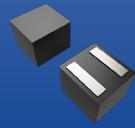


Flat Wire / Hot Pressed Molded Power Inductor

**AMELH5020S**[Request Samples](#)[Check Inventory](#)

5.5 x 5.3 x 1.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

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

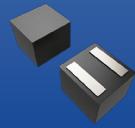
Applications

- Consumer Electronics
- Industrial Electronics
- Telecom equipment's

Electrical Specifications

| Part Number | Inductance | Tolerance | DC Resistance | | Saturation Current | | Temperature Rise Current | | SRF |
|------------------|------------|-----------|---------------|------|--------------------|------|--------------------------|------|-----|
| | | | 0.1MHz/1.0V | Max | Typ. | Typ. | Max. | Typ. | |
| Units | µH | % | mΩ | | A | | A | | MHz |
| Symbol | L | M | DCR | | Isat | | Irms | | F |
| AMELH5020S-R16MT | 0.16 | 20 | 2.1 | 1.8 | 37.0 | 33.0 | 30.0 | 26.0 | 165 |
| AMELH5020S-R33MT | 0.33 | 20 | 3.2 | 2.7 | 30.0 | 26.0 | 25.0 | 22.0 | 88 |
| AMELH5020S-R47MT | 0.47 | 20 | 4.3 | 3.9 | 23.0 | 20.0 | 22.1 | 19.0 | 70 |
| AMELH5020S-R56MT | 0.56 | 20 | 4.9 | 4.3 | 21.0 | 18.0 | 19.5 | 17.0 | 63 |
| AMELH5020S-R68MT | 0.68 | 20 | 6.1 | 5.5 | 20.0 | 17.0 | 18.0 | 16.0 | 60 |
| AMELH5020S-R82MT | 0.82 | 20 | 6.7 | 5.8 | 17.5 | 15.5 | 17.1 | 15.2 | 52 |
| AMELH5020S-R86MT | 0.86 | 20 | 7.8 | 6.8 | 17.0 | 15.0 | 16 | 14 | 50 |
| AMELH5020S-R90MT | 0.90 | 20 | 7.8 | 6.8 | 16.5 | 14.5 | 15.6 | 13.5 | 50 |
| AMELH5020S-1R0MT | 1.00 | 20 | 8.7 | 7.7 | 16.0 | 15.0 | 15.0 | 13.0 | 47 |
| AMELH5020S-1R2MT | 1.20 | 20 | 10.1 | 8.8 | 14.5 | 13.0 | 13.3 | 11.5 | 40 |
| AMELH5020S-1R5MT | 1.50 | 20 | 13.2 | 11.6 | 14.0 | 12.5 | 12.8 | 11.0 | 38 |
| AMELH5020S-1R8MT | 1.80 | 20 | 16.2 | 14.5 | 12.5 | 11.0 | 11.7 | 9.8 | 32 |
| AMELH5020S-2R2MT | 2.20 | 20 | 18.5 | 16 | 11.0 | 9.8 | 10.7 | 9.2 | 30 |
| AMELH5020S-3R3MT | 3.30 | 20 | 26.5 | 23 | 9.0 | 8.0 | 9.4 | 7.8 | 25 |
| AMELH5020S-4R7MT | 4.70 | 20 | 41.5 | 36 | 7.0 | 6.0 | 7.9 | 6.5 | 20 |

Flat Wire / Hot Pressed Molded Power Inductor



AMELH5020S

Request Samples



Check Inventory



5.5 x 5.3 x 1.9 mm
RoHS/RoHS II Compliant
MSL Level = 1

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 (ΔT , approximate 40 °C) from 25°C ambient.

