

AUTOMOTIVE GRADE MOLDED POWER INDUCTOR: ULTRA LOW DCR & HIGH CURRENT



ASPIAIG-Q(LR)4020

4.1 x 4.1 x 1.9 mm
MSL = 1

RoHS/RoHS II Compliant

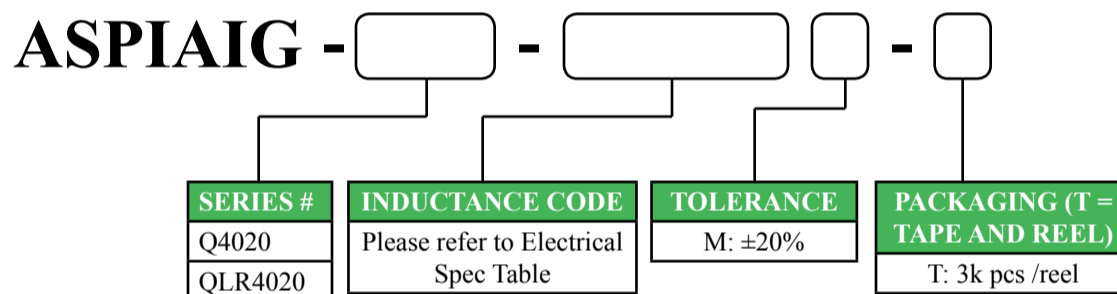
FEATURES

- PPAP ready and supported
- TS-16949 production certified lines
- AEC-Q200 qualified
- Molded wire-wound construction with shielding
- High current up to 18A rms
- High saturation current up to 33A
- High inductance up to 4.7 μ H
- Low DCR down to 2.4 m Ω
- Low profile 2.1mm MAX for height restricted applications
- Compact 4.1x4.1mm footprint
- Wide operating temperature range -55 $^{\circ}$ C ~ +155 $^{\circ}$ C

APPLICATIONS

- Automotive and extended temperature industrial
- Body electronics and comfort system
- Infotainment and entertainment
- Electric vehicles
- Power Tools
- Lighting
- Solar inverters and power
- Industrial and robotics
- Medium and high power switch mode power supplies
- Point of load (POL) applications
- Motor control and motor drivers
- Heavy machinery and transportation

OPTIONS AND PART IDENTIFICATION



ELECTRICAL SPECIFICATIONS

OPERATING TEMPERATURE	STORAGE CONDITION
-55 $^{\circ}$ C ~ +155 $^{\circ}$ C (including self-temperature rise)	-20 $^{\circ}$ C ~ +40 $^{\circ}$ C and 60% RH (Component in its packaging)

PART NUMBER	INDUCTANCE	TOLERANCE	DC RESISTANCE	SATURATION CURRENT	TEMPERATURE RISE CURRENT
	0.1MHz/0.1V		Max	Max	Typ
UNITS	μ H	%	m Ω	A	A
SYMBOL	L	M	DCR	Isat	Irms
ASPIAIG-Q4020-R10	0.10	20%	2.42	33.0	18.0
ASPIAIG-Q4020-R22	0.22	20%	4.60	18.8	16.8
ASPIAIG-Q4020-R36	0.36	20%	6.30	15.0	14.5
ASPIAIG-Q4020-R40	0.40	20%	7.73	13.5	14.0
ASPIAIG-Q4020-R56	0.56	20%	9.30	12.6	12.0
ASPIAIG-Q4020-R60	0.60	20%	9.52	12.3	11.7
ASPIAIG-Q4020-R72	0.72	20%	11.60	10.6	10.5
ASPIAIG-Q4020-1R0	1.00	20%	14.60	8.8	9.6
ASPIAIG-Q4020-1R2	1.20	20%	17.90	7.8	9.0
ASPIAIG-Q4020-1R5	1.50	20%	23.50	7.4	7.6
ASPIAIG-Q4020-1R8	1.80	20%	28.00	7.0	7.0
ASPIAIG-Q4020-2R2	2.20	20%	38.70	6.0	5.6

