

# Flat Wire / Hot Pressed Molded Power Inductor



**AMELH4025S**

Request Samples



Check Inventory



4.2 x 4.2 x 2.3 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	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current		SRF
	0.1MHz/1.0V		Max	Typ.	Typ.	Max.	Typ.	Max.	
Units	μH	%	mΩ		A		A		MHz
Symbol	L	M	DCR		Isat		Irms		F
AMELH4025S-R13MT	0.13	20	1.7	1.40	35.0	32.0	32.0	29.0	235
AMELH4025S-R24MT	0.24	20	2.5	2.10	30.0	27.0	25.0	22.0	145
AMELH4025S-R33MT	0.33	20	3.2	2.70	23.0	20.0	22.0	20.0	106
AMELH4025S-R47MT	0.47	20	4.5	3.70	19.0	17.0	20.0	18.0	90
AMELH4025S-R56MT	0.56	20	4.9	4.4	17.0	15.0	18.0	16.0	85
AMELH4025S-R68MT	0.68	20	5.9	5.1	13.8	13.0	16.5	15.0	60
AMELH4025S-R72MT	0.72	20	6.0	5.2	13.0	12.0	16.0	14.7	60
AMELH4025S-R82MT	0.82	20	6.9	6.0	12.5	11.5	14.5	13.0	58
AMELH4025S-1R0MT	1.00	20	8.2	7.1	11.0	10.0	13.0	11.5	50
AMELH4025S-1R5MT	1.50	20	12.0	10.5	10.0	9.0	11.0	9.5	45
AMELH4025S-2R2MT	2.20	20	17.0	15.5	7.3	6.3	9.0	8.0	30
AMELH4025S-3R3MT	3.30	20	27.0	24.5	5.7	5.2	7.0	6.0	22
AMELH4025S-4R7MT	4.70	20	36.3	33.0	5.0	4.5	6.0	5.0	22



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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)

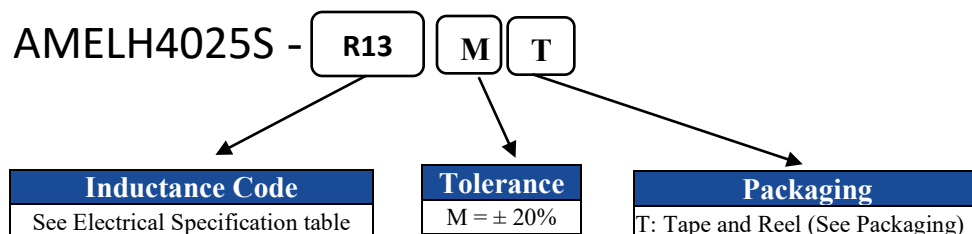
**Rated DC Current:** The lower value of Irms and Isat

**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

AMELH4025S Series is **RoHS Compliant and Pb free.**

## Part Identification



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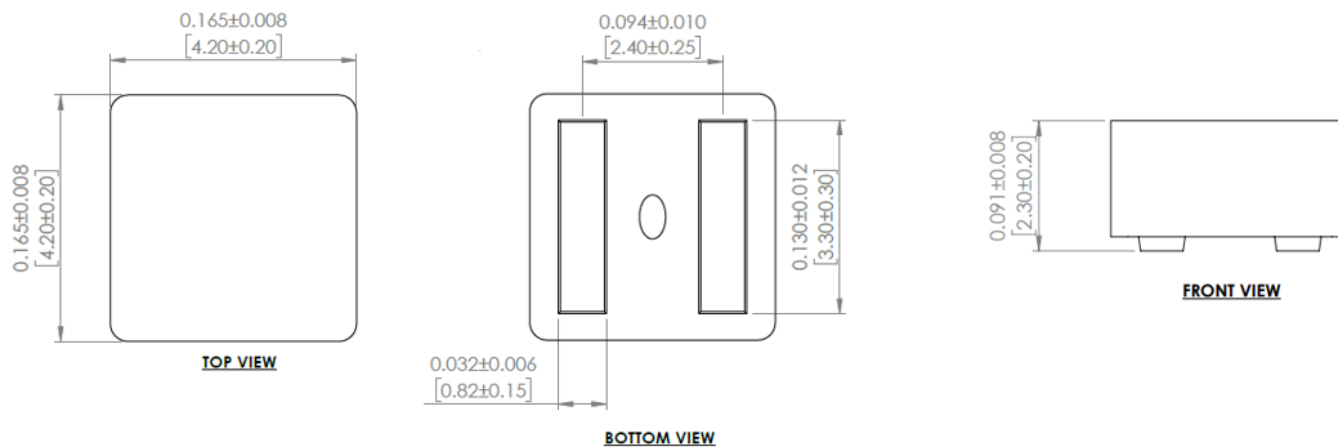


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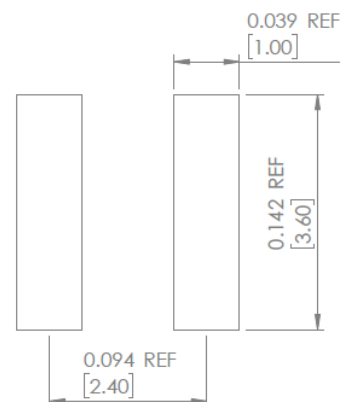