Operating Voltage: 40V

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

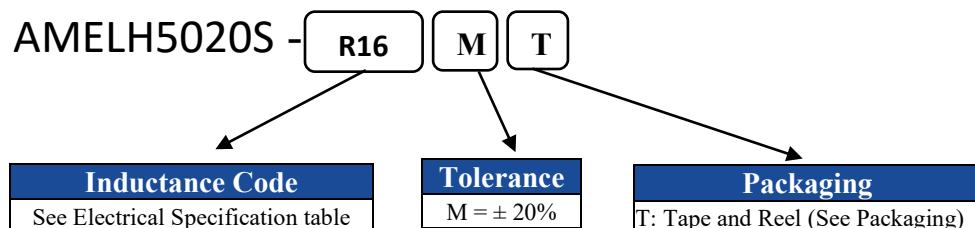
Rated DC Current: The lower value of Irms and Isat

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

AMELH5020S Series is **RoHS Compliant and Pb free**.

Part Identification



Flat Wire / Hot Pressed Molded Power Inductor

AMELH5020S

Request Samples



Check Inventory



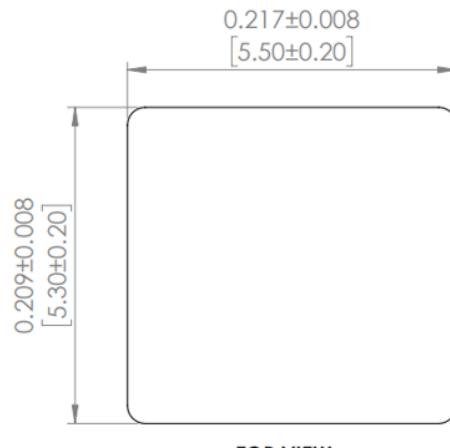
5.5 x 5.3 x 1.9 mm

RoHS/RoHS II Compliant

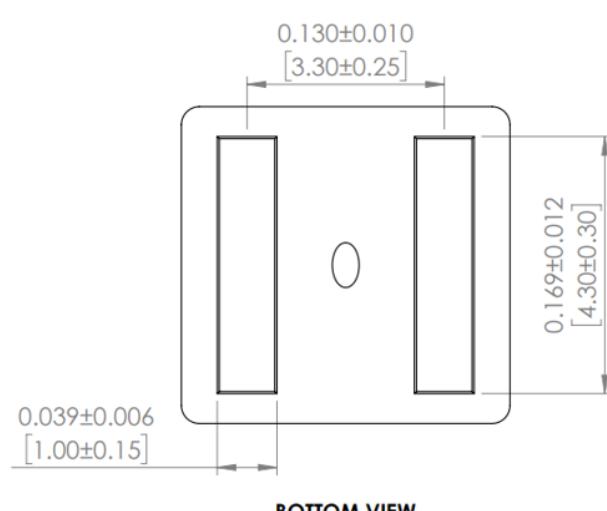
MSL Level = 1



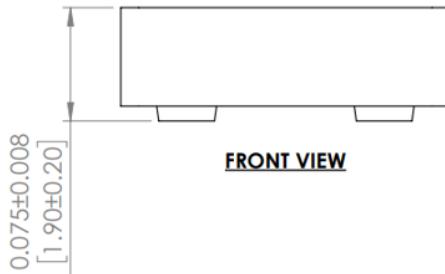
Mechanical Specifications



TOP VIEW

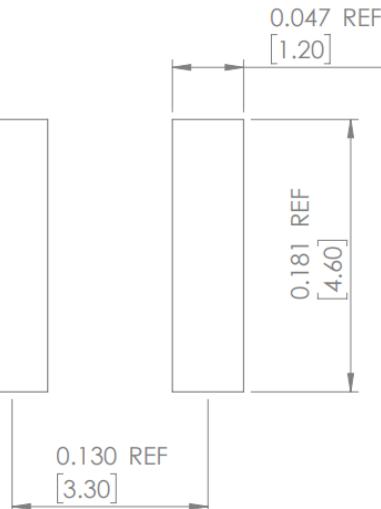


BOTTOM VIEW



FRONT VIEW

RECOMMENDED LAND PATTERN

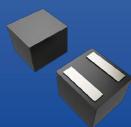


DIMENSIONS: INCHES[mm]