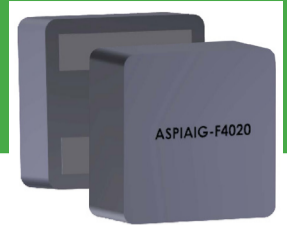
REVISED: 09.28.2017



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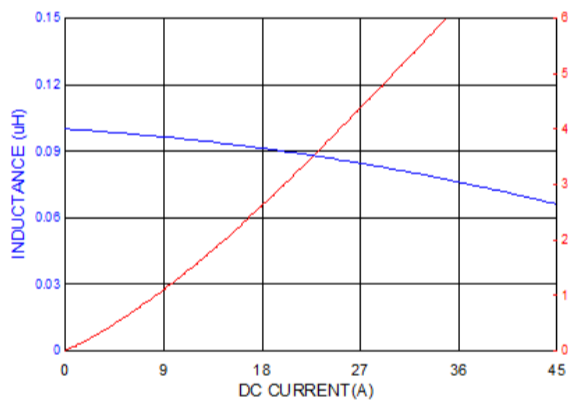
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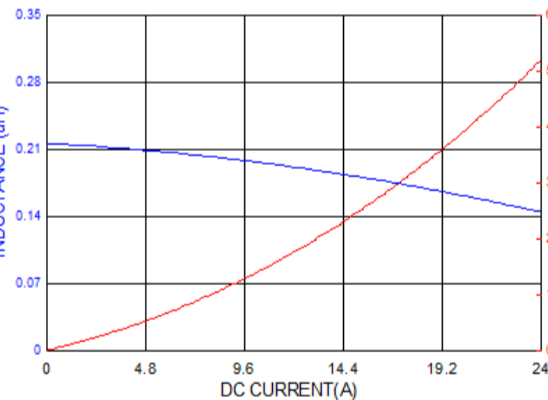
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	0.1MHz/0.1V		Max	Max	Typ
UNITS	μH	%	m Ω	A	A
SYMBOL	L	M	DCR	Isat	Irms
ASPIAIG-QLR4020-R47	0.47	20%	6.8	12.5	13.2
ASPIAIG-QLR4020-R68	0.68	20%	8.2	10.0	12.0
ASPIAIG-QLR4020-R82	0.82	20%	9.5	9.0	11.5
ASPIAIG-QLR4020-1R0	1.00	20%	11.7	8.0	11.0
ASPIAIG-QLR4020-1R2	1.20	20%	13.4	7.5	9.5
ASPIAIG-QLR4020-1R5	1.50	20%	15.8	6.7	9.1
ASPIAIG-QLR4020-2R0	2.00	20%	23.3	5.0	8.2
ASPIAIG-QLR4020-2R2	2.20	20%	23.5	4.8	8.0
ASPIAIG-QLR4020-3R3	3.30	20%	38.3	4.4	5.5
ASPIAIG-QLR4020-4R7	4.70	20%	57.2	3.5	5.1

