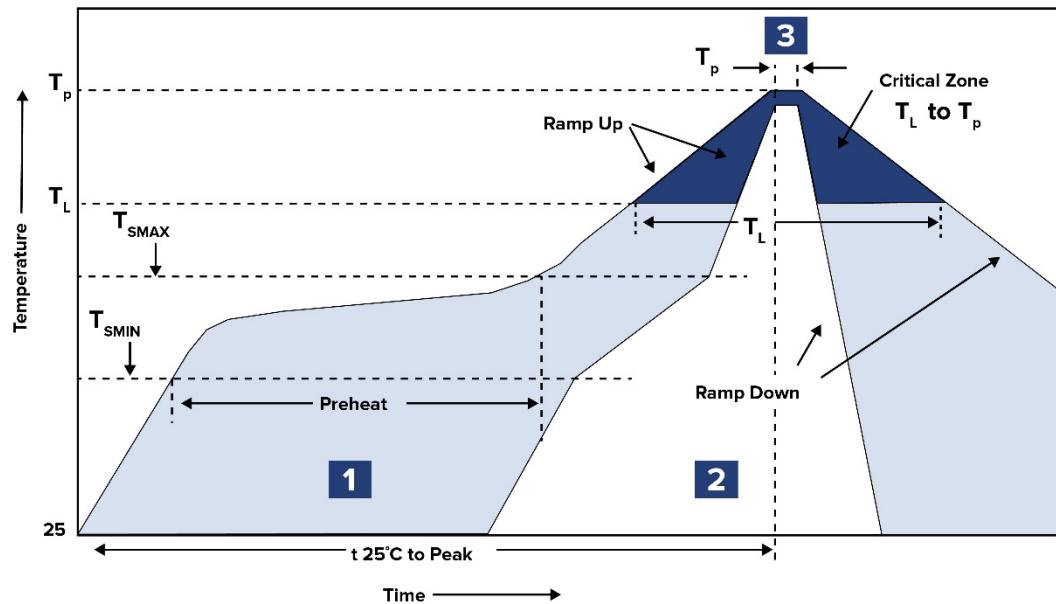


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## Reflow Profile



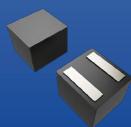
Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	$T_l$ 217°C	60 ~ 150 sec.
3	Peak heat	$T_p$ 260°C-5°C	30 sec. MAX

Ref. Solder paste: Sn/3.0Ag/0.5Cu

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

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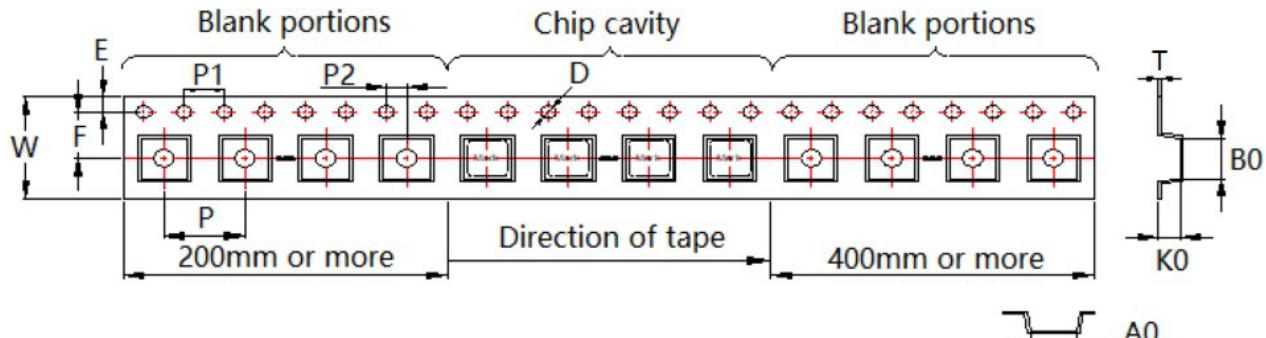
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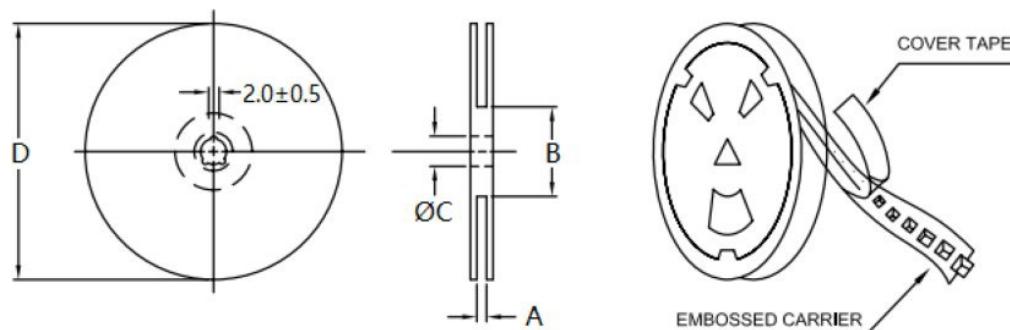
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## Packaging

Tape & Reel: 2000 pcs/reel



A0	B0	W	E	F	P	P1	P2	D	T	K0
6 Ref	5.7 Ref	16±0.3	1.75±0.1	5.5±0.1	8±0.1	4±0.1	2±0.1	1.5±0.1	0.35±0.1	3.3 Ref



Type	A	B	C	D
13"x12mm	16.4+2.0/-0.0	100.0±2.0	13.0+0.5/-0.2	330.0

Dimensions: mm

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