NOTES:

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

Flat Wire / Hot Pressed Molded Power Inductor



AMELH5020S

Request Samples



Check Inventory

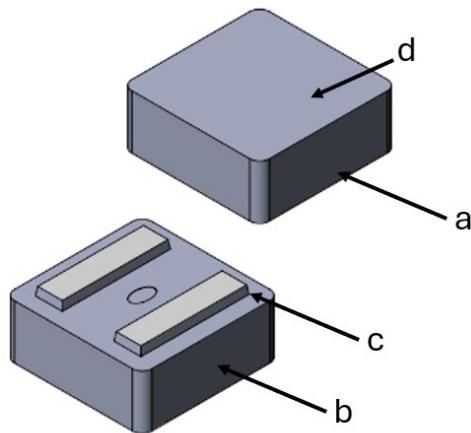


5.5 x 5.3 x 1.9 mm

RoHS/RoHS II Compliant

MSL Level = 1

Materials



| | |
|---|---------|
| a | Core |
| b | Wire |
| c | Solder |
| d | Coating |

Flat Wire / Hot Pressed Molded Power Inductor

AMELH5020S

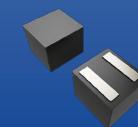
Request Samples



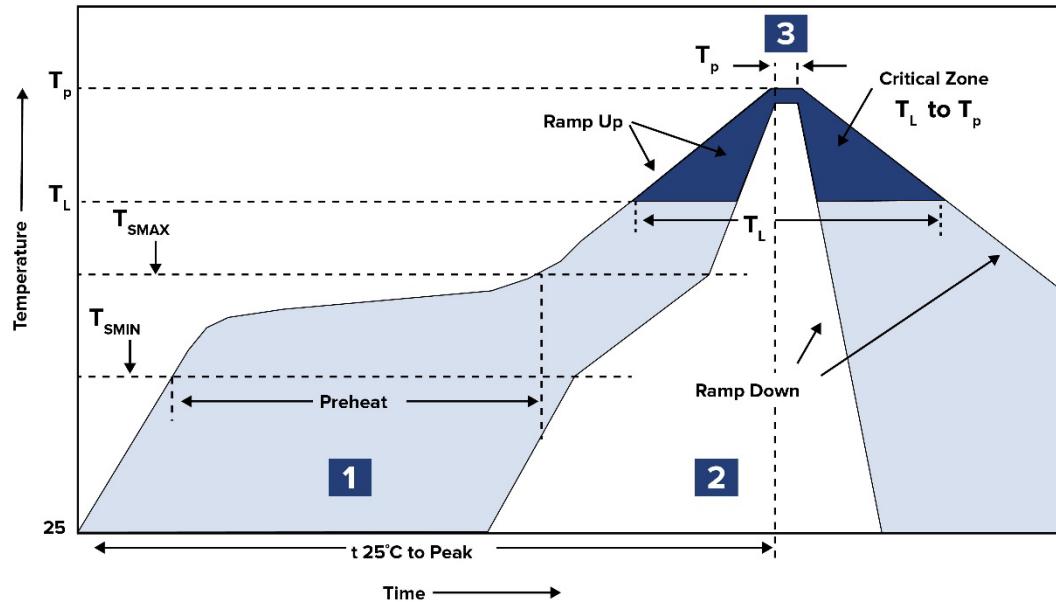
Check Inventory



5.5 x 5.3 x 1.9 mm
RoHS/RoHS II Compliant
MSL Level = 1



Reflow Profile



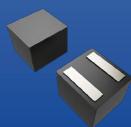
| Zone | Description | Temperature | Times |
|------|-------------|---|---------------|
| 1 | Preheat | $T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C | 60 ~ 120 sec. |
| 2 | Reflow | T_l 217°C | 60 ~ 150 sec. |
| 3 | Peak heat | T_p 260°C-5°C | 30 sec. MAX |

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

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.

