

# Molded SMD Power Inductor



## ASPIAIG-F1265 Series

Request Samples



Check Inventory



13.5 x 12.5 x 6.2 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 118A
- Exceptionally low DCR – only 0.6mΩ
- Soft saturation
- Low profile for compact designs
- Shielded constructions for low EMI

### Applications

- Automotive grade 1 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	Type
	0.1MHz/1.0V		Max	Typ	Typ	
Units	μH	%	mΩ	A	A	
Symbol	L	M	DCR	Isat	Irms	
ASPIAIG-F1265-R15	0.15	20%	0.6	118	55	Non-Lead Frame
ASPIAIG-F1265-R22	0.22	20%	0.6	112	53	Non-Lead Frame
ASPIAIG-F1265-R30	0.30	20%	0.72	72	48	Non-Lead Frame
ASPIAIG-F1265-R33	0.33	20%	0.8	68	46	Non-Lead Frame
ASPIAIG-F1265-R36	0.36	20%	0.9	66	45	Non-Lead Frame
ASPIAIG-F1265-R40	0.40	20%	1	64	44	Non-Lead Frame
ASPIAIG-F1265-R47	0.47	20%	1.2	63	41	Non-Lead Frame
ASPIAIG-F1265-R50	0.50	20%	1.25	60	40	Non-Lead Frame
ASPIAIG-F1265-R56	0.56	20%	1.2	58	37	Non-Lead Frame
ASPIAIG-F1265-R68	0.68	20%	1.5	55	35	Non-Lead Frame
ASPIAIG-F1265-R82	0.82	20%	1.9	50	33	Non-Lead Frame
ASPIAIG-F1265-1R0	1.00	20%	2.3	48	30	Non-Lead Frame
ASPIAIG-F1265-1R2	1.20	20%	2.4	47	28	Non-Lead Frame
ASPIAIG-F1265-1R5	1.50	20%	3	45	27	Non-Lead Frame
ASPIAIG-F1265-1R8	1.80	20%	4	40	24	Lead Frame
ASPIAIG-F1265-2R2	2.20	20%	4.2	37	22	Lead Frame
ASPIAIG-F1265-2R7	2.70	20%	5.5	32	20	Lead Frame
ASPIAIG-F1265-3R3	3.30	20%	6.8	30	18	Lead Frame
ASPIAIG-F1265-4R7	4.70	20%	8.4	28	13.5	Lead Frame
ASPIAIG-F1265-5R6	5.60	20%	10	23	12.5	Lead Frame
ASPIAIG-F1265-6R8	6.80	20%	11.5	18	11.5	Lead Frame
ASPIAIG-F1265-8R2	8.20	20%	15.5	16	10.5	Lead Frame
ASPIAIG-F1265-100	10.0	20%	16.5	15.5	10	Lead Frame
ASPIAIG-F1265-130	13.0	20%	24	13	9	Lead Frame
ASPIAIG-F1265-150	15.0	20%	28	13	9	Lead Frame
ASPIAIG-F1265-220	22.0	20%	37	12	9	Lead Frame
ASPIAIG-F1265-330	33.0	20%	58	11	8	Lead Frame



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Part Number	Inductance	Tolerance	DC Resistance	Saturation Current	Temperature Rise Current	Type
	0.1MHz/1.0V		Max	Typ	Typ	
Units	$\mu\text{H}$	%	$\text{m}\Omega$	A	A	
Symbol	L	M, N	DCR	$I_{\text{sat}}$	$I_{\text{rms}}$	
ASPIAIG-F1265-470	47.0	20%	90	9.5	6.5	Lead Frame
ASPIAIG-F1265-680	68.0	20%	130	7.8	4.8	Lead Frame
ASPIAIG-F1265-101	100	20%	165	5.5	4.2	Lead Frame

### Test Conditions

**$I_{\text{sat}}$ :** Current at which the inductance drops 30% from its initial value

**$I_{\text{rms}}$ :** Current at which the temperature rises ( $\Delta T$ , approximate 40 °C) from 20°C ambient

**Operating Temperature:** -40°C ~ +125°C (including self-temperature rise)

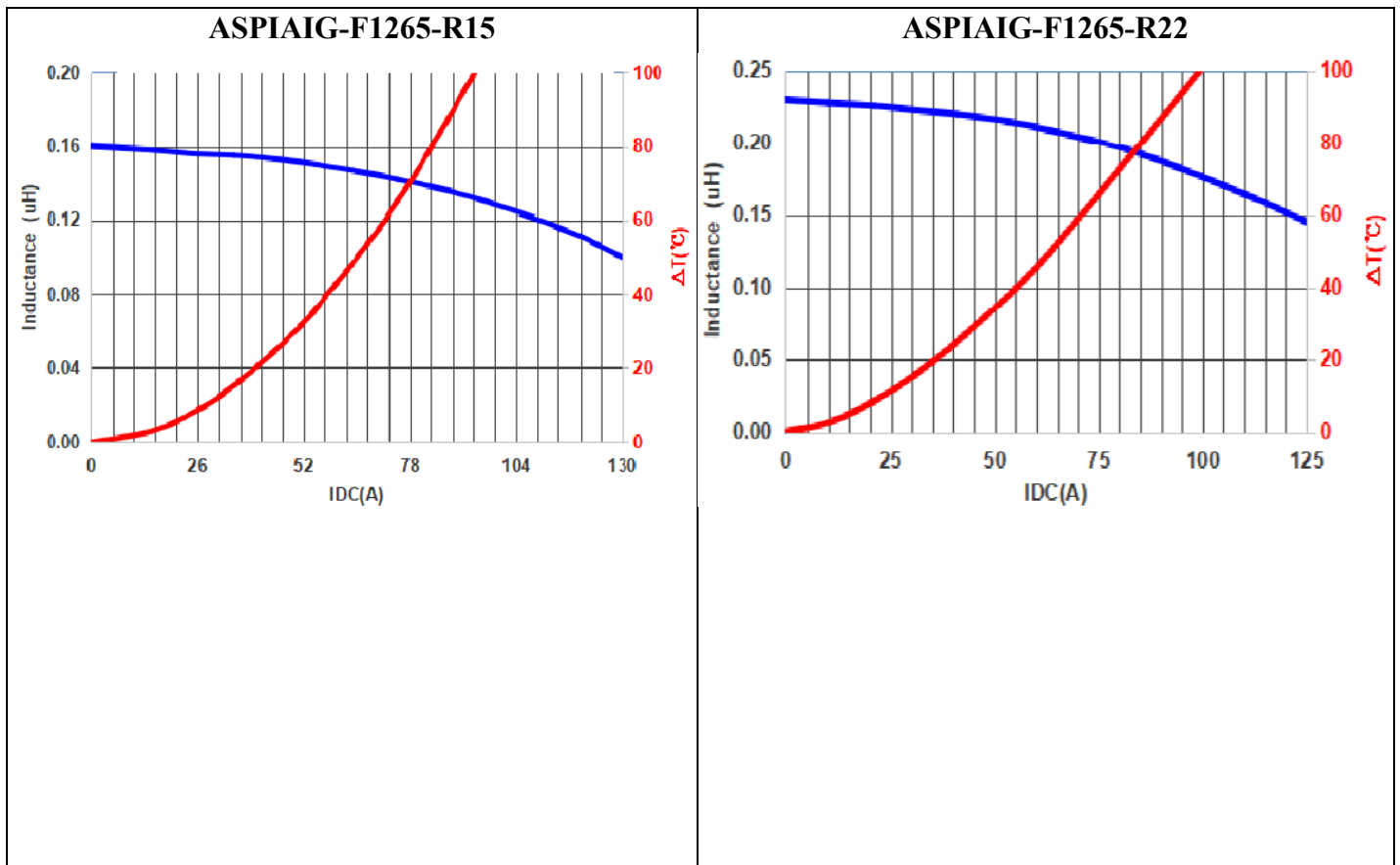
**Storage Condition:** -10°C ~ +40°C and R.H. 60% max