ELECTRICAL CHARACTERISTICS

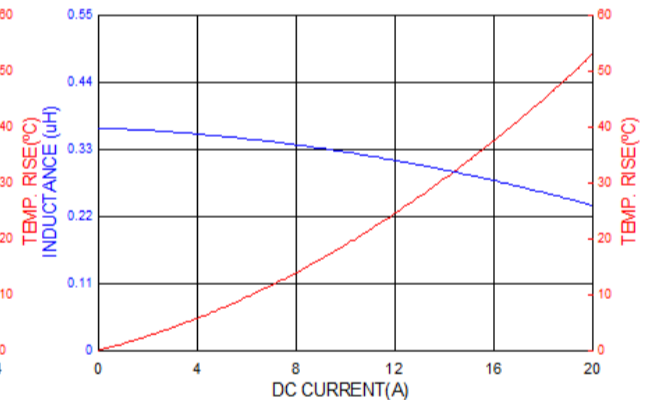
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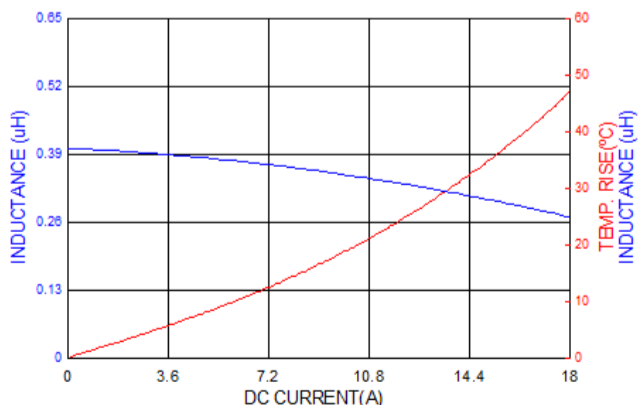
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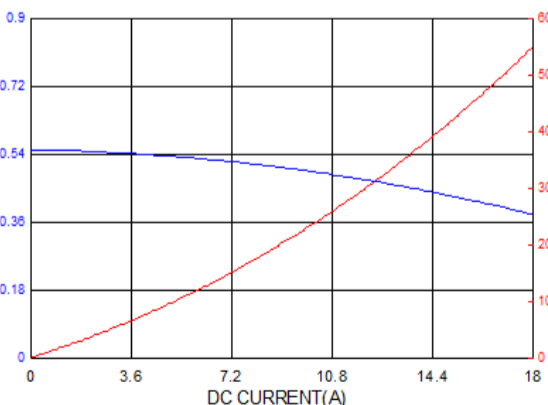
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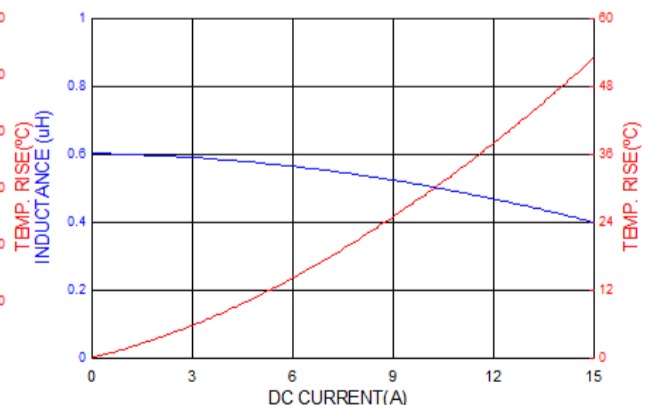
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ASPIAIG-Q4020-R56



