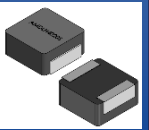


# Molded Inductor (Carbonyl)



**AMPLH4020S**

Request Samples



Check Inventory



4.3 x 4.2 x 1.9 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	$\mu\text{H}$	%	$\text{m}\Omega$		A	A
Symbol	L	M	DCR		Isat	Irms
AMPLH4020S-R10M	0.10	$\pm 20$	2.3	1.9	35.0	19.0
AMPLH4020S-R15M	0.15	$\pm 20$	3.8	3.1	29.0	16.5
AMPLH4020S-R33M	0.33	$\pm 20$	5.8	5.0	15.0	15.0
AMPLH4020S-R47M	0.47	$\pm 20$	7.2	6.0	13.0	13.0
AMPLH4020S-R68M	0.68	$\pm 20$	9.9	8.2	11.0	11.0
AMPLH4020S-1R0M	1.00	$\pm 20$	13.8	11.5	10.0	10.0
AMPLH4020S-1R5M	1.50	$\pm 20$	18.5	15.4	9.0	9.0
AMPLH4020S-2R2M	2.20	$\pm 20$	30.0	25.0	7.2	7.2
AMPLH4020S-3R3M	3.30	$\pm 20$	49.2	41.0	6.9	5.5
AMPLH4020S-4R7M	4.70	$\pm 20$	69.0	60.0	5.8	4.7
AMPLH4020S-5R6M	5.60	$\pm 20$	78.2	68.0	4.3	4.1
AMPLH4020S-6R8M	6.80	$\pm 20$	92.5	80.5	3.9	3.8
AMPLH4020S-8R2M	8.20	$\pm 20$	121.0	105.0	3.5	3.3
AMPLH4020S-100M	10.00	$\pm 20$	145.0	126.0	3.3	3.1

## 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  $40^\circ\text{C}$ ) from  $25^\circ\text{C}$  ambient.

**Operating Temperature:**  $-40^\circ\text{C} \sim +125^\circ\text{C}$  (including self-temperature rise)

**Storage Condition:**  $-40^\circ\text{C} \sim +125^\circ\text{C}$  (on board),  $-10^\circ\text{C} \sim +40^\circ\text{C}$  (with packaging) and R.H. 85% max.

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

AMPLH4020S Series is **RoHS Compliant and Pb free.**

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

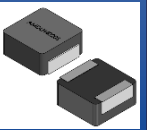


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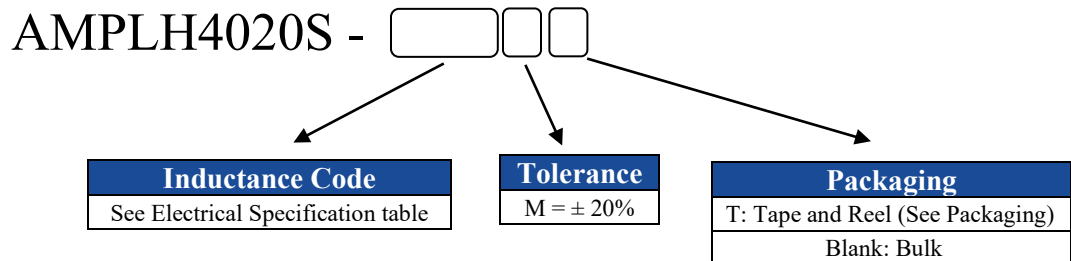


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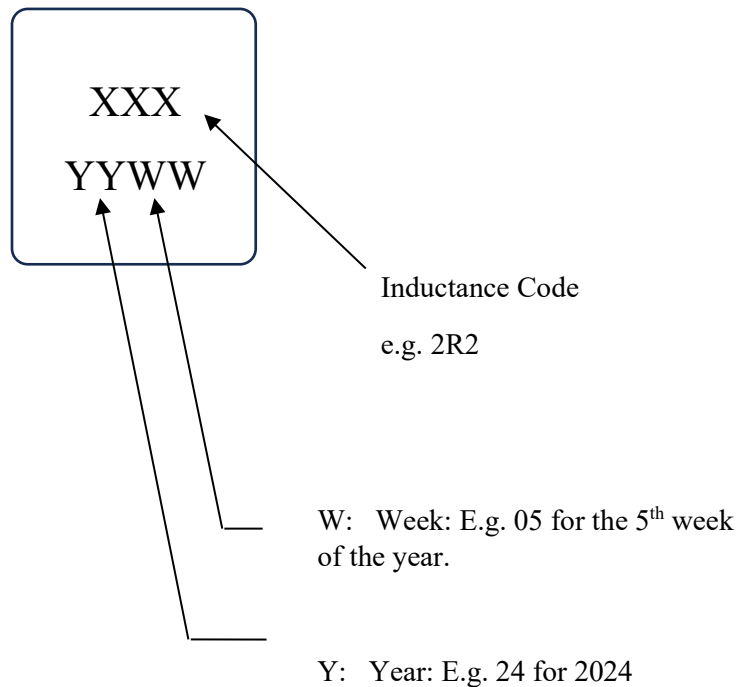


