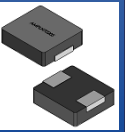


# Molded Inductor (Carbonyl)



**AMPLH7020S**

Request Samples



Check Inventory



7.3 x 6.6 x 1.8 mm  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## Features

- Shielded construction
- Soft saturation
- Low DCR, High Efficiency
- Designed for switching frequencies between 100KHz-2MHz

## Applications

- DC/DC Switching converters
- Power supplies for Notebooks, workstations, and Servers
- Low Profile applications
- High current, transient load applications

## Electrical Specifications

Part Number	Inductance	Tolerance	DC Resistance		Saturation Current	Temperature Rise Current
	0.1MHz/1.0V		Max.	Typ.	Typ.	Typ.
Units	$\mu$ H	%	m $\Omega$		A	A
Symbol	L	M	DCR		Isat	Irms
AMPLH7020S-R20M	0.20	$\pm 20$	2.2	1.8	38.0	23.0
AMPLH7020S-R33M	0.33	$\pm 20$	2.9	2.4	28.0	20.0
AMPLH7020S-R47M	0.47	$\pm 20$	4.9	4.1	23.0	17.0
AMPLH7020S-R68M	0.68	$\pm 20$	5.5	4.6	21.0	16.0
AMPLH7020S-1R0M	1.00	$\pm 20$	8.4	7.0	15.0	12.0
AMPLH7020S-1R5M	1.50	$\pm 20$	16.2	13.5	12.0	11.0
AMPLH7020S-2R2M	2.20	$\pm 20$	25.2	21.0	9.5	9.0
AMPLH7020S-3R3M	3.30	$\pm 20$	34.8	29.0	8.0	7.5
AMPLH7020S-4R7M	4.70	$\pm 20$	45.6	38.0	7.0	6.5
AMPLH7020S-5R6M	5.60	$\pm 20$	50.4	42.0	6.5	6.0
AMPLH7020S-6R8M	6.80	$\pm 20$	64.0	56.0	6.0	5.3
AMPLH7020S-8R2M	8.20	$\pm 20$	77.1	67.0	5.2	4.8
AMPLH7020S-100M	10.00	$\pm 20$	90.0	80.0	4.8	4.3
AMPLH7020S-120M	12.00	$\pm 20$	104.0	87.0	4.3	3.7

## Test Conditions

**Isat:** DC current at which the inductance drops 30% from its initial value.

**Irms:** DC current that causes the temperature rise ( $\Delta T$ , approximate 40°C) from 25°C ambient.

**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.

**Operating Voltage:** 50V (across inductor)

**AMPLH7020S Series is RoHS Compliant and Pb free.**

**For saturation and temperature rise graphs, please visit [Abracon | Power Inductor Performance Analyzer \(PIPA\)](#)**

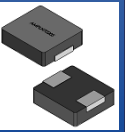


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7.3 x 6.6 x 1.8 mm  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## Part Identification

AMPLH7020S -



### Inductance Code

See Electrical Specification table

### Tolerance

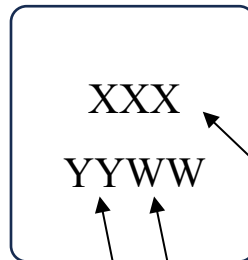
M =  $\pm 20\%$

### Packaging

T: Tape and Reel (See Packaging)

Blank: Bulk

## Marking



Inductance Code

e.g. 2R2

W: Week: E.g. 05 for the 5<sup>th</sup> week of the year.

Y: Year: E.g. 24 for 2024

**Marking Method = Ink Marking**

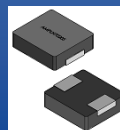


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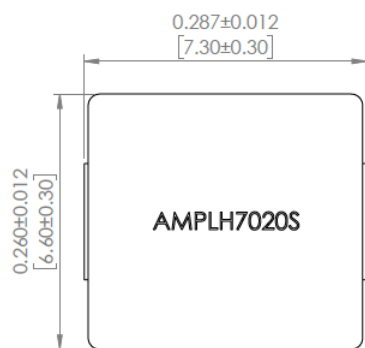


