

Molded Power Inductor



ASPI-0630HI Series

Request Samples



Check Inventory



7.2 x 6.6 x 3.0 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- High saturation current
- Low loss due to low DC resistance.
- Frequency application up to 3MHz.
- Low profile with max thickness 3.0mm.
- 100% lead free and meets RoHS standard.
- Suitable for reflow soldering.
- High reliability SMD package

Applications

- DC/DC converters
- Notebook/Laptop power circuitry
- Desktop, Workstation, Server power circuitry
- Low profile, high current power supplies.

Electrical Specifications

Part Number	Inductance	DCR		Saturation Current	Temperature Rise Current	Dim E
		Typ	Max			
Units	μ H	m Ω	m Ω	A	A	mm
Symbol	L			Isat	Irms	
ASPI-0630HI-R10M	0.10	1.15	1.7	60.0	32.5	2.0
ASPI-0630HI-R15M	0.15	1.35	2.5	52.0	26.0	2.0
ASPI-0630HI-R20M	0.20	2.45	3.0	41.0	24.0	3.0
ASPI-0630HI-R22M	0.22	2.45	2.8	40.0	23.0	3.0
ASPI-0630HI-R33M	0.33	3.1	3.9	30.0	20.0	3.0
ASPI-0630HI-R47M	0.47	4.0	4.2	26.0	17.5	3.0
ASPI-0630HI-R56M	0.56	4.8	5.0	25.5	16.5	3.0
ASPI-0630HI-R68M	0.68	4.95	5.5	25.0	15.5	3.0
ASPI-0630HI-R82M	0.82	7.15	8.0	24.0	13.0	3.0
ASPI-0630HI-1R0M	1.0	9.3	10.0	22.0	11.0	3.0
ASPI-0630HI-1R2M	1.2	11.6	13.0	20.0	10.0	3.0
ASPI-0630HI-1R5M	1.5	13.5	15.0	18.0	9.0	3.0
ASPI-0630HI-1R8M	1.8	14.9	18.0	16.0	8.5	3.0
ASPI-0630HI-2R2M	2.2	18.3	20.0	14.0	8.0	3.0
ASPI-0630HI-3R3M	3.3	28.0	30.0	13.5	6.0	3.0
ASPI-0630HI-4R7M	4.7	38.0	40.0	10.0	5.5	3.0
ASPI-0630HI-5R6M	5.6	46.9	50.0	9.0	5.0	3.0
ASPI-0630HI-6R8M	6.8	54.8	60.0	8.0	4.5	3.0
ASPI-0630HI-8R2M	8.2	61.5	68.0	7.5	4.0	3.0
ASPI-0630HI-100M	10.0	102.5	105.0	7.0	3.0	3.0

ASPI-0630HI is RoHS/RoHS II Compliant and Pb free

MSL level: 1



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Test Conditions

1. Temperature: $26^{\circ}\text{C} \pm 3^{\circ}\text{C}$, Humidity: $< 70\% \text{ RH}$, Frequency $100\text{KHz}/0.25\text{v}$
2. Inductance is measured in HP-4284A Precision LCR Meter.
3. RDC is measured in HP-4338B milli ohm meter.(or equivalent).
4. Isat: Based on inductance change ($\Delta L/L_0 : \leq -20\%$)
5. Irms: Based on temperature rise ($\Delta T : 40^{\circ}\text{C TYP.}$)