ASPIAIG-F1040 Series is **RoHS Compliant and Pb free**

ASPIAIG-F1040 Series is AEC-Q200 Grade 1 qualified (-40°C ~ +125°C ambient)

**Operating Voltage:** 40V

**MSL level:** 1



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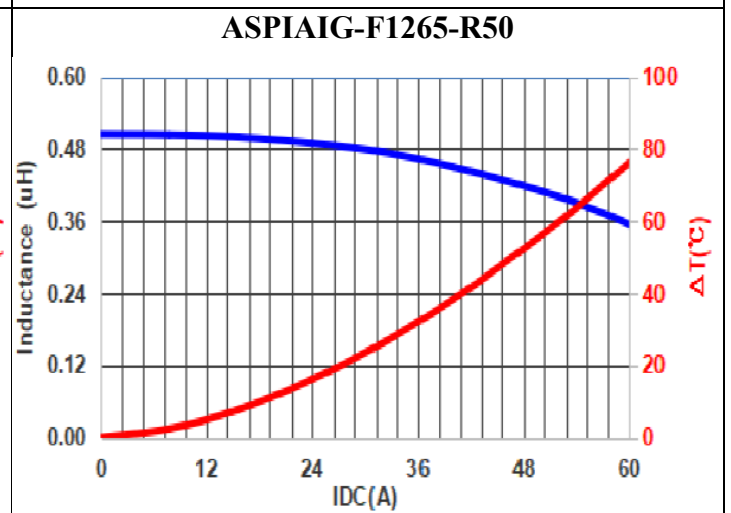
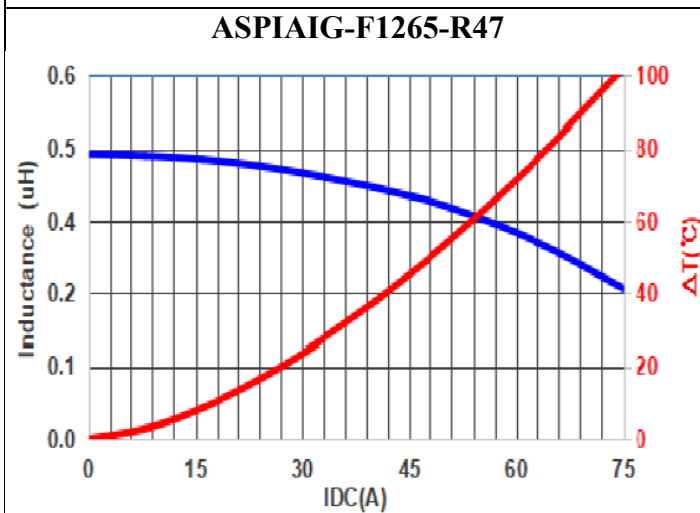
