

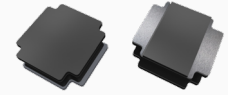
COIL SPECIFICATION



ZenithTek

Brand
Product Series Code
File Version
Description

ZenithTek
ZAD-3010MES-Series
V3.0



SMD Low Profile Magnetic Epoxy Inductor

Features

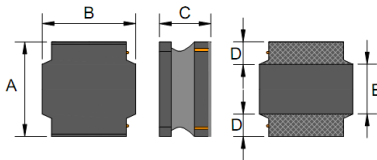
- High Rated Current.
- Low DC Resistance.
- A Series of Package Size and Wide Inductance Range.
- Halogen Free, Lead Free, RoHS and REACH Compliance.

Product Identification

ZAD - 3010 ME S - 100 M/N

1 2 3 4 5 6

Dimension (Unit: mm)



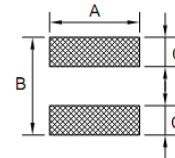
Type	A(±0.3)	B(±0.3)	C(Max.)	D(Ref.)	E(Ref.)
ZAD-3010	3.00	3.00	1.00	0.75	1.50

Applications

- DC to DC Converter.
- Computing, Mobile, Networking.
- IoT, Gaming, Audio Devices.
- Industrial PC, Storage Devices.

- 1.Product Code:
ZAD = ZenithTek Code.
- 2.Dimension Code:
3010 = 3.0 * 3.0 * 1.0 mm.
- 3.Type Code:
ME = Magnetic Epoxy Type.
- 4.Material Code:
S = Material.
- 5.Inductance Code:
100 = 10µH.
- 6.Tolerance Code:
M = 20%.
N = 30%.

Land Pattern (Unit: mm)

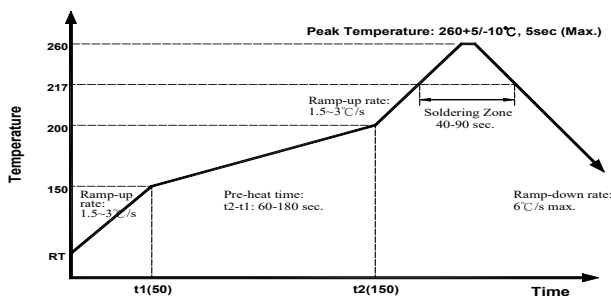


Type	A(Ref.)	B(Ref.)	C(Ref.)
ZAD-3010	2.70	3.10	0.80

Product Structure



Reflow Heat Endurance



Schematic



Operating & Storage Conditions

Operating Temp. : -40°C~+125°C (including self-temp. rise)
Storage Temp. : -40°C~+125°C (for PCBA)

Standard & Atmospheric Condition

Ambient Temp. : 20°C±15°C / Relative Humidity : 65±20%
If there may be any doubt on the result, measurement shall be made within the following limits :
Ambient Temp. : 20°C±2°C / Relative Humidity : 65±5%.

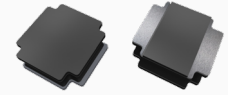
Test Equipment

LCR Meter : WK-3260B / DC Source : WK-3265B.
Resistance Meter : HIOKI-RM3545.
Caliper : Mitsutoyo 150mm.

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Electrical Characteristic

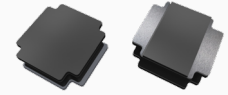
Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (KHz)/(1V)	SRF(MHz) (Min.)	DCR (Ω)/(Max.)	DCR (Ω)/(Typ.)	Saturation Current (Isat) (A)/(Max.)	Saturation Current (Isat) (A)/(Typ.)	Temperature Current (Irms) (A)/(Max.)	Temperature Current (Irms) (A)/(Typ.)
ZAD-3010MES-4R7□	4.70	20	100	59	0.293	0.225	0.75	1.05	0.77	1.10
ZAD-3010MES-5R6□	5.60	20	100	40	0.322	0.248	0.58	0.65	0.70	1.05
ZAD-3010MES-6R8□	6.80	20	100	42	0.397	0.305	0.55	0.72	0.66	0.96
ZAD-3010MES-8R2□	8.20	20	100	23	0.520	0.400	0.55	0.70	0.58	0.70
ZAD-3010MES-100□	10	20	100	39	0.520	0.400	0.55	0.75	0.58	0.70
ZAD-3010MES-120□	12	20	100	36	0.657	0.505	0.43	0.65	0.52	0.67
ZAD-3010MES-150□	15	20	100	30	0.793	0.610	0.42	0.57	0.47	0.57
ZAD-3010MES-220□	22	20	100	28	1.209	0.930	0.35	0.48	0.38	0.52