ASPIAIG-Q4020-R60



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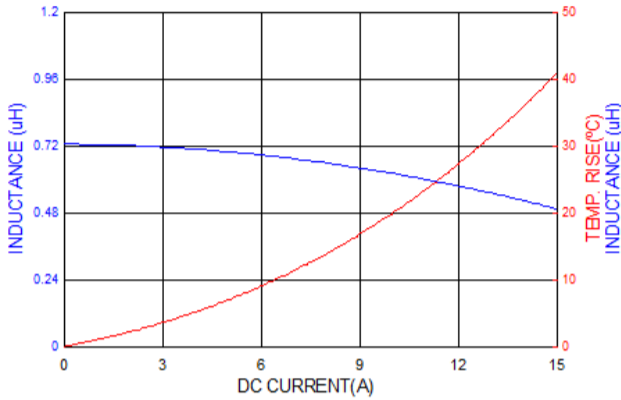
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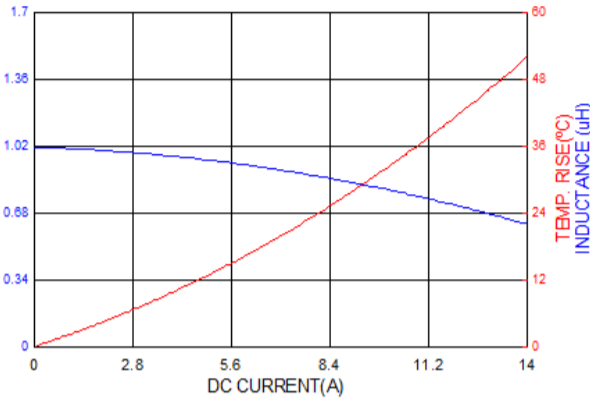
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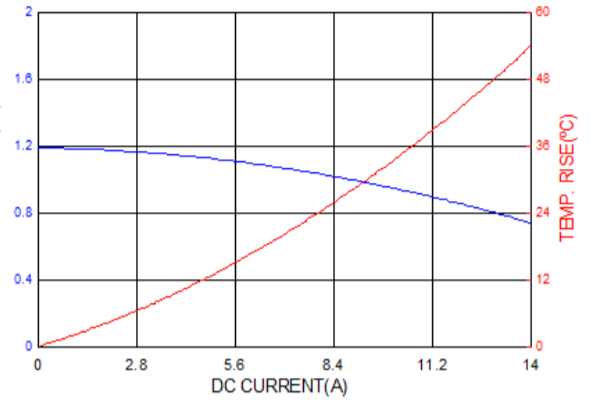
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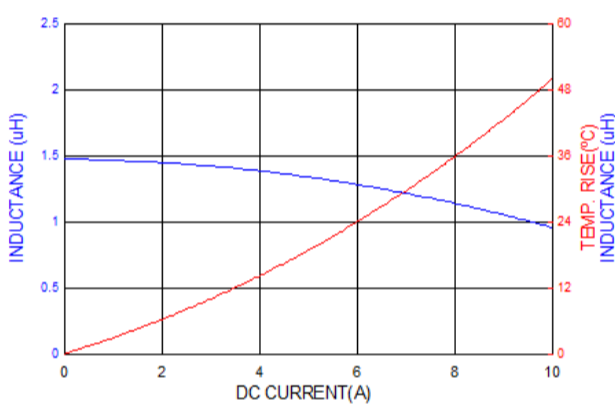
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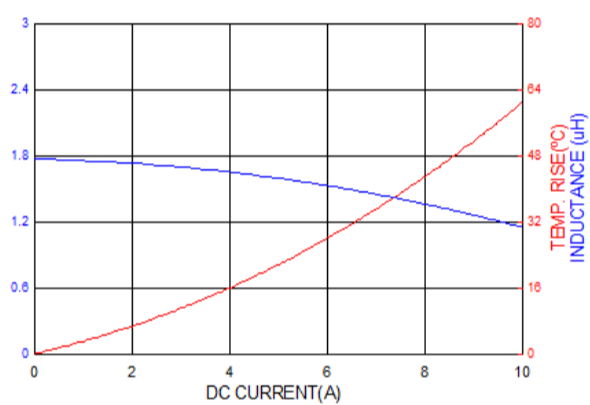
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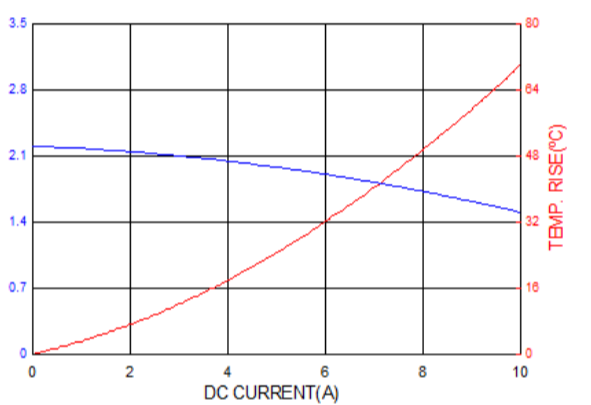