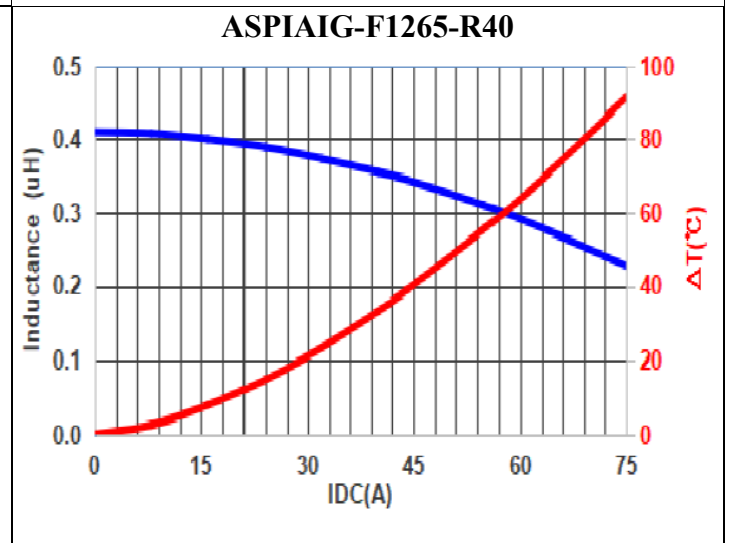
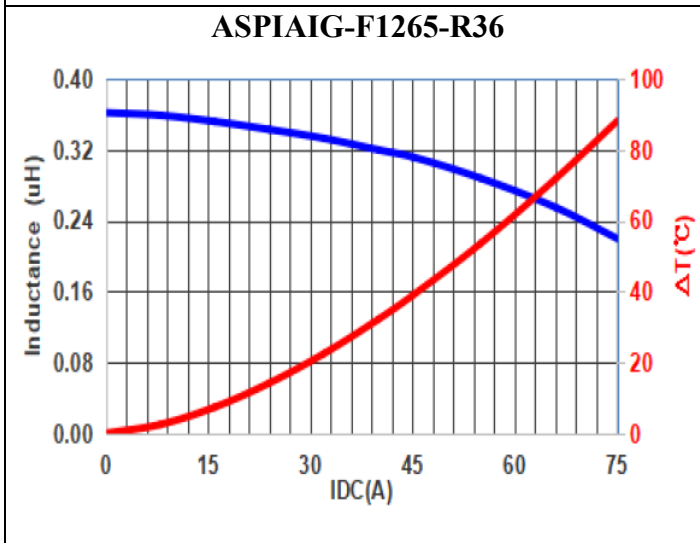
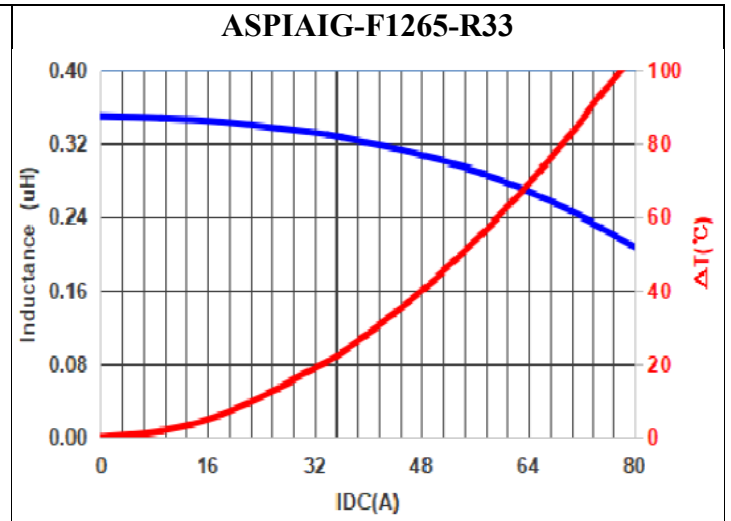
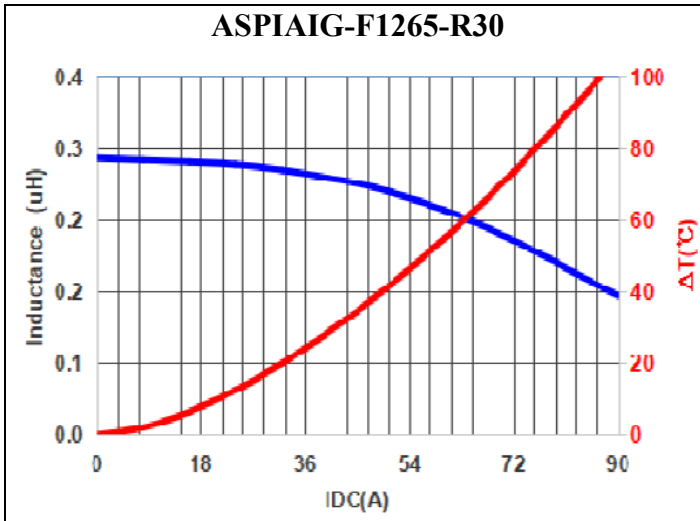
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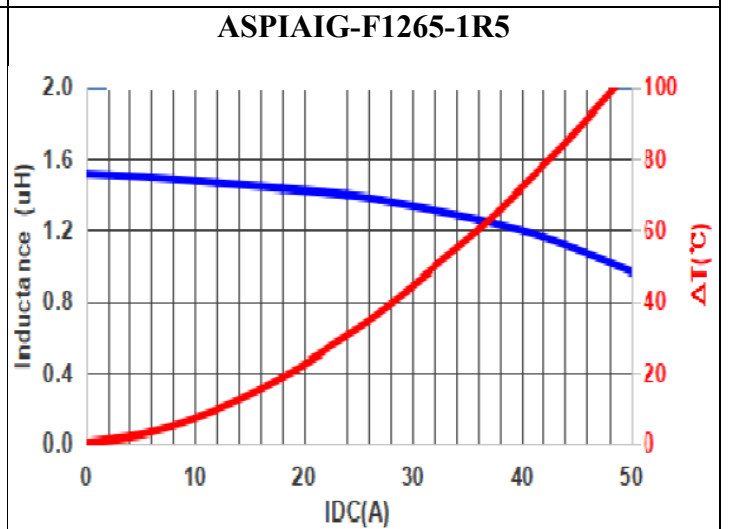
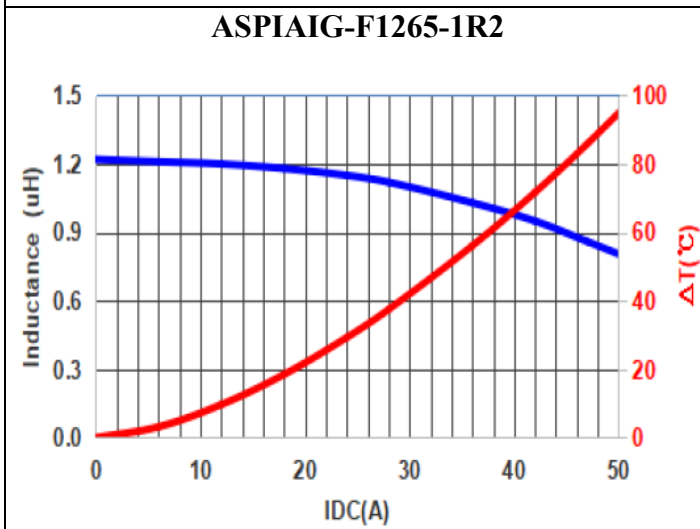
