

Molded SMD Power Inductor



ASPIAIG-F5020 Series

Request Samples



Check Inventory



6.0 x 5.7 x 1.9 mm

RoHS/RoHS II Compliant

MSL Level = 1

Features

- PPAP ready and supported
- TS16949 certified production lines
- AEC-Q200 qualified
- Excellent current capacity – up to 27A
- Exceptionally low DCR – only 4.6mΩ
- Soft saturation
- Low profile for compact designs
- Shielded constructions for low EMI

Applications

- Automotive grade 0 and electric vehicles
- ADAS and body electronics
- Infotainment systems
- Lighting
- Motor control
- Solar inverters and solar power
- DC/DC converters in distributed power systems
- Battery powered device

Electrical Specifications

Part Number	Inductance	Tolerance	DC Resistance	Saturation Current	Temperature Rise Current
	0.1MHz/0.1V		Max	Max	Max
Units	μH	%	mΩ	A	A
Symbol	L	M	DCR	Isat	Irms
ASPIAIG-F5020-R15	0.15	20%	4.60	27.0	18.8
ASPIAIG-F5020-R16	0.16	20%	4.60	27.0	18.8
ASPIAIG-F5020-R33	0.33	20%	7.00	24.0	14.4
ASPIAIG-F5020-R47	0.47	20%	8.05	20.0	14.1
ASPIAIG-F5020-R56	0.56	20%	9.54	16.0	13.9
ASPIAIG-F5020-R68	0.68	20%	10.2	14.0	13.4
ASPIAIG-F5020-R80	0.80	20%	11.8	13.5	13.0
ASPIAIG-F5020-R82	0.82	20%	12.7	13.0	12.0
ASPIAIG-F5020-1R0	1.00	20%	13.8	12.8	10.5
ASPIAIG-F5020-1R2	1.20	20%	16.3	12.2	9.40
ASPIAIG-F5020-1R5	1.50	20%	18.7	11.7	8.80

Test Conditions

Isat: Current at which the inductance drops 30% from its initial value

Irms: Current at which the temperature rises (ΔT , approximate 40 °C) from 20°C ambient

Operating Temperature: -55°C ~ +155°C (including self-temperature rise)

Storage Condition: -55°C ~ +155°C and R.H. 60% max (on PCB)

ASPIAIG-F5020 Series is RoHS Compliant and Pb free

ASPIAIG-F5020 Series is AEC-Q200 Grade 0 qualified (-55°C ~ +155°C ambient)

Operating Voltage: 40V

MSL level: 1



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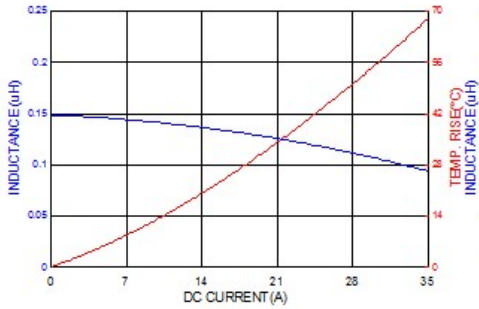


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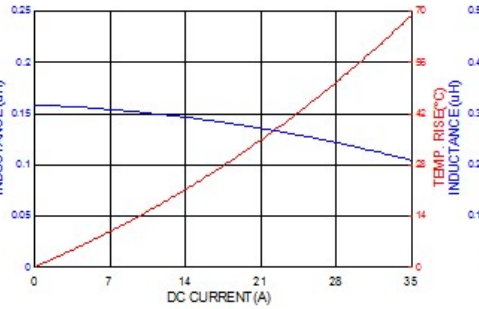
RoHS/RoHS II Compliant