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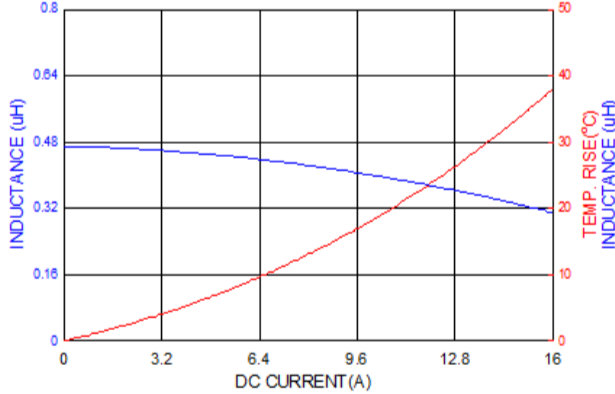
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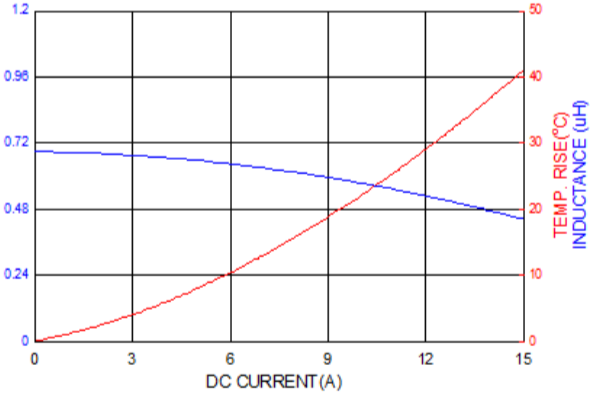
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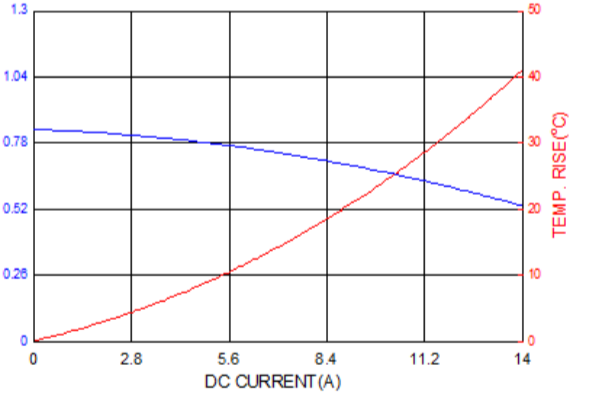
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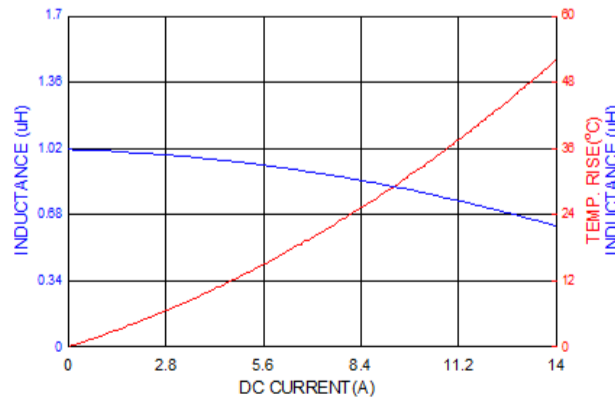
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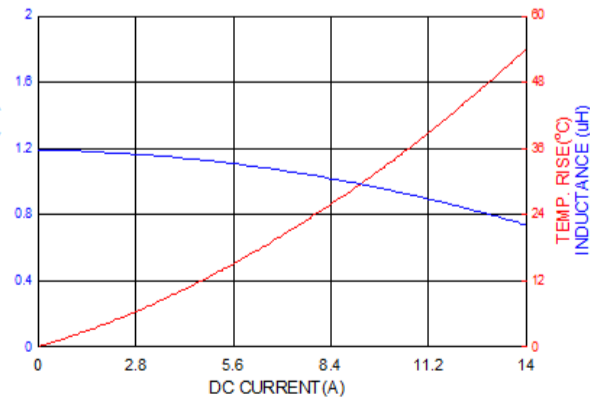
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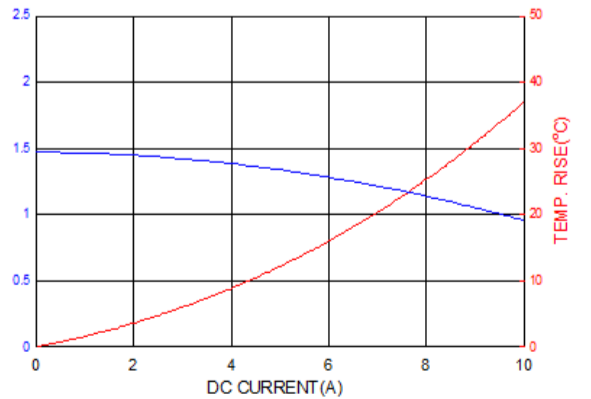
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ASPIAIG-QLR4020-1R2