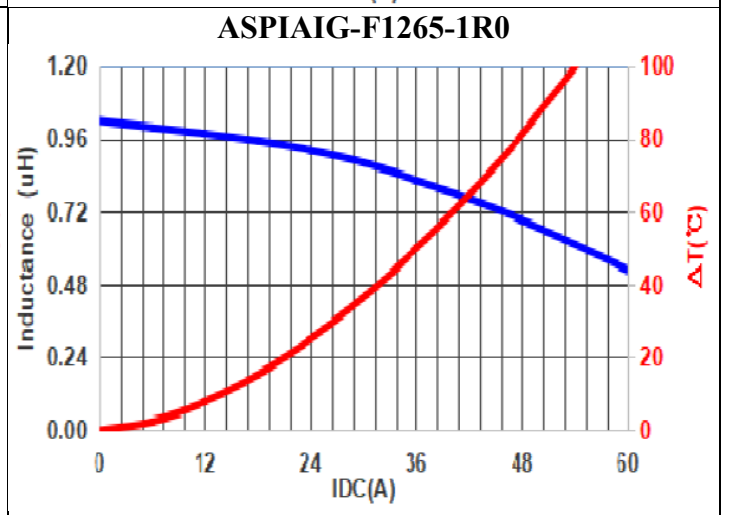
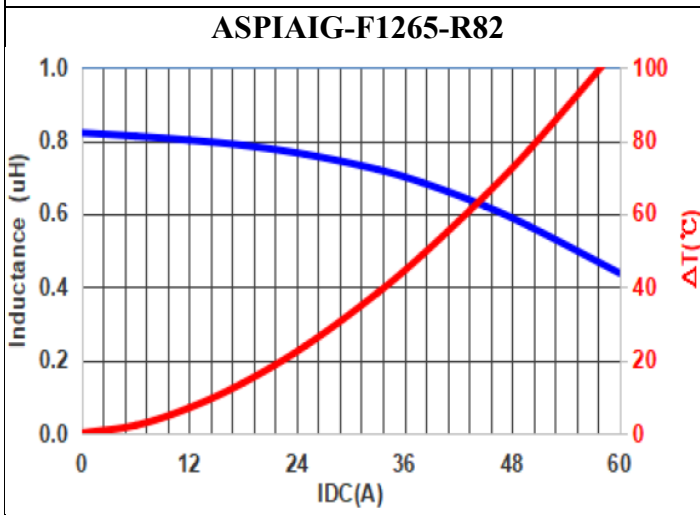
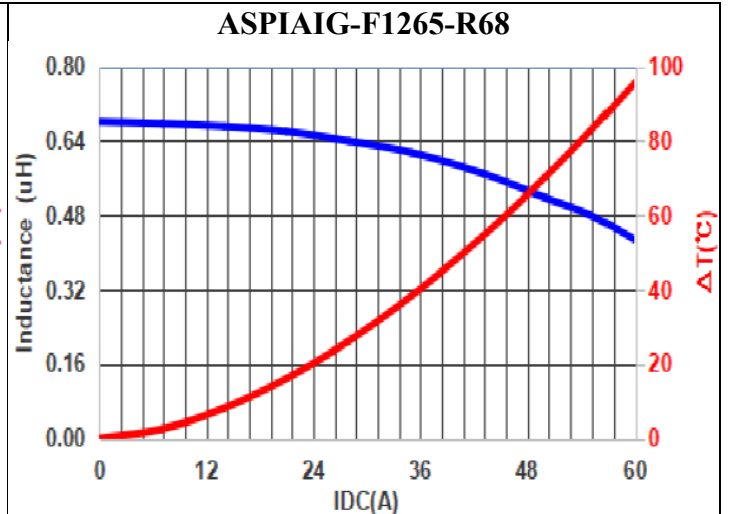
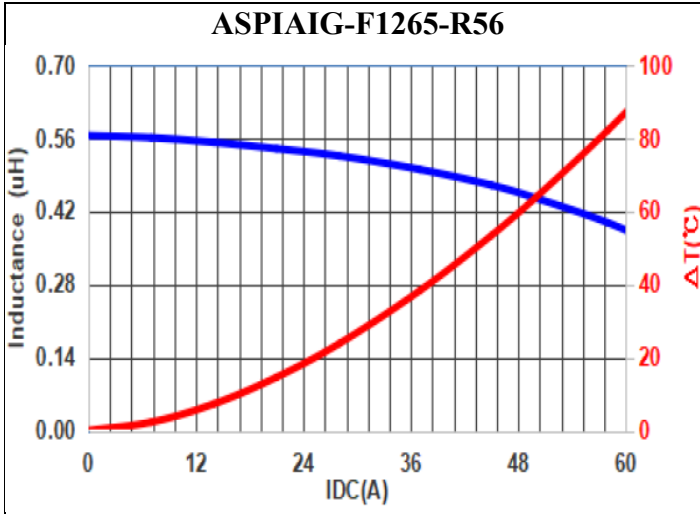
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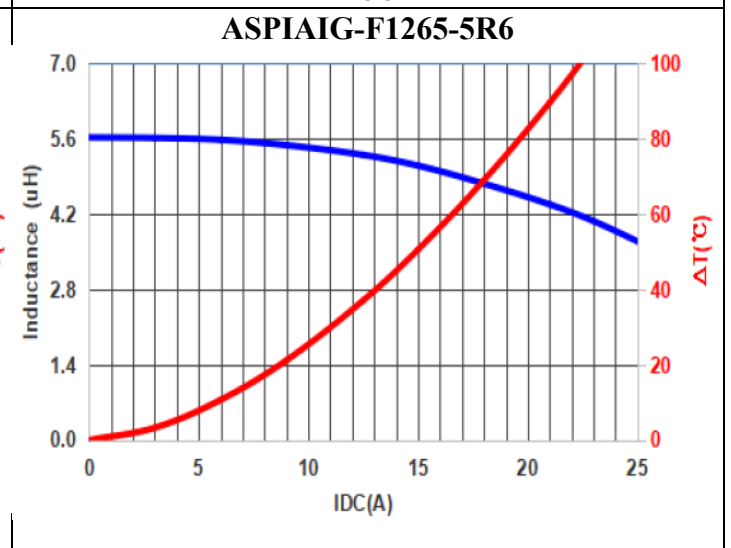
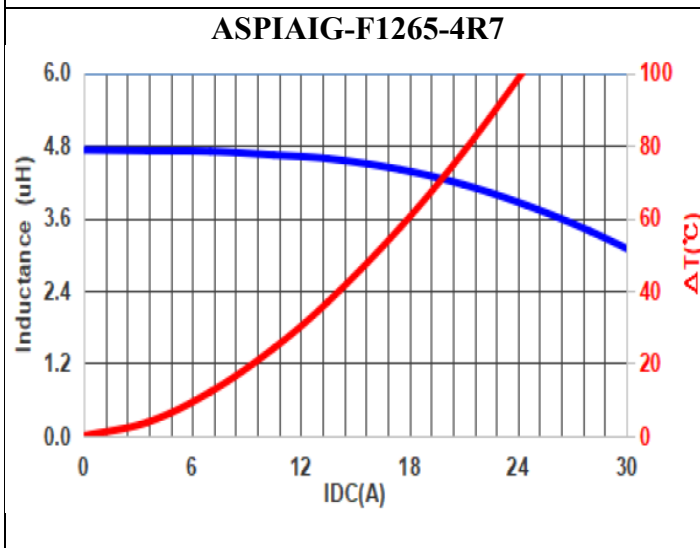
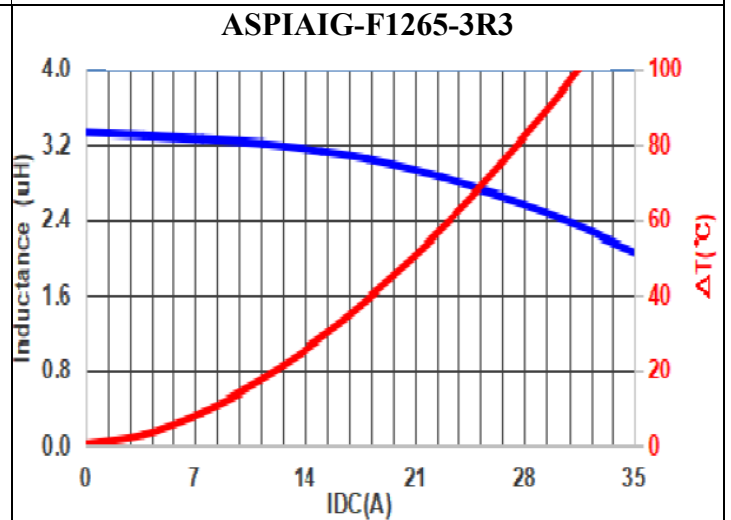