Note 1: Tolerance Code: M= ±20%, N= ±30%.
Note 2: Isat: The DC current at which the inductance decreases approximately 30% from the actual value.
Note 3: Irms: The DC current at which the temperature rises approximately ΔT=40°C.
Note 4: The Rated current is the DC current value that satisfies both of current value saturation current value and temperature rise current value.

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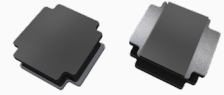
Reliability Test

No.	Item	Specification	Test Method
1	Temperature Shock.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $-40\pm 2^{\circ}\text{C} \sim +125\pm 2^{\circ}\text{C}$ Kept for 30 minutes. Transition time : 5 minutes. 100 Cycles.
2	Humidity Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $40\pm 2^{\circ}\text{C}$. Relative Humidity: 90%. Duration: 500 +4/-0 hours.
3	High Temperature Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $125\pm 2^{\circ}\text{C}$. Duration: 1000 +4/-0 hours.
4	Low Temperature Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $-40\pm 2^{\circ}\text{C}$. Duration: 1000 +4/-0 hours.
5	Vibration test.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Oscillation Frequency: 10Hz to 55Hz to 10Hz in 60 seconds as a period. Total amplitude: 1.5mm. Testing Time: a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
6	Solderability Heat test.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Solder temperature: $260 +0/-5^{\circ}\text{C}$. Duration: 5 sec. Allowed reflow time: 2 times.
7	Solderability test.	90% or more of electrode area shall be coated by new solder.	Preheating: 160°C , 60sec. Solder temperature: $245\pm 5^{\circ}\text{C}$. Duration : 5 sec.
8	Flexure Strength.	No visible mechanical damage.	Flexure: 2mm. Pressurizing Speed: 0.5mm/sec. Keep time: 30 ± 1 sec.
9	Terminal Strength.	No visible mechanical damage.	Reflow 2 times. Force: 10N , Keep time: 5 sec , X,Y directs.

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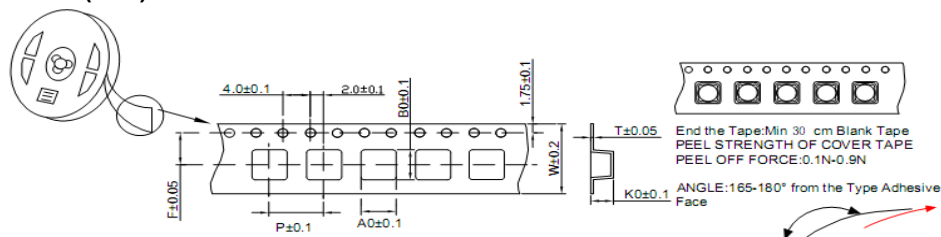


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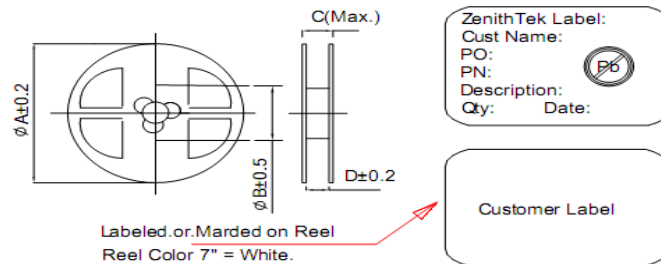
Package

Taping Dimension (mm)



Size(mm)	W	P	A0	B0	K0	T	F
ZAD-3010	8.00	4.00	3.30	3.30	1.40	0.25	3.50

Reel Dimension (mm)



Size(mm)	A	B	C	D	Reel/Size	Qty./Size
ZAD-3010	178	58	14.4	8.4	7"	2000 Pcs

Box Dimension (mm)

7" Size