Check Inventory

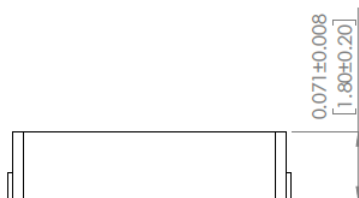


**7.3 x 6.6 x 1.8 mm**  
**RoHS/RoHS II Compliant**  
MSL Level = 1

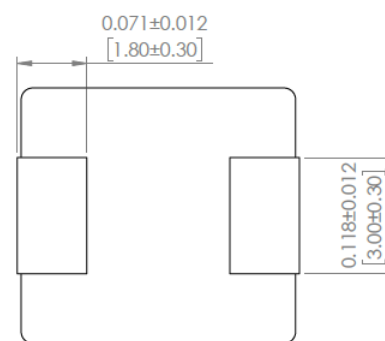
## Mechanical Specifications



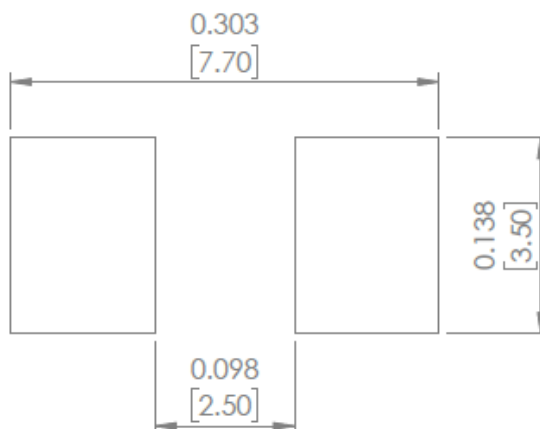
TOP VIEW



FRONT VIEW



BOTTOM VIEW



RECOMMENDED LAND PATTERN

Dimensions: Inches [mm]

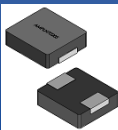


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# Molded Inductor (Carbonyl)



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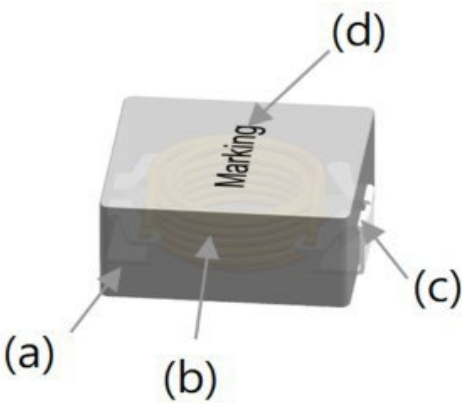


Check Inventory



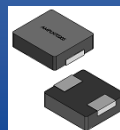
7.3 x 6.6 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Materials



	Components	Material
a	Core	Alloy Powder
b	Wire	Polyester Wire
c	Electrode	Cu/Ni/Sn
d	Marking	Ink

# Molded Inductor (Carbonyl)



**AMPLH7020S**

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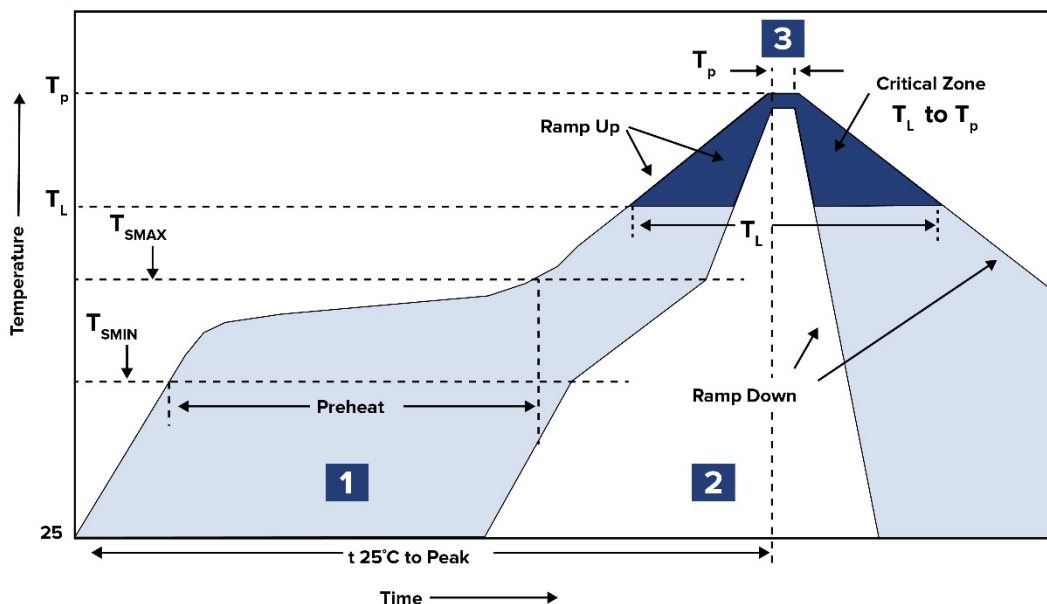