ASPIAIG-QLR4020-1R5



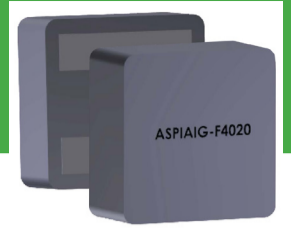
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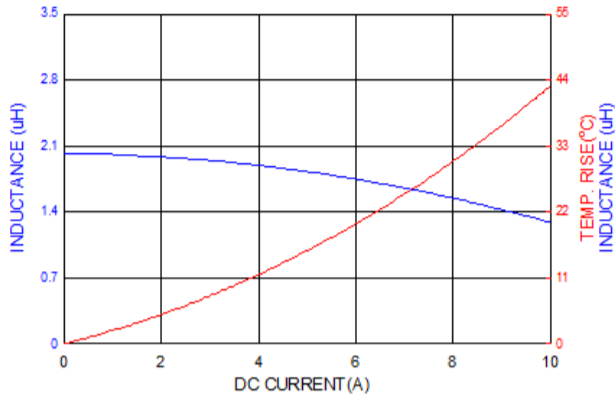
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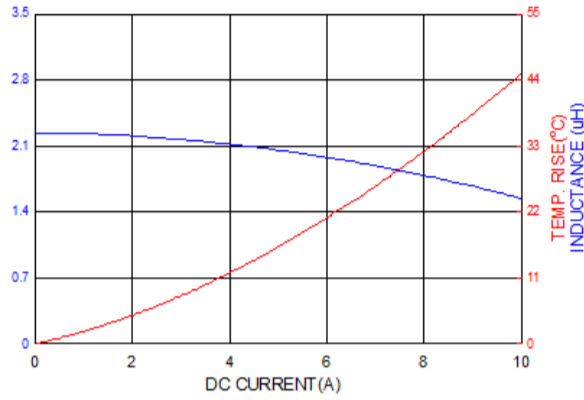
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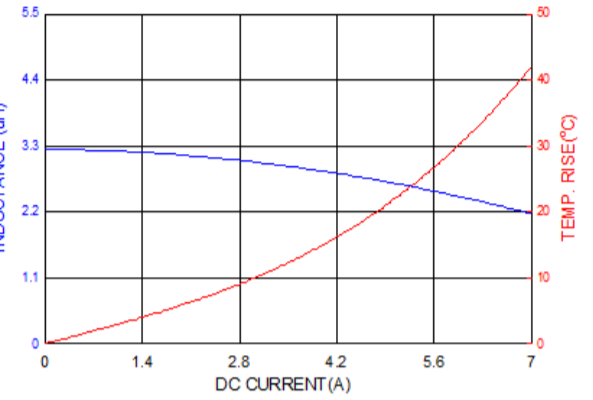
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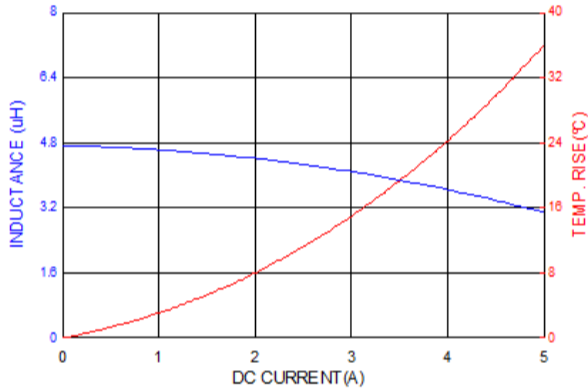
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ASPIAIG-QLR4020-3R3

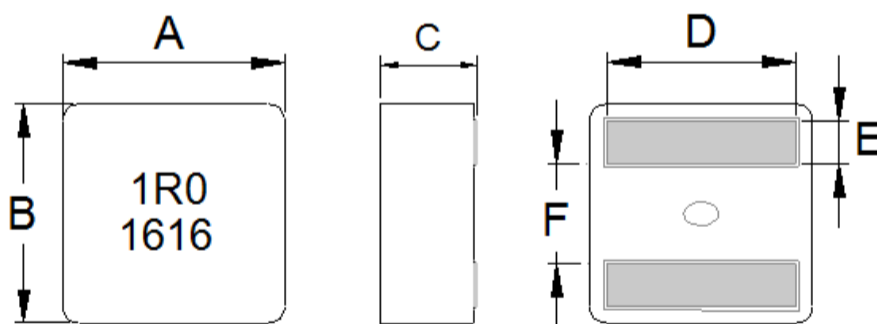


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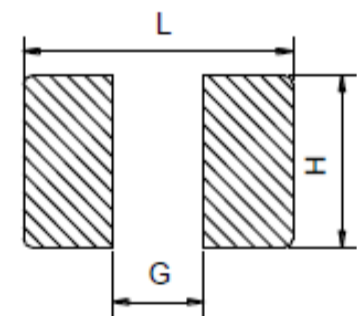