**4.2 x 4.2 x 2.3 mm**  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## 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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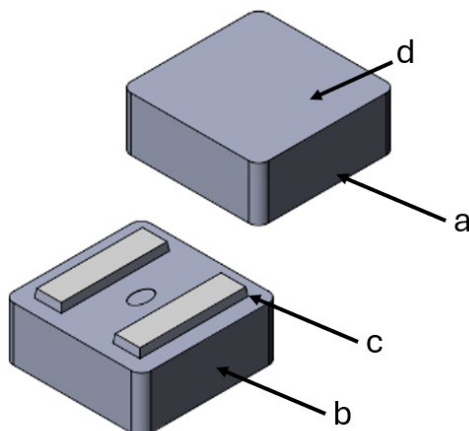


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## Materials



a	Core
b	Wire
c	Solder
d	Coating

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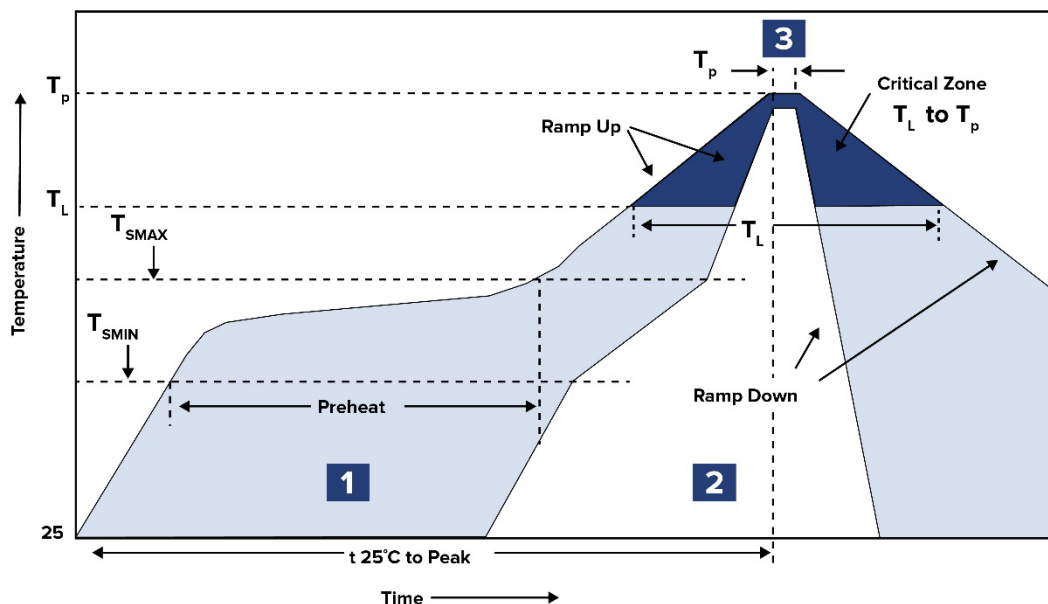


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## Reflow Profile



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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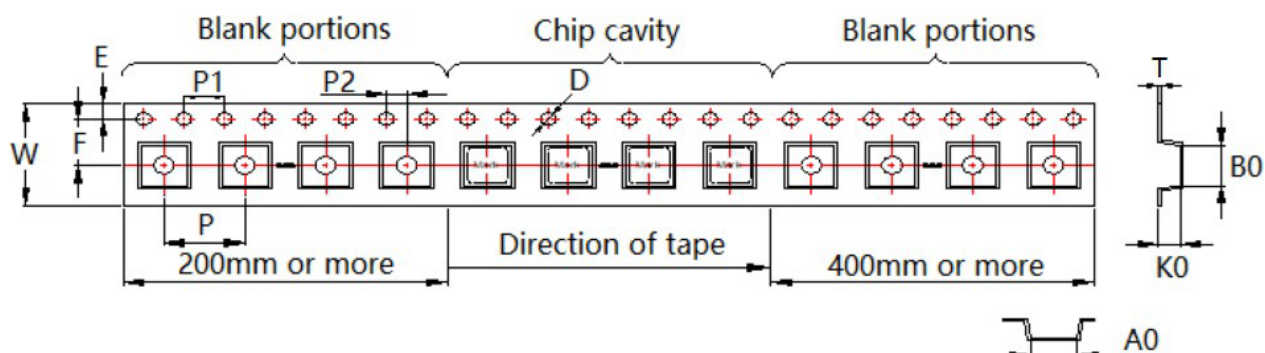
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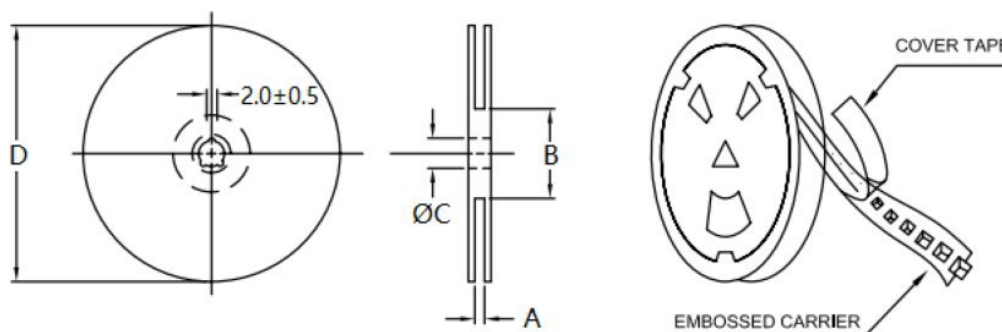
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## Packaging

Tape & Reel: 2500 pcs/reel



A0	B0	W	E	F	P	P1	P2	D	T	K0
4.7±0.1	4.7±0.1	12±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	2.7±0.1



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

**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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