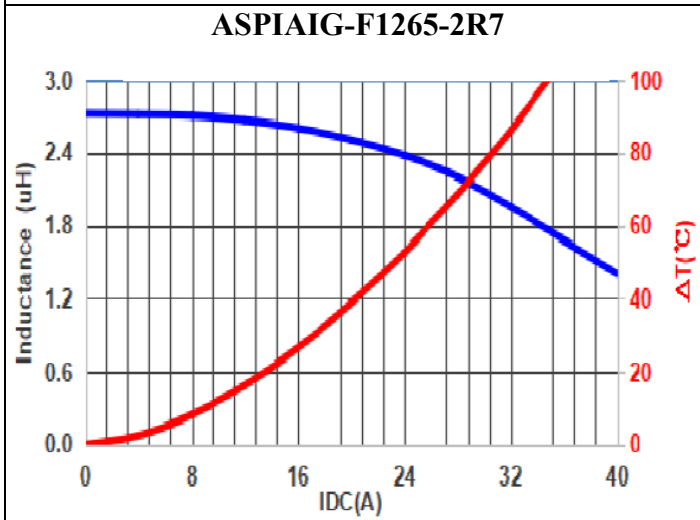
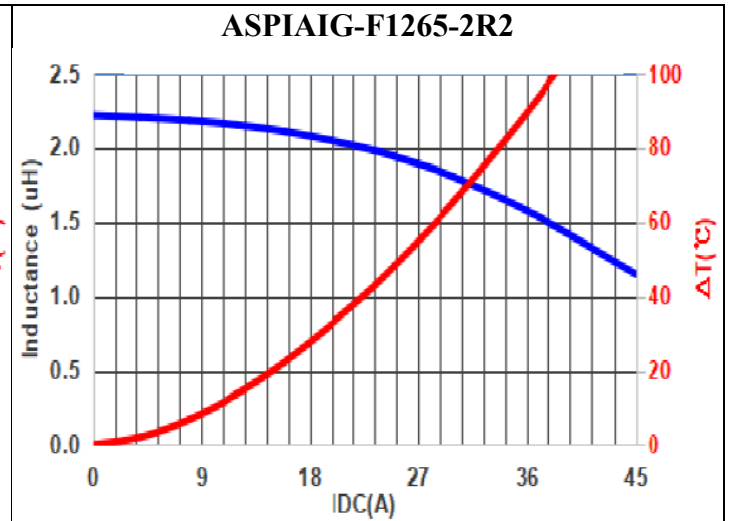
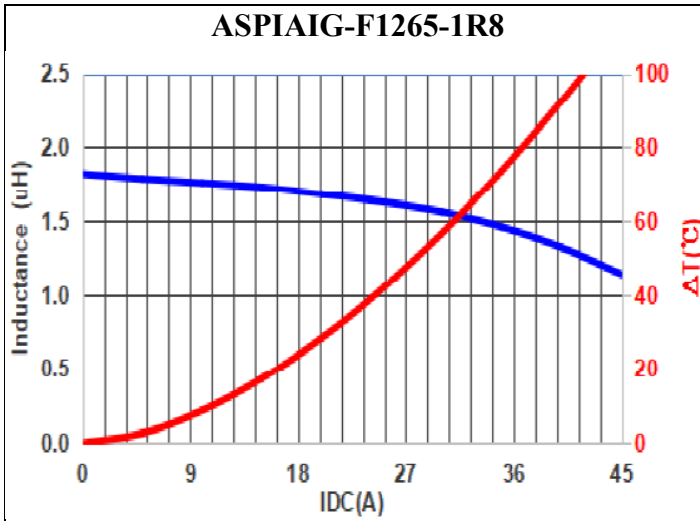
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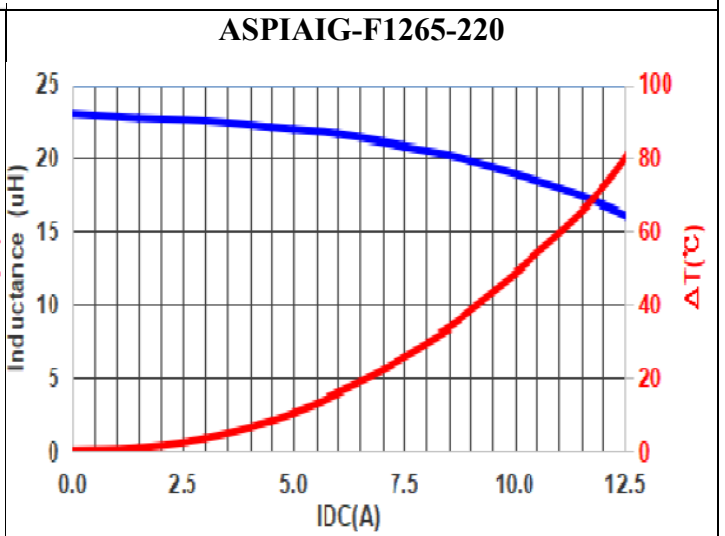
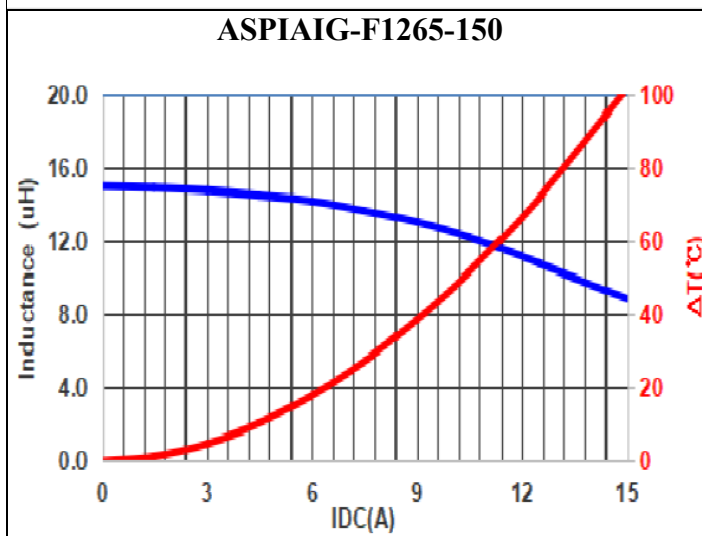
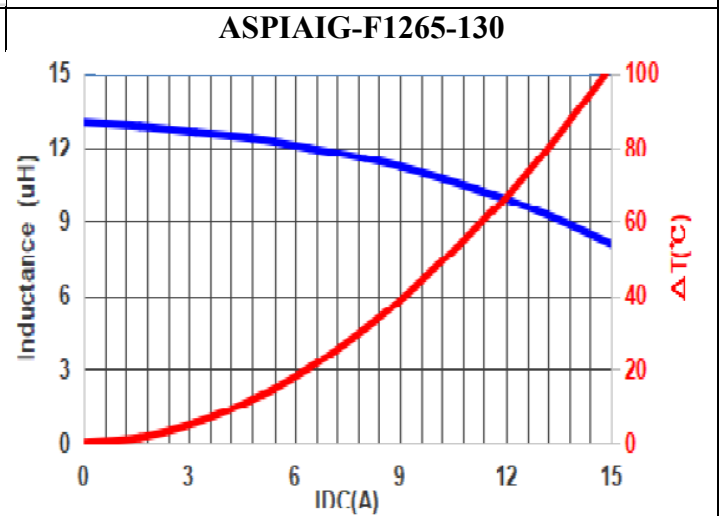