MSL Level = 1

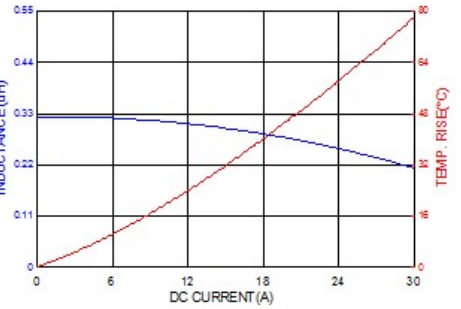
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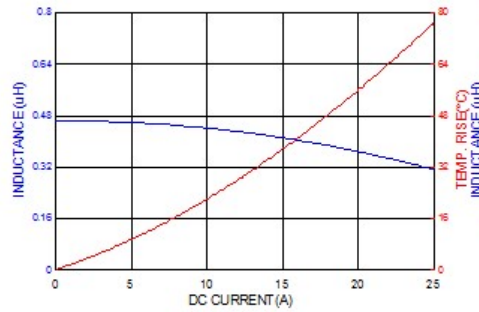
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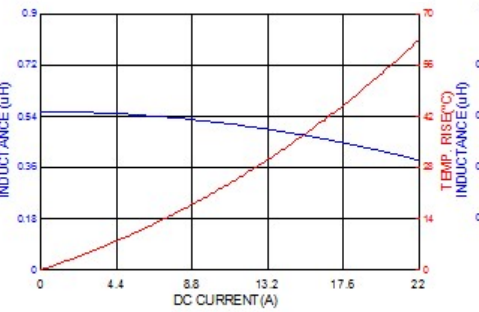
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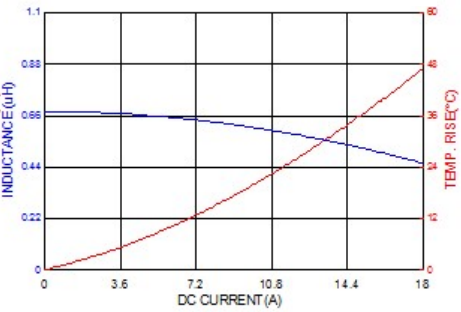
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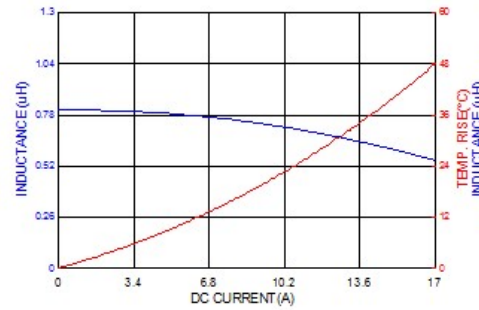
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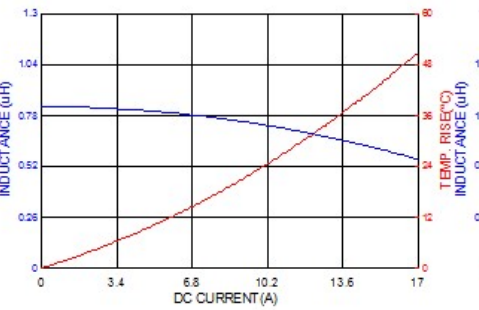
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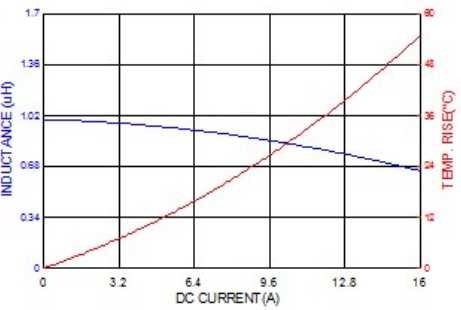
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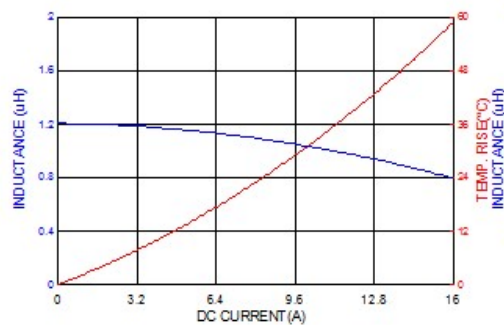
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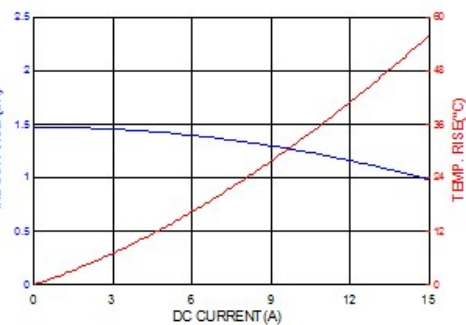
ASPIAIG-F5020-1R0



ASPIAIG-F5020-1R2



ASPIAIG-F5020-1R5



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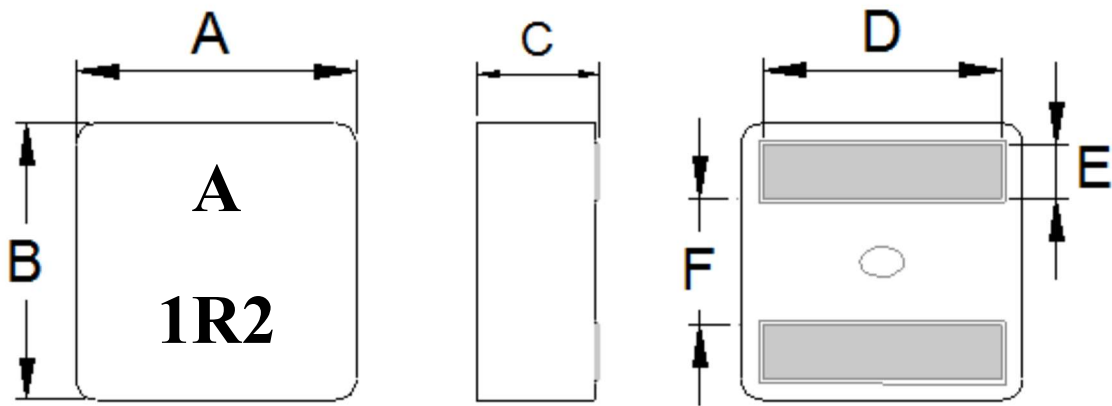