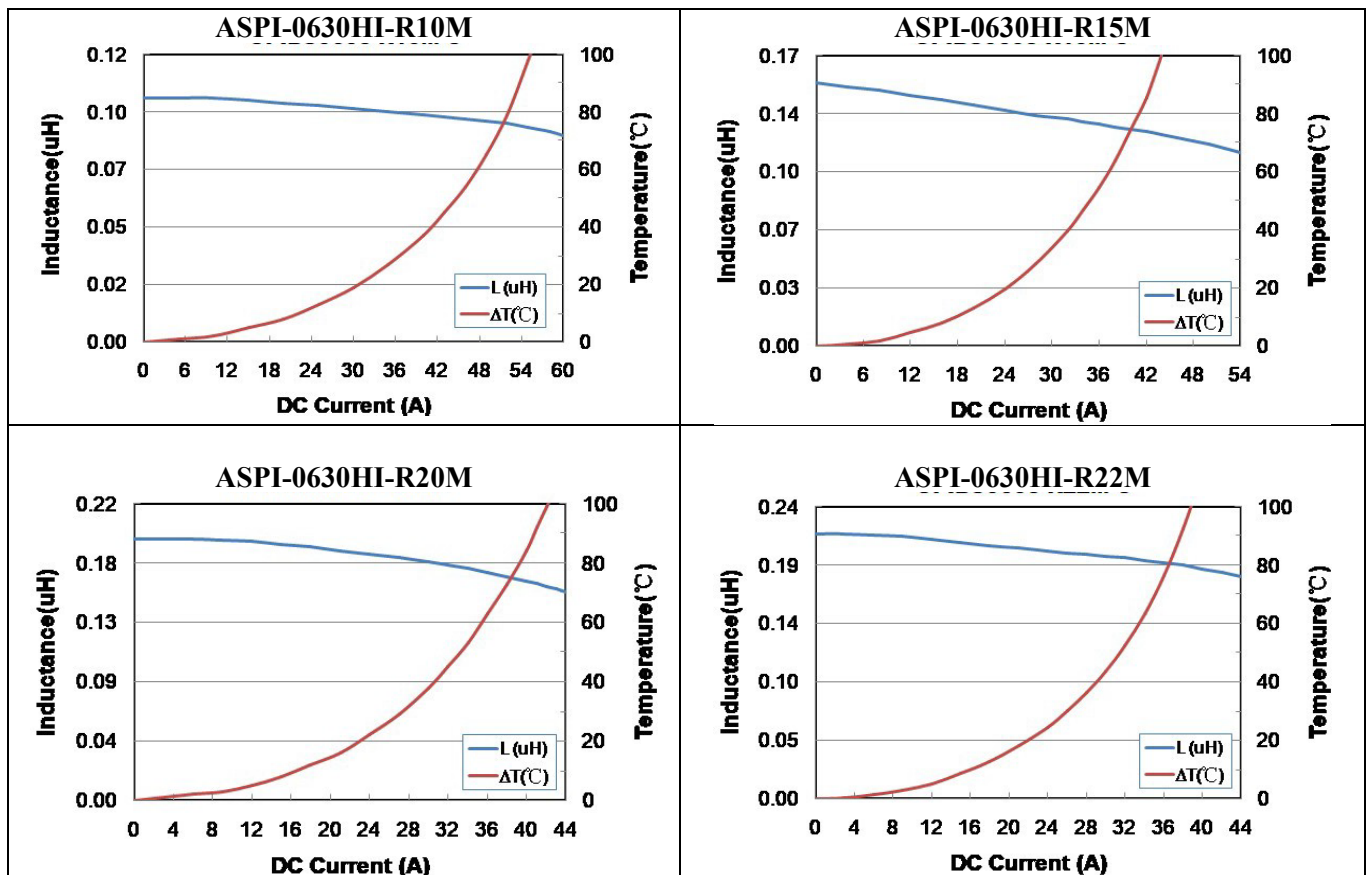
Operating Temperature

-55°C to $+125^{\circ}\text{C}$ (Including self-generated heat)