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7.3 x 6.6 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Reflow Profile



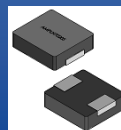
Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	$T_L$ $\geq 217^\circ C$	60 ~ 150 sec.
3	Peak heat	$T_P$ 260°C	30 sec. MAX

Time of 25°C to peak temperature: 8 mins Max

Ramp up rate: 3°C/Second max.

Ramp down rate: 6°C/Second max.

# Molded Inductor (Carbonyl)



**AMPLH7020S**

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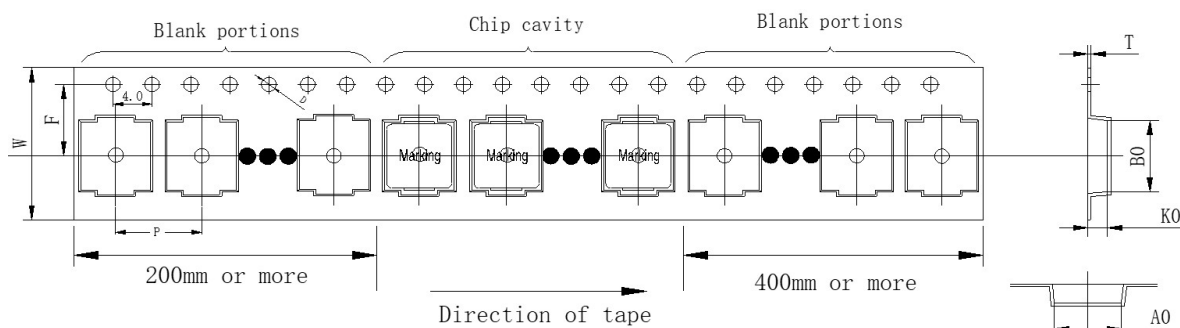
Check Inventory



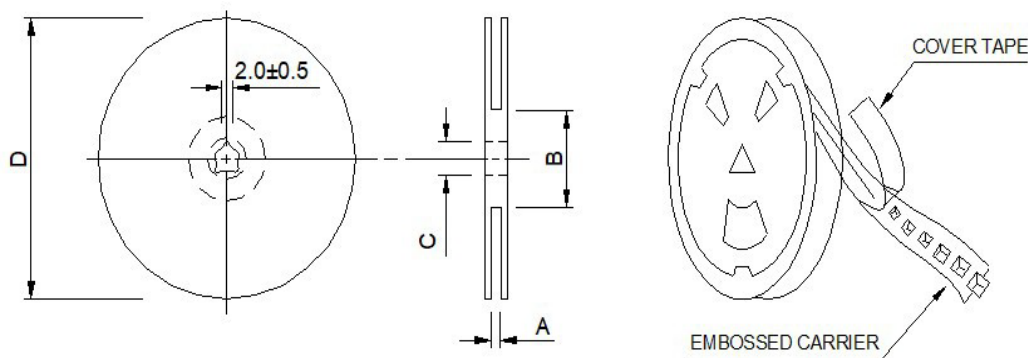
**7.3 x 6.6 x 1.8 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Packaging

**Tape & Reel: 2000 pcs/reel**



A0	B0	W	F	P	D	K0	T
7.10 Ref	8.10 Ref	16.00±0.30	5.50±0.10	12.00±0.10	1.50±0.10	2.20 Ref	0.35±0.05



Type	A	B	C	D
13" x 16mm	16.4+2.0/-0.0	100.0±2.0	13.0+0.5/-0.2	330.0±0.3

**Dimensions: mm**

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