Flat Wire / Hot Pressed Molded Power Inductor



AMELH5020S

Request Samples



Check Inventory



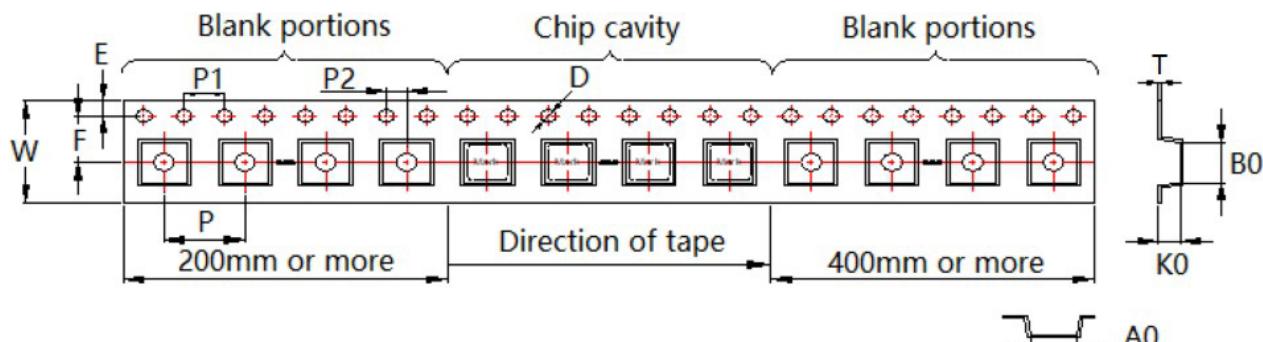
5.5 x 5.3 x 1.9 mm

RoHS/RoHS II Compliant

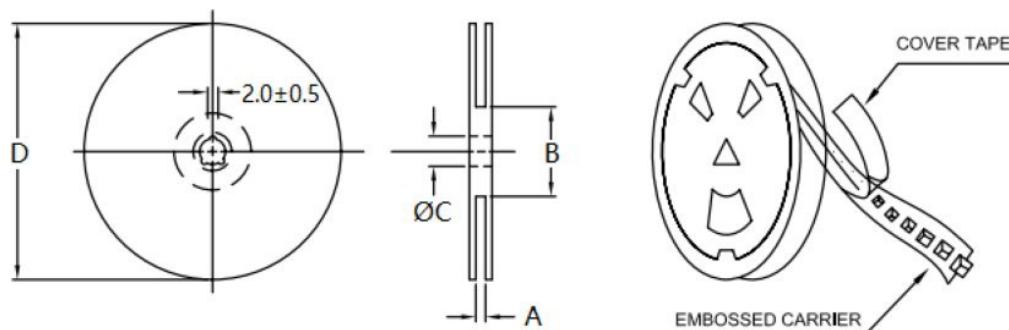
MSL Level = 1

Packaging

Tape & Reel: 3000 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 | 2.3 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

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.



12117 Bee Caves Rd, Bldg-3, Suite 200

Bee Cave, TX 78738

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

For terms and conditions of sales, please visit:
www.abracon.com

REVISION Initial Release :
6/16/2025

ABRACON IS
 ISO9001-2015
 CERTIFIED

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ABRACON:](#)

[AMELH5020S-3R3MT](#) [AMELH5020S-R16MT](#) [AMELH5020S-R33MT](#) [AMELH5020S-1R5MT](#) [AMELH5020S-2R2MT](#)

[AMELH5020S-R86MT](#) [AMELH5020S-1R8MT](#) [AMELH5020S-4R7MT](#) [AMELH5020S-R47MT](#) [AMELH5020S-R68MT](#)

[AMELH5020S-1R0MT](#) [AMELH5020S-1R2MT](#) [AMELH5020S-R82MT](#) [AMELH5020S-R56MT](#) [AMELH5020S-R90MT](#)