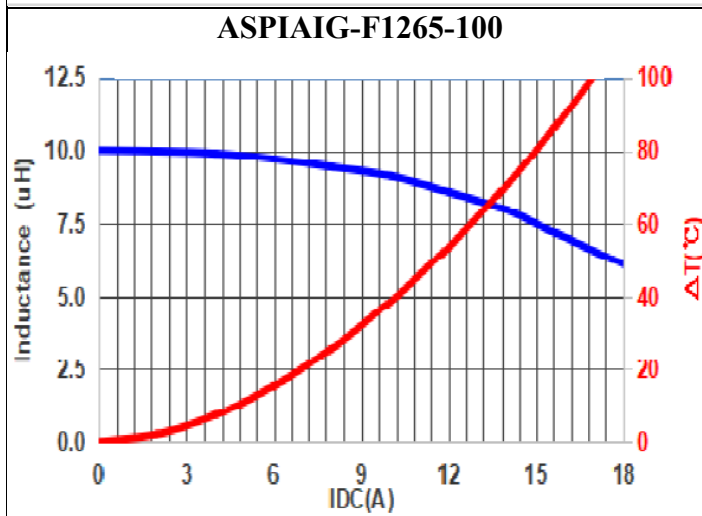
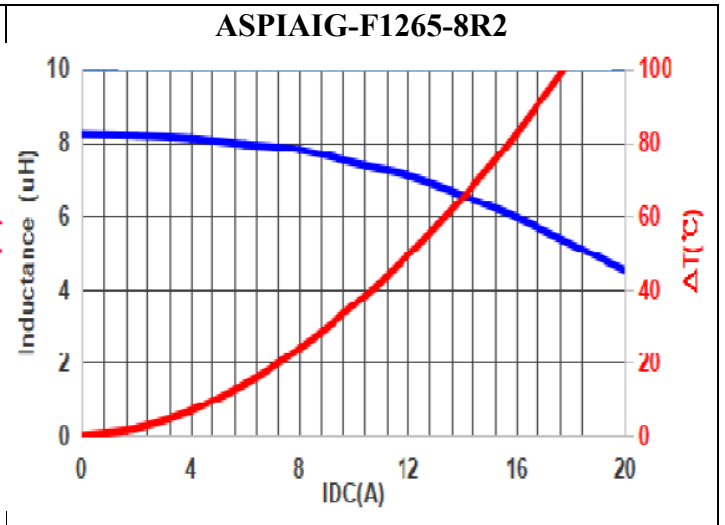
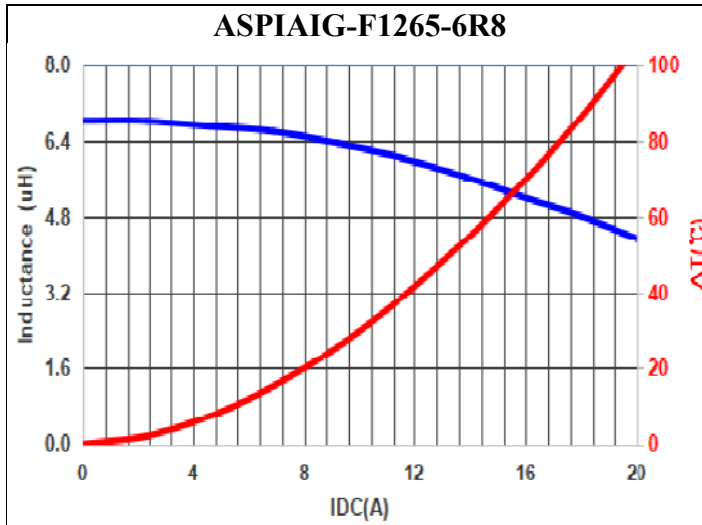
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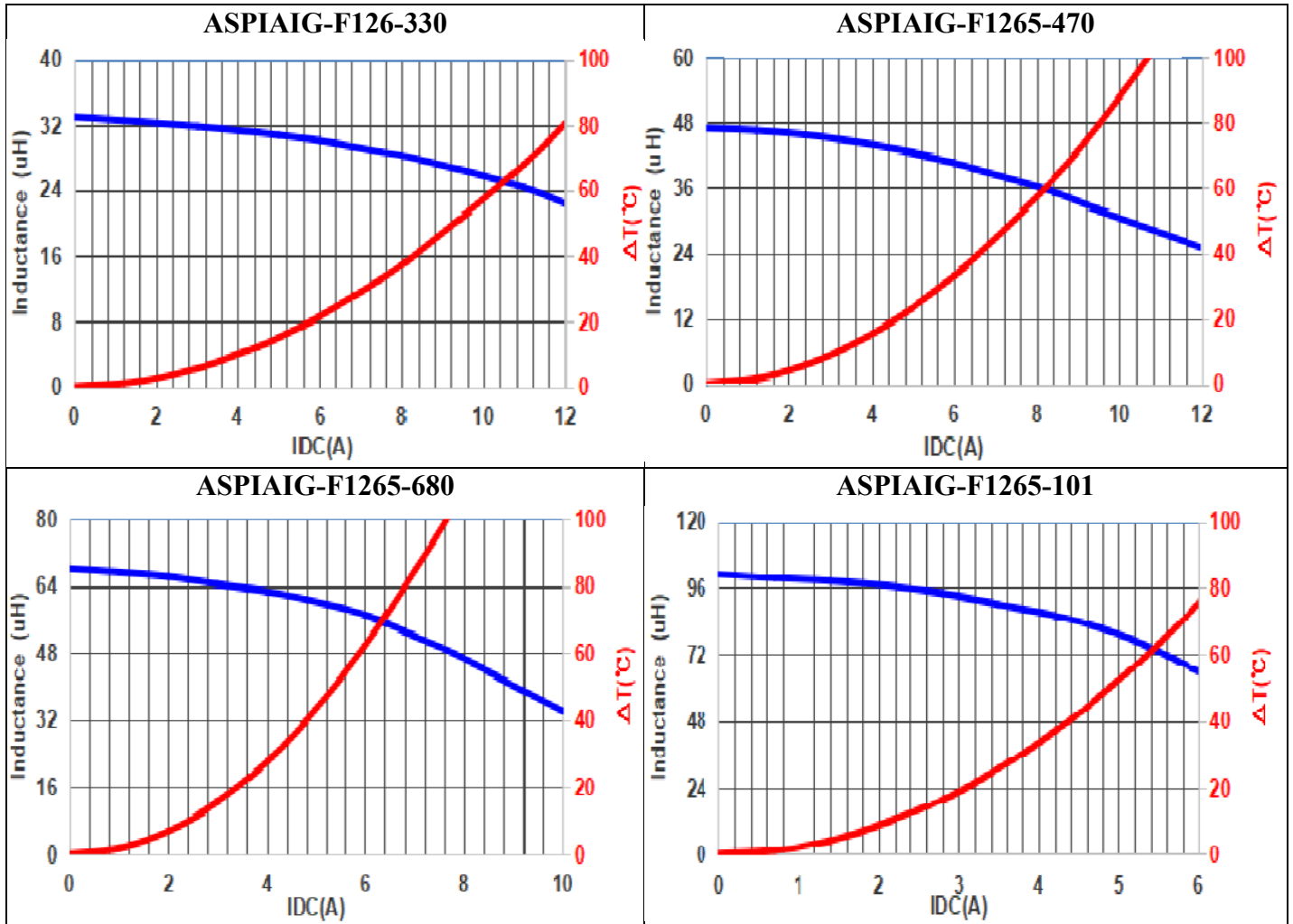
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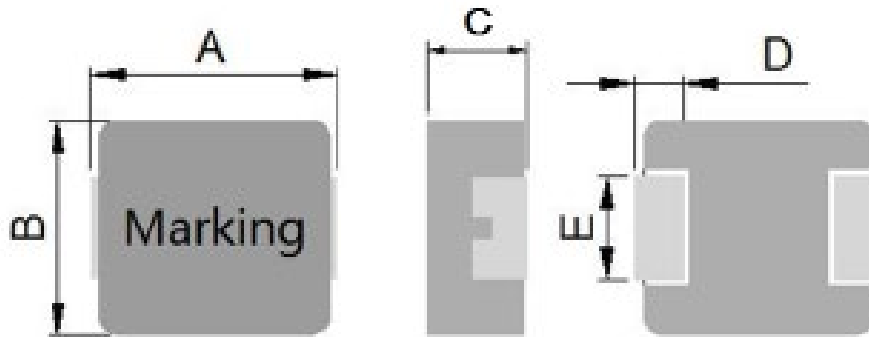