MECHANICAL DIMENSIONS

For both QLR and Q Series



A	B	C	D	E	F
4.1 ± 0.2	4.1 ± 0.2	1.9 ± 0.2	3.4 ± 0.3	0.88 ± 0.2	1.6 ± 0.25



L TYP.	G TYP.	H TYP.
3.4	1.4	3.8

Dimension: mm

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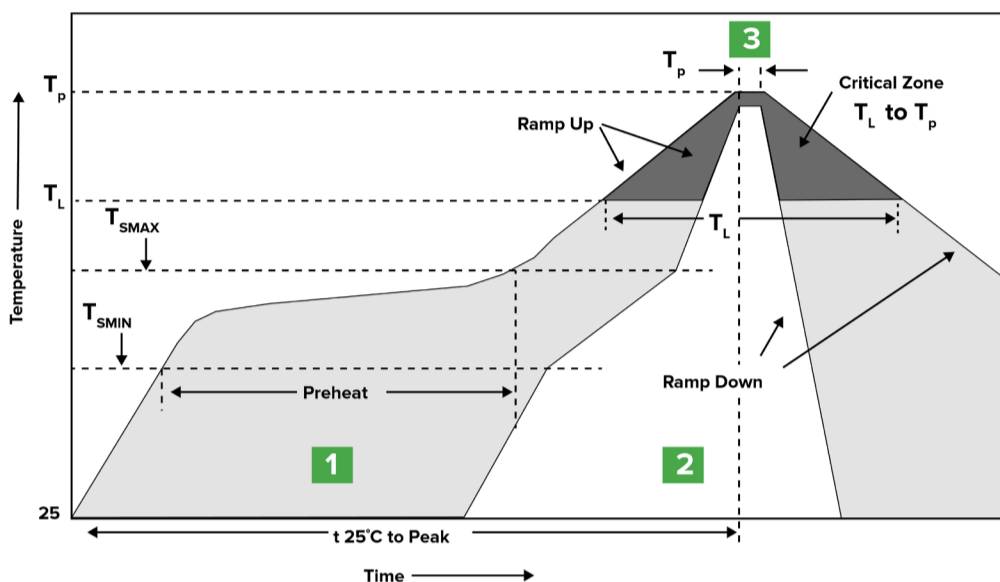


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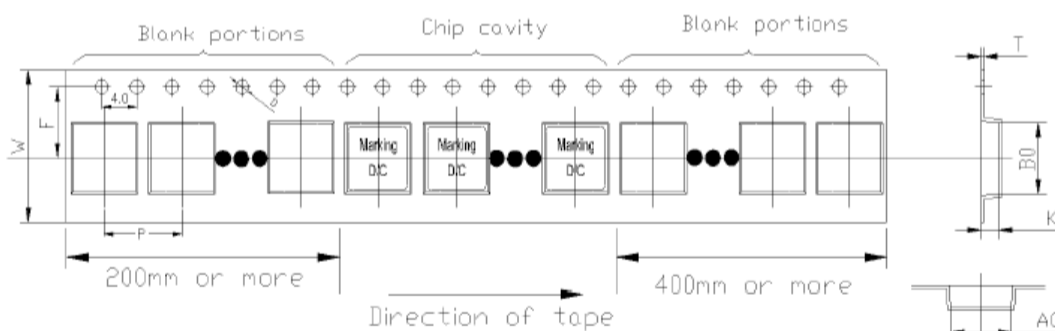
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REFLOW

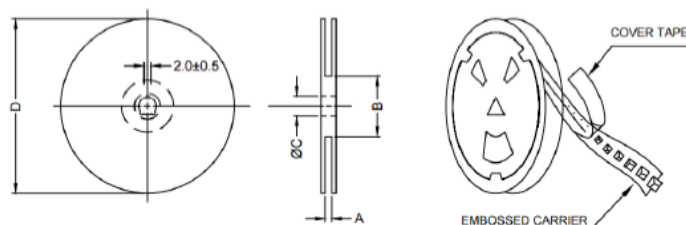


Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 180 sec.
2	Reflow	T_L 217°C	60 ~ 150 sec.
3	Peak heat	T_P 260°C	10 sec. MAX

PACKING (TAPE & REEL: 3000 PCS/REEL)



W	F	P	D	A ₀	B ₀	T	K ₀
12.0±0.3	5.5±0.1	8.0±0.1	1.5±0.1	4.4±0.1	4.4±0.1	0.35±0.1	2.3±0.1



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

Dimension: mm