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RoHS/RoHS II Compliant  
MSL Level = 1

## Part Identification



## Marking



Marking Method = Ink Marking

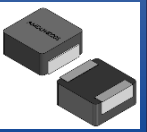


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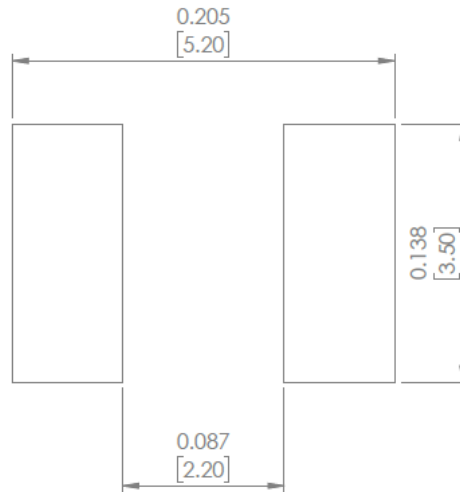
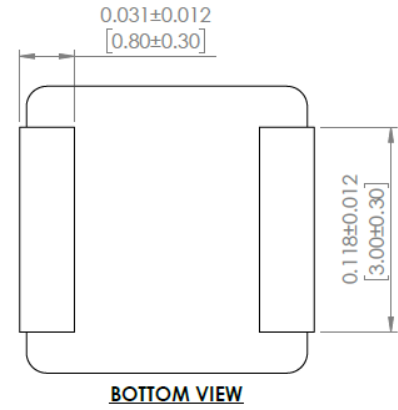
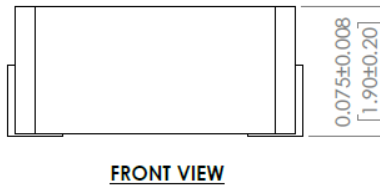
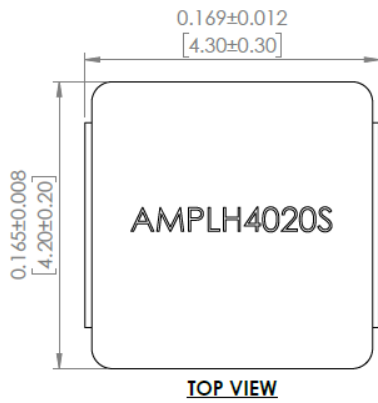


Check Inventory



**4.3 x 4.2 x 1.9 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Mechanical Specifications



Dimensions: Inches [mm]

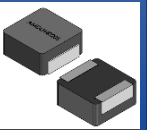


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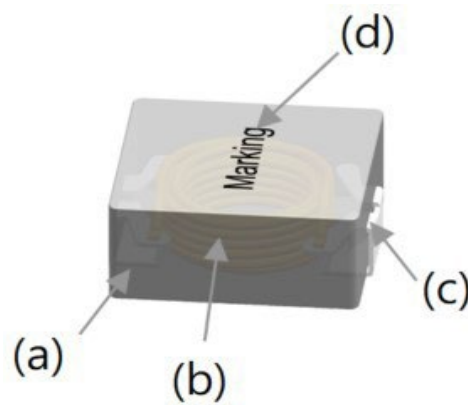


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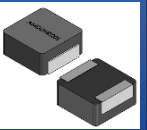
4.3 x 4.2 x 1.9 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Materials