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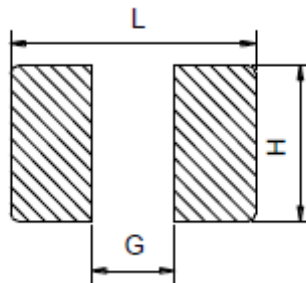
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## Mechanical Specifications



Series	A	B	C	D	E
ASPIAIG-F1265	13.5 ± 0.5	12.5 ± 0.3	6.2 ± 0.3	2.3 ± 0.3	4.7 ± 0.3

## Recommended Land Pattern



L Typ.	G Typ.	H Typ.
14.2	8.0	5.0

Dimension: mm

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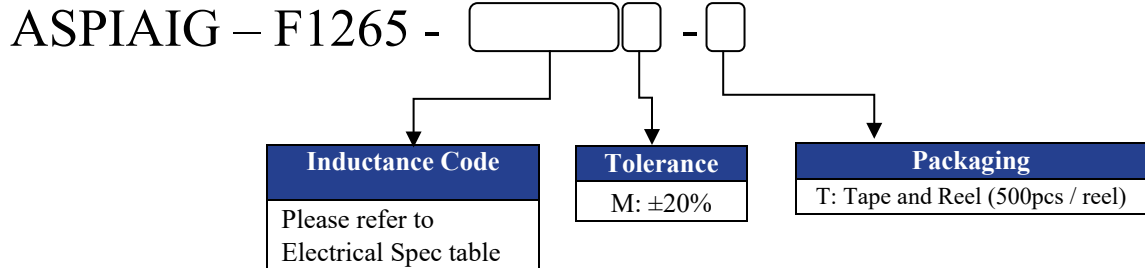