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RoHS/RoHS II Compliant

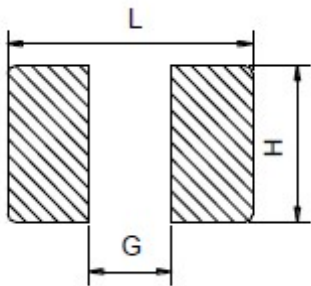
MSL Level = 1

Mechanical Specifications



Series	A	B	C	D	E	F
ASPIAIG-F5020	6.0 ± 0.2	5.7 ± 0.2	1.9 ± 0.2	4.3 ± 0.3	1.1 ± 0.2	2.3 ± 0.25

Recommended Land Pattern



L Typ.	G Typ.	H Typ.
4.5	2.0	4.7

Dimension: mm

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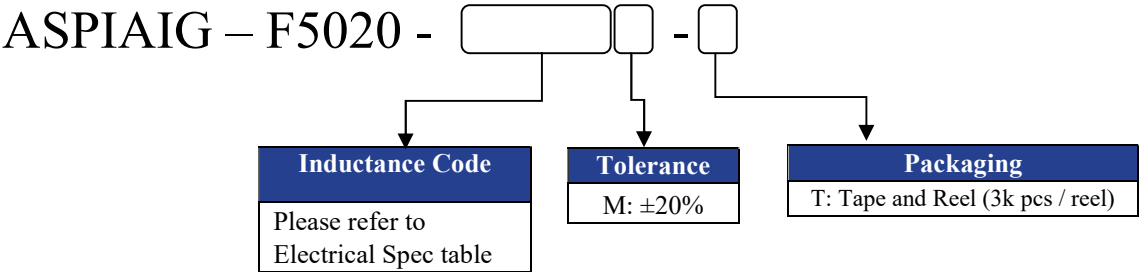


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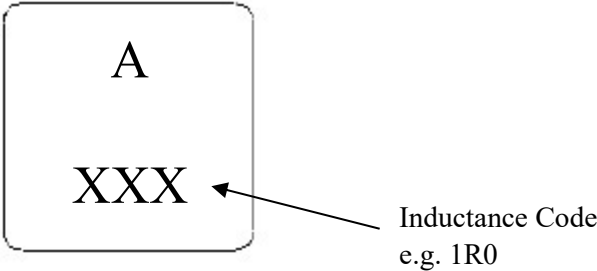
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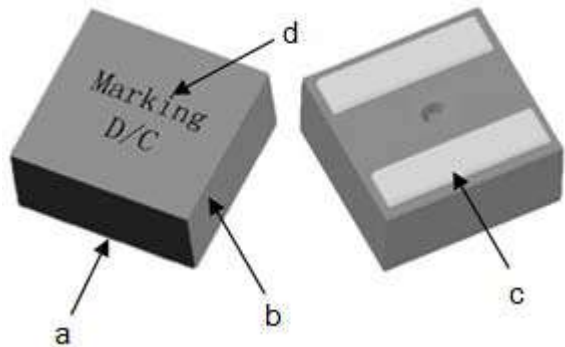
Part Identification



Marking



Materials



	Components	Material
a	Core	Alloy powder
b	Wire	220 deg. C Flat Wire
c	Solder	100% Pb free solder
d	Ink	Halogen-free ketone