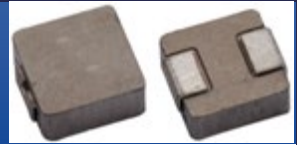
Storage Temperature and Humidity

$+25^{\circ}\text{C}$ to $+35^{\circ}\text{C}$, 45% to 85% RH

Typical Performance Graphs



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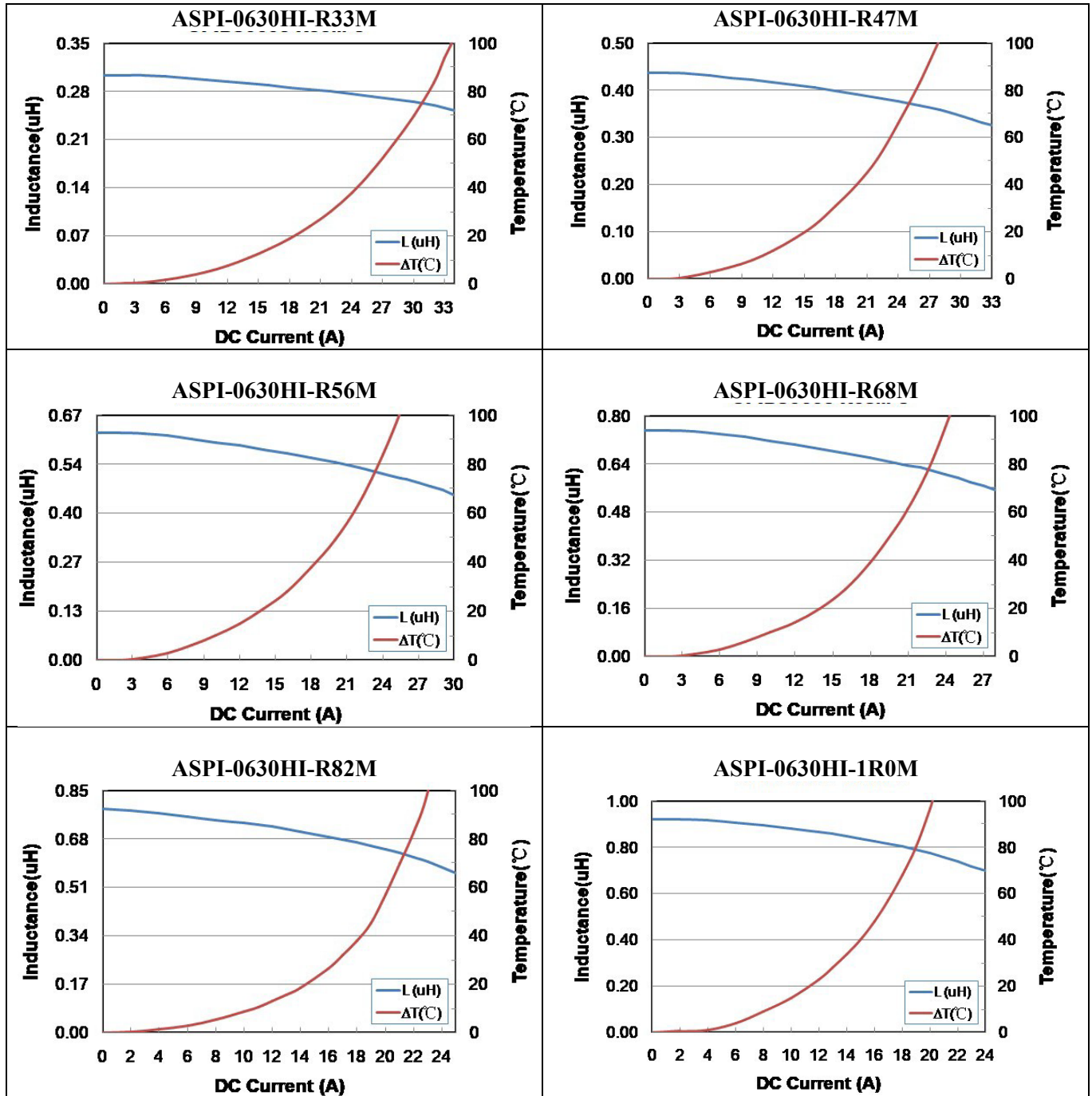
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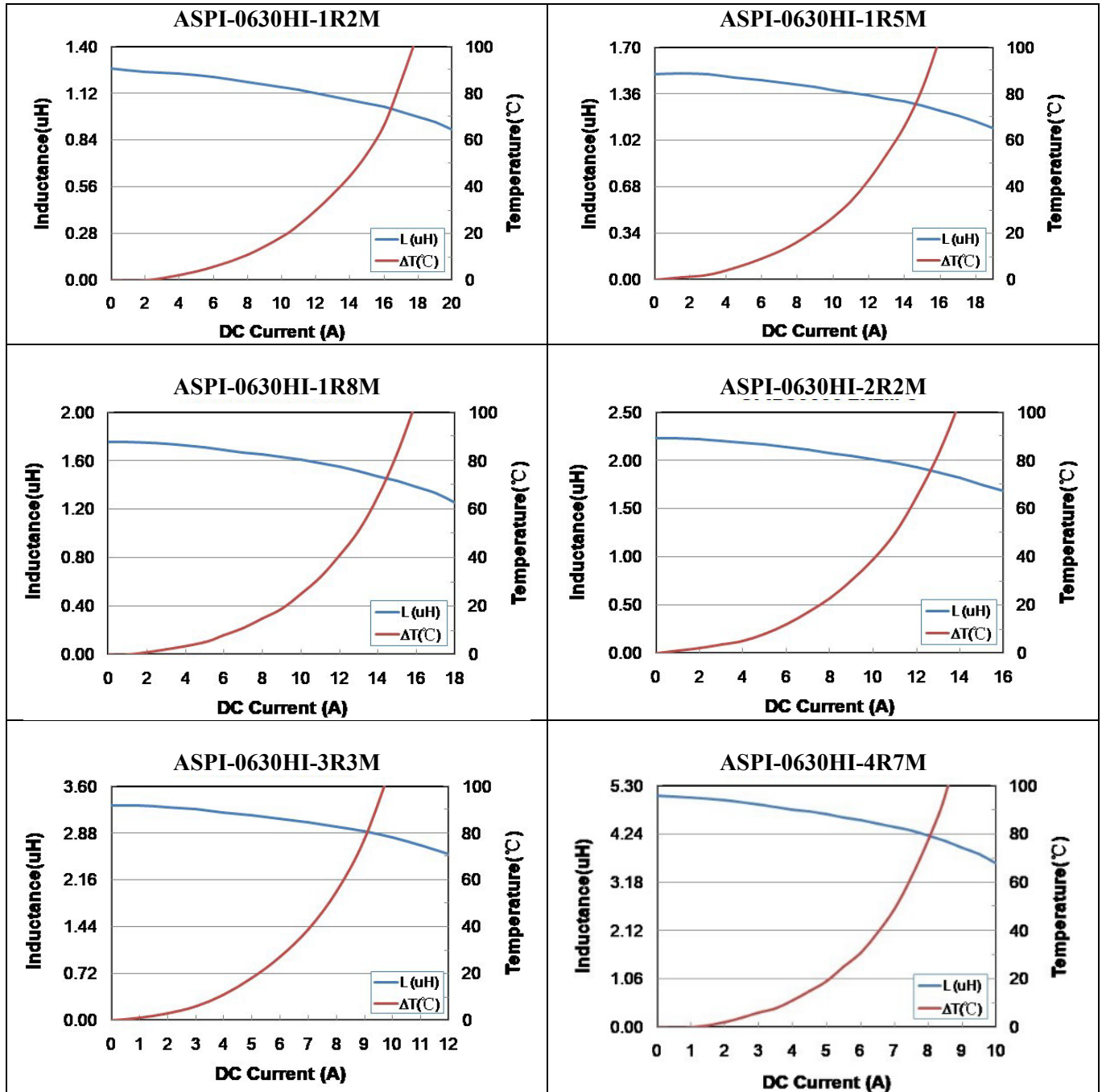
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