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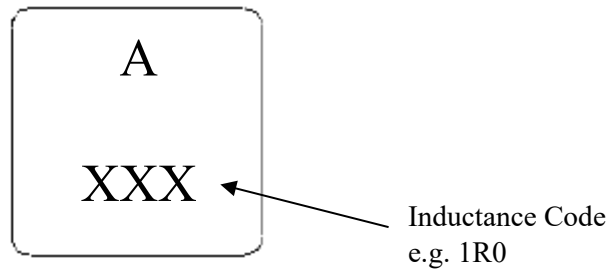
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## Part Identification

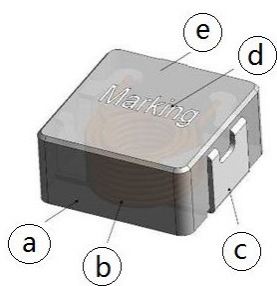


## Marking

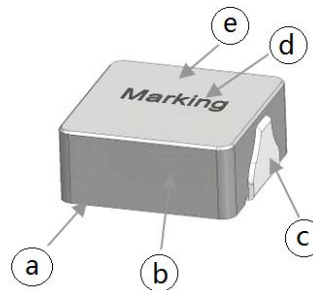
Marking Method: Ink



## Materials



Lead Frame



Non-Lead Frame

	Components	Material
a	Core	Carbonyl powder
b	Wire	220 deg. C Polyester Wire
c	Lead Frame	100% Pb free solder (Ni+Sn – plating)
	Non-Lead Frame	100% Pb free solder
d	Ink	Halogen-free ketone
e	Paint	Epoxy resin



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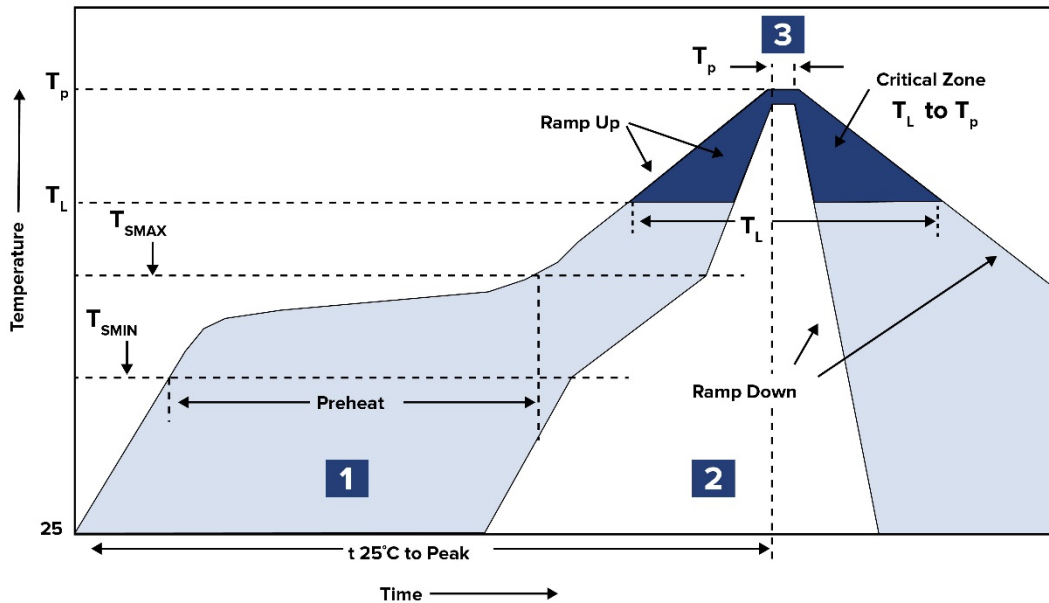


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### Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 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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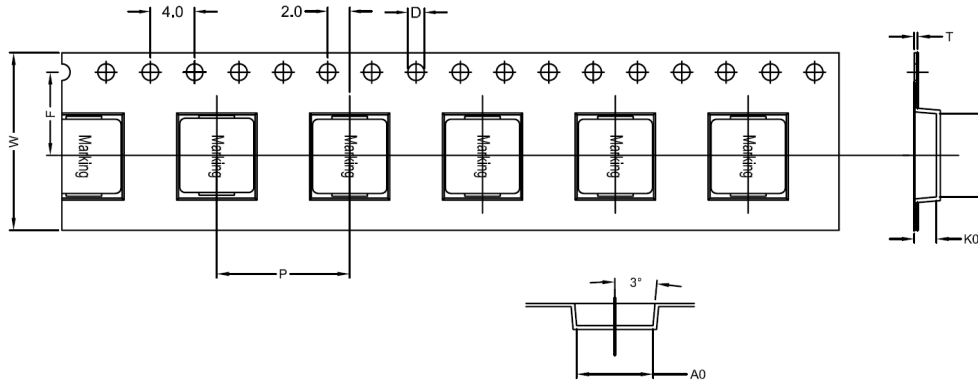
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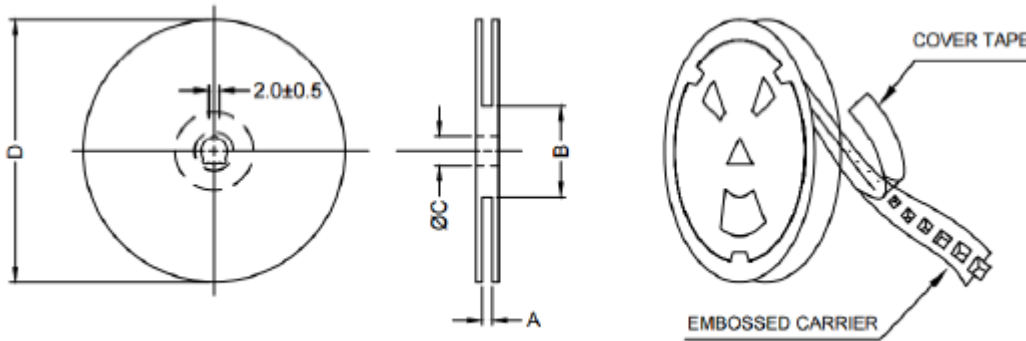
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### Packaging (Tape & Reel)

ASPIAIG-F1265: 500pcs / reel



Series	W	F	P	D	A <sub>0</sub>	B <sub>0</sub>	T	K <sub>0</sub>
ASPIAIG-F1265	24.0±0.3	11.5±0.1	16.0±0.1	1.5±0.1	12.9±0.1	13.0±0.1	0.35±0.05	7.0±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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