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

# Molded Inductor (Carbonyl)



**AMPLH4020S**

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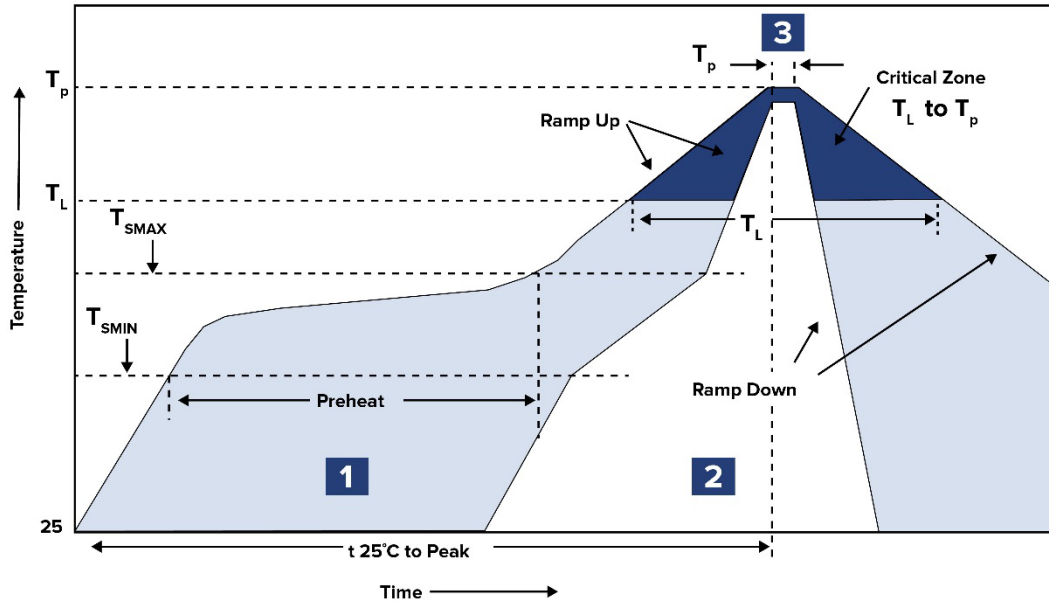


Check Inventory



4.3 x 4.2 x 1.9 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = 1

## Reflow Profile



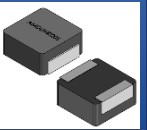
Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	$T_L$ $\geq 217^\circ\text{C}$	60 ~ 150 sec.
3	Peak heat	$T_P$ 260°C	30 sec. MAX

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

Ramp up rate: 3°C/Second max.

Ramp down rate: 6°C/Second max.

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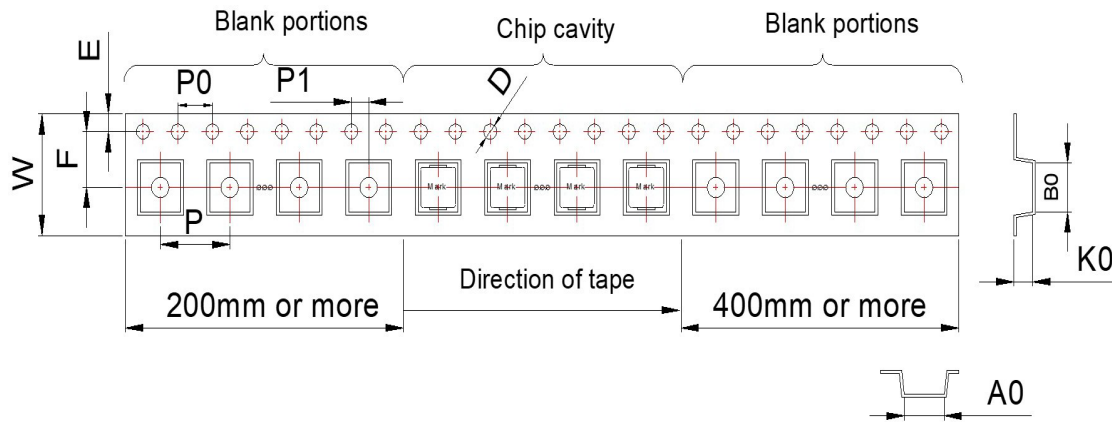
Check Inventory



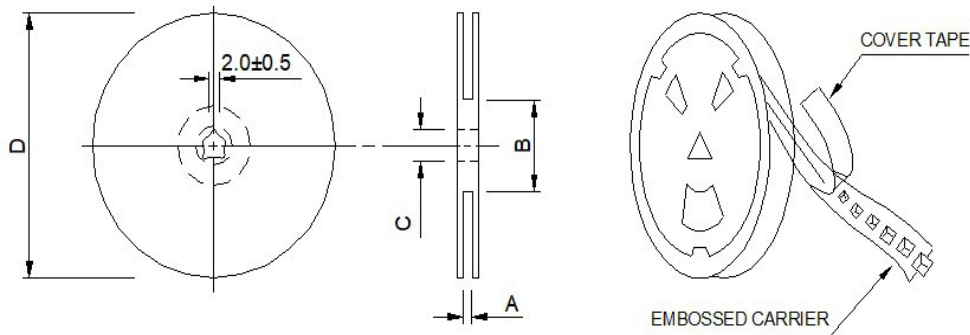
4.3 x 4.2 x 1.9 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = 1

## Packaging

**Tape & Reel: 3000 pcs/reel**



A0	B0	W	E	F	P	P0	P1	D	F	K0	E
4.6±0.1	4.9±0.1	12±0.3	1.75±0.1	5.5±0.1	8±0.1	4.0±0.1	2±0.1	1.5±0.1	5.5±0.1	2.3±0.1	1.75±0.1



Type	A	B	C	D
13" x 12mm	12.4+2.0/-0.0	100.0±2.0	13.0+0.5/-0.2	330.0±0.3

**Dimensions: mm**

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