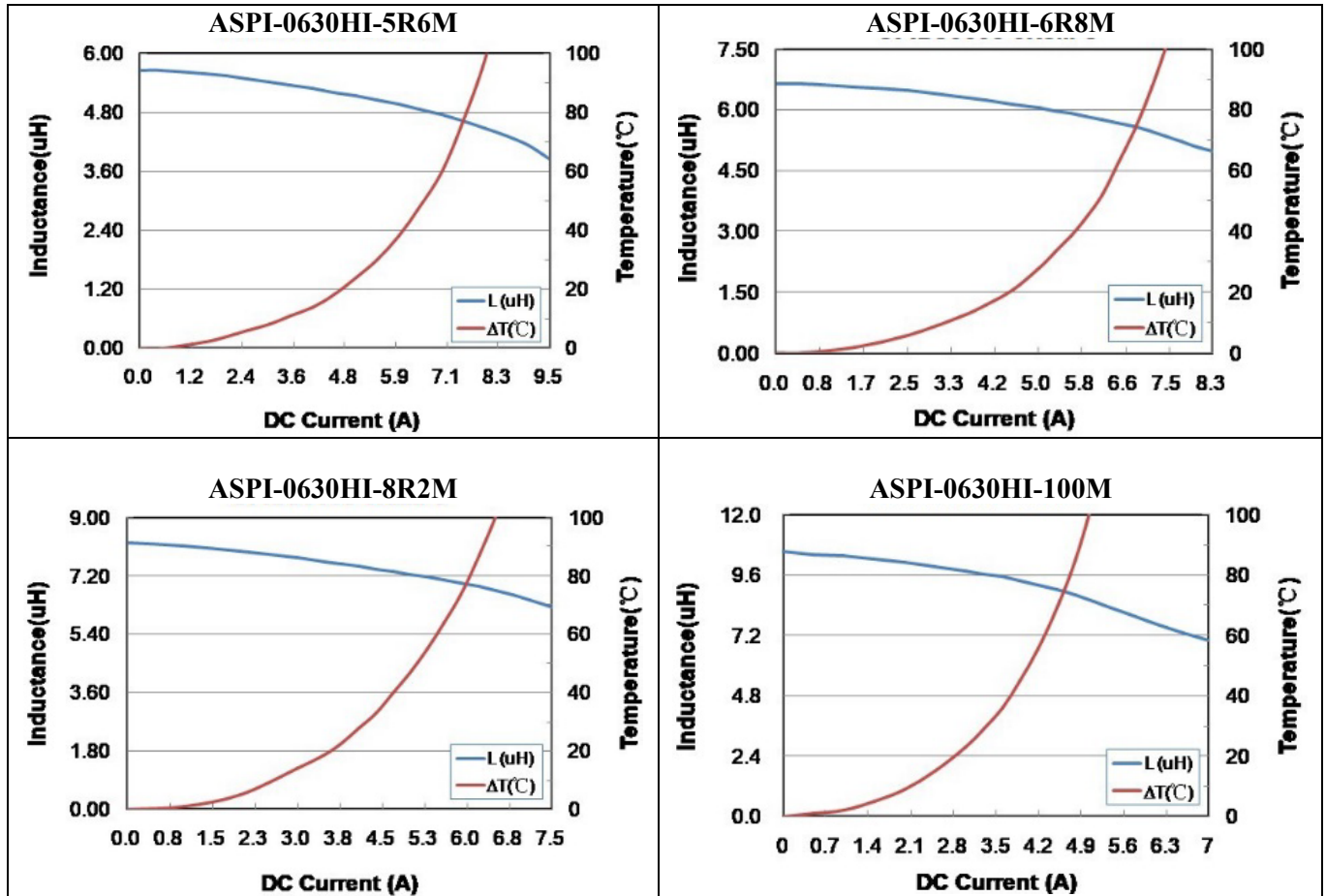
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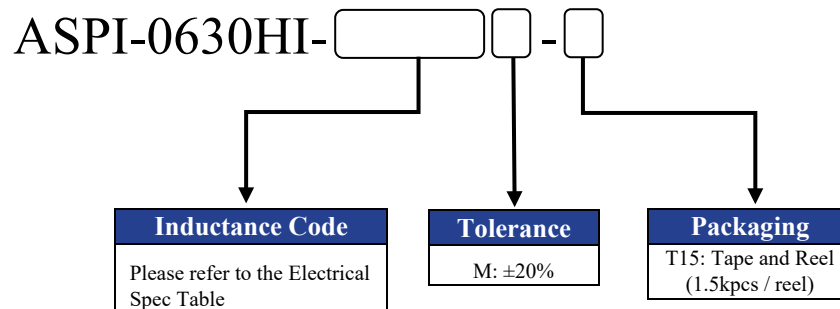
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Part Number Identification