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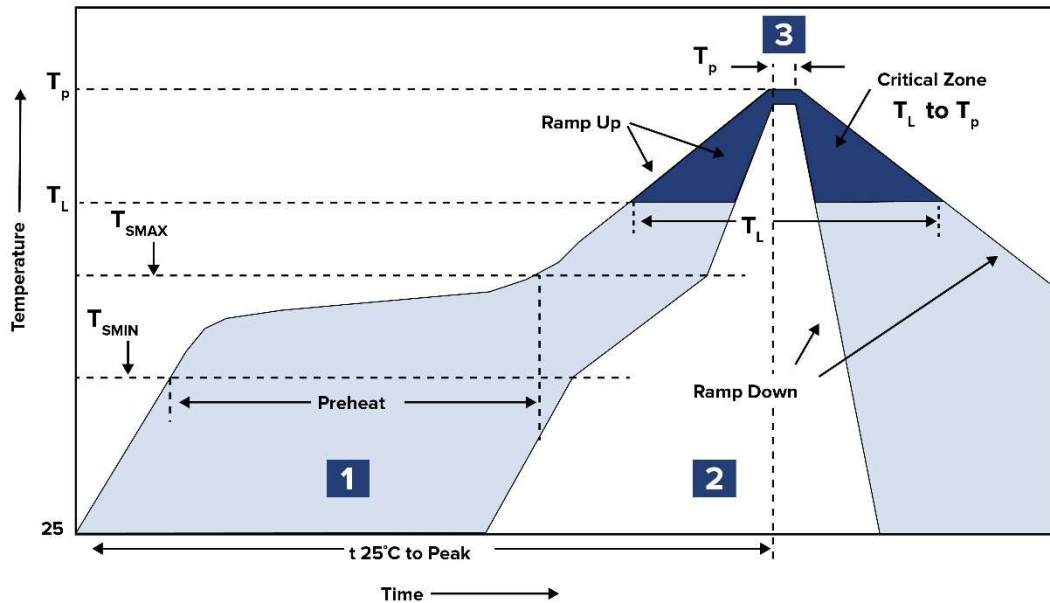


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RoHS/RoHS II Compliant

MSL Level = 1

Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 180 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak heat	T_p 260°C	10 sec. MAX

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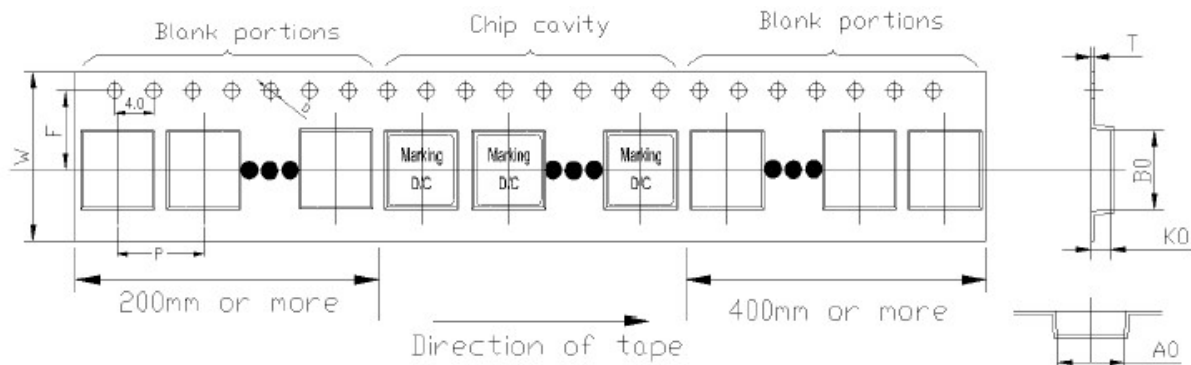
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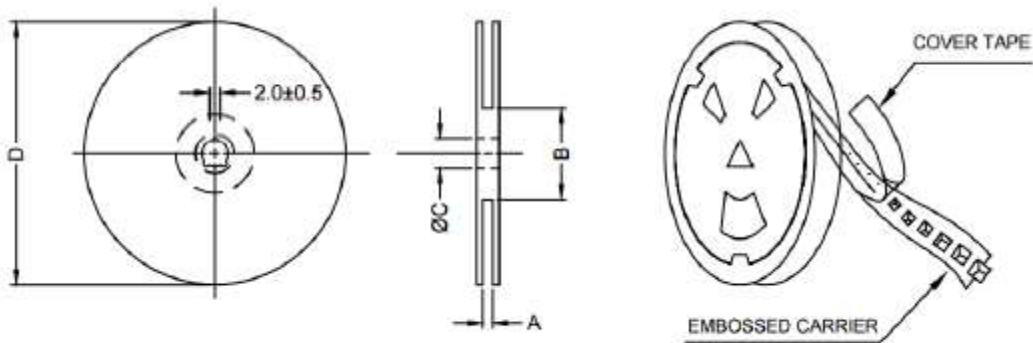
MSL Level = 1

Packaging (Tape & Reel)

ASPIAIG-F5020: 3000pcs / reel



Series	W	F	P	D	A ₀	B ₀	T	K ₀
ASPIAIG-F5020	12.0 ± 0.3	7.5 ± 0.1	8.0 ± 0.1	1.5 ± 0.1	5.7 ± 0.1	6.0 ± 0.1	0.35 ± 0.05	2.3 ± 0.1



A	B	C	D
12.4+2/-0	100 ± 2	13.0+0.5/-0.2	330

Dimension: mm

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