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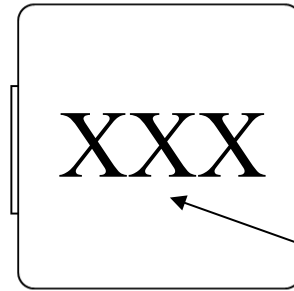


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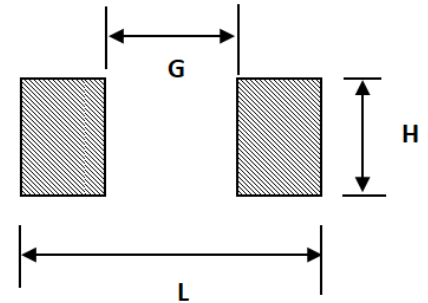
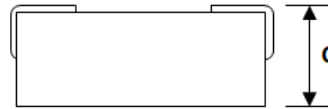
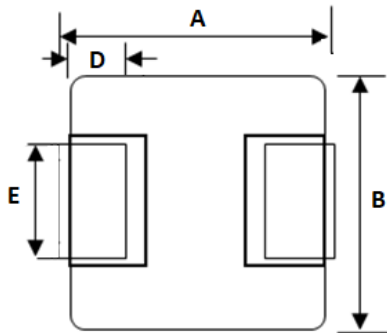
Marking



Inductance Code
 e.g. 2R2

Marking Method = Ink Marking

Mechanical Specifications



Recommended Layout

A	B	C	D	E	G	H	L
7.2 ±0.3	6.60 ±0.3	3.0 MAX	1.6 ±0.3	See Electrical Specs table	3.7	3.5	8.0

Dimension: mm



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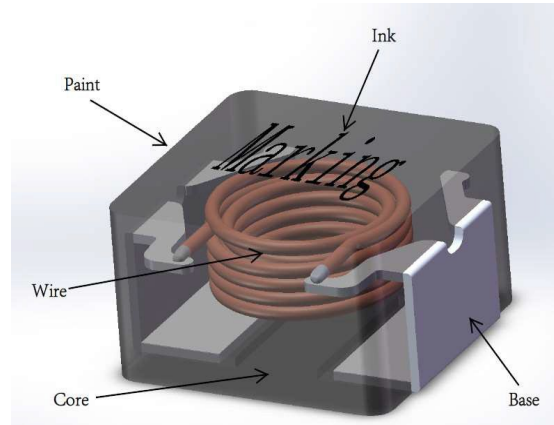
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Materials List

No	Part Name	Material
1	Core	Metal powder
2	Base	Cu + Ni + Sn plating
3	Wire	Copper wire, EIW Class
4	Marking	Ink(black)
5	Paint	Epoxy resin



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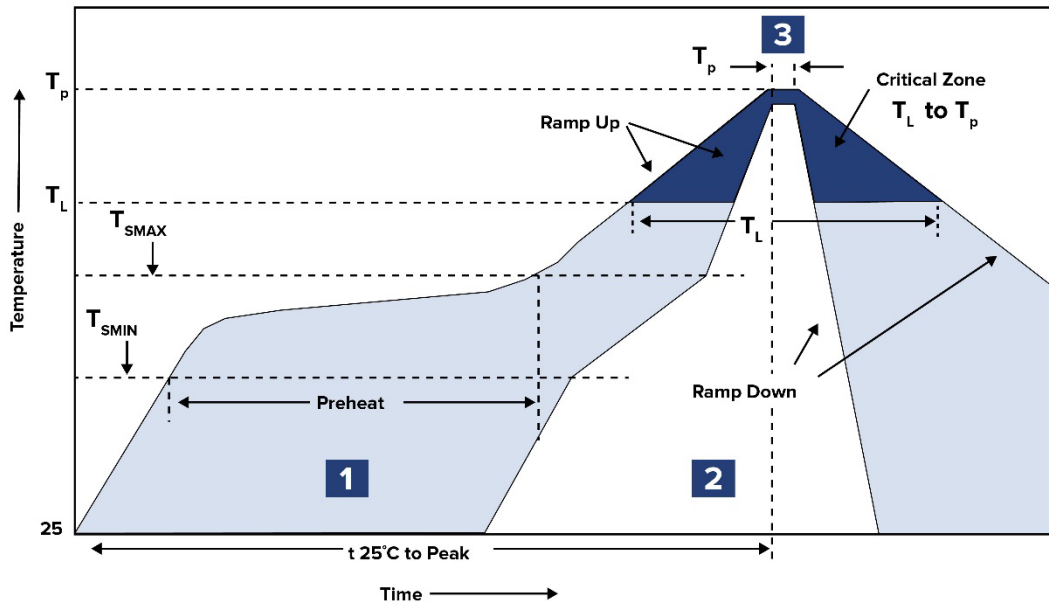


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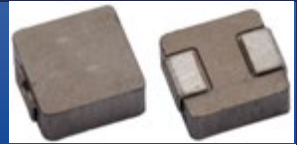
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Reflow Profile



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 ~ 90 sec.
3	Peak heat	T_P 255°C±5°C	10 sec. MAX

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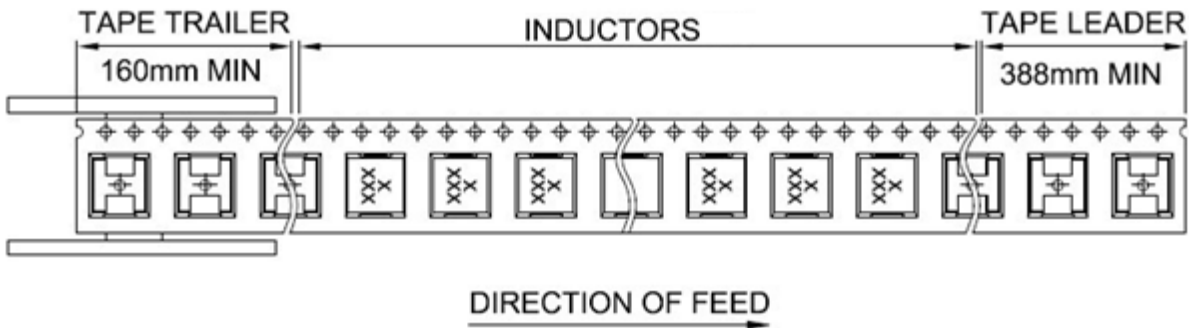
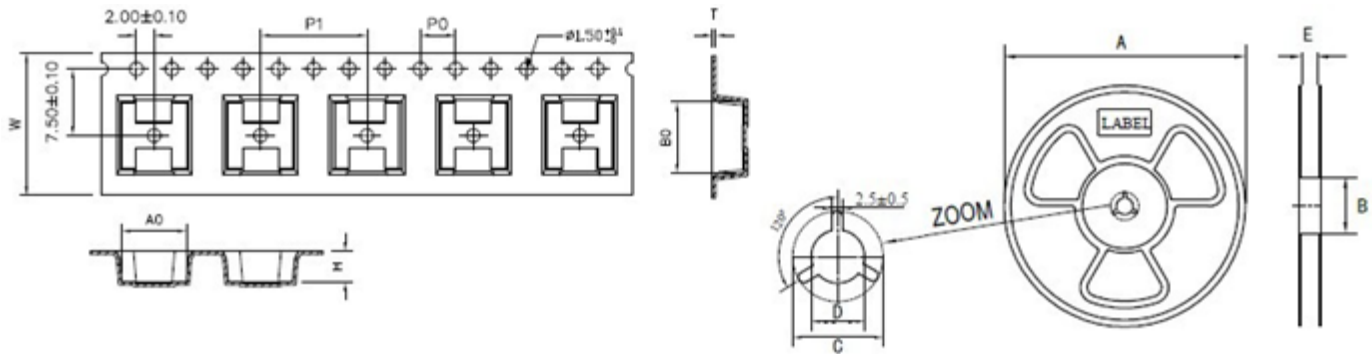
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Packaging

T15: 1,500pcs / reel



Part Number	Reel Dimensions (mm)				
	A	B	C	D	E
ASPI-0630HI	330 ±1	100 ±0.5	20.2 min	13 +0.5/-0	16.4 +2/-0

Part Number	Tap Dimensions (mm)						
	W	P1	P0	H	T	A0	B0
ASPI-0630HI	16 ±0.3	12 ±0.1	4.0 ±0.1	3.4 ±0.1	0.30 ±0.05	6.9 ±0.1	6.0 ±0.1

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