

COIL SPECIFICATION



Brand ZenithTek
Product Series Code ZOV - Series
File Version V1.1
Description SMD Shielding Power Inductor



Features

- Magnetic Shielded Surface Mount.
- High Rated Current.
- Low DC Resistance.
- Halogen Free, Lead Free, RoHS and REACH Compliance.

Product Identification

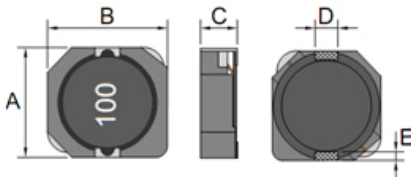
ZOV - 1040 S - 100 M
 1 2 3 4 5

Applications

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

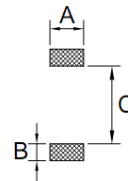
- 1.Product Code:
ZOV = ZenithTek Code.
- 2.Dimension Code:
1040 = 10.6 * 10.5 * 4.0 mm.
- 3.Type Code:
S = Shielding Type.
- 4.Inductance Code:
100 = 10μH.
- 5.Tolerance Code:
N = 20%.

Dimension (Unit: mm)



| Type | A(Max.) | B(Max.) | C(Max.) | D(Ref.) | E(Ref.) |
|----------|---------|---------|---------|---------|---------|
| ZOV-1040 | 10.60 | 10.50 | 4.00 | 3.00 | 1.25 |
| ZOV-1050 | 10.60 | 10.50 | 5.10 | 3.00 | 1.25 |

Land Pattern (Unit: mm)



| Type | A(Ref.) | B(Ref.) | C(Ref.) |
|----------|---------|---------|---------|
| ZOV-1040 | 3.60 | 1.70 | 7.30 |
| ZOV-1050 | 3.60 | 1.70 | 7.30 |

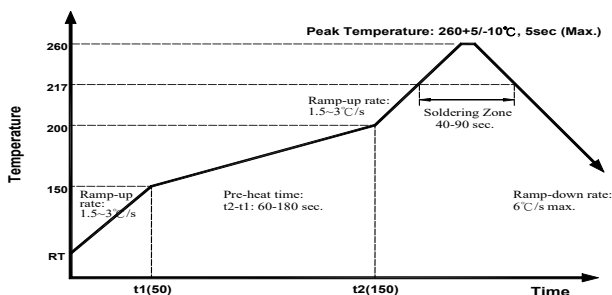
Product Structure



Schematic



Reflow Heat Endurance



Operating & Storage Conditions

Operating Temp. : -40°C~+105°C(including self-temp. rise)
 Storage Temp. : -40°C~+105°C (for PCBA)

Standard & Atmospheric Conditions

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. : 25°C±5°C / Relative Humidity : 75±10%.

Test Equipment

HP4284A, HOKIO3532-50- IDC, L.
 TH2512B -RDC.

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Brand **ZenithTek**
Product Series Code **ZOV - Series**
File Version **V1.1**
Description **SMD Shielding Power Inductor**



Electrical Characteristic

| Part Number | Inductance (μH) | Tolerance (%) | Test Frequency (KHz)/0.3V | DCR(mΩ) (Max.) | Isat(A) (Max.) | Irms(A) (Max.) |
|----------------|-----------------|---------------|---------------------------|----------------|----------------|----------------|
| ZOV-1040S-2R2□ | 2.20 | 30 | 100 | 10.5 | 7.50 | 6.10 |
| ZOV-1040S-3R3□ | 3.30 | 30 | 100 | 13 | 6.00 | 5.50 |
| ZOV-1040S-4R7□ | 4.70 | 30 | 100 | 22 | 5.80 | 5.40 |
| ZOV-1040S-6R8□ | 6.80 | 20/30 | 100 | 27 | 4.80 | 4.50 |
| ZOV-1040S-100□ | 10 | 20 | 100 | 35 | 4.40 | 3.80 |
| ZOV-1040S-150□ | 15 | 20 | 100 | 50 | 3.60 | 3.10 |

Note 1: Measuring frequency: 100kHz; Tolerance: M= ±20%; N= ±30%.
Note 2: The saturation current (Isat) is DC current value inductance decrease down to 35% (at 25°C).
Note 3: Irms: Based on temperature rise ΔT : 40 °C Typ. (at 25°C).

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Product Series Code **ZOV - Series**
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Description **SMD Shielding Power Inductor**



Electrical Characteristic

| Part Number | Inductance (μH) | Tolerance (%) | Test Frequency (KHz)/0.25V | DCR(mΩ) (Max.) | Isat(A) (Max.) | Irms(A) (Max.) |
|----------------|-----------------|---------------|----------------------------|----------------|----------------|----------------|
| ZOV-1050S-1R5□ | 1.50 | 30 | 100 | 5.80 | 10.5 | 8.30 |
| ZOV-1050S-2R2□ | 2.20 | 30 | 100 | 7.20 | 9.25 | 7.50 |
| ZOV-1050S-3R3□ | 3.30 | 30 | 100 | 10.4 | 7.80 | 6.50 |
| ZOV-1050S-4R7□ | 4.70 | 30 | 100 | 12.3 | 6.40 | 6.10 |
| ZOV-1050S-6R8□ | 6.80 | 30 | 100 | 18 | 5.40 | 5.40 |
| ZOV-1050S-8R2□ | 8.20 | 30 | 100 | 20 | 4.85 | 5.00 |
| ZOV-1050S-100□ | 10 | 20 | 100 | 26 | 4.45 | 4.50 |
| ZOV-1050S-120□ | 12 | 20 | 100 | 33 | 4.00 | 3.80 |
| ZOV-1050S-150□ | 15 | 20 | 100 | 41 | 3.60 | 3.40 |

Note 1: Measuring frequency: 100kHz; Tolerance: M= ±20% ,N= ±30%.
Note 2: The saturation current (Isat) is DC current value inductance decrease down to 35% (at 25°C).
Note 3: Irms: Based on temperature rise ΔT : 40 °C Typ. (at 25°C).

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Reliability Test

| No. | Item | Specification | Test Method |
|-----|------------------------------|---|--|
| 1 | Temperature Shock. | Appearance: No damage. Inductance: within $\pm 10\%$ of initial. | Temperature: $-40\pm 2^{\circ}\text{C} \sim +105\pm 2^{\circ}\text{C}$ 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: $105\pm 2^{\circ}\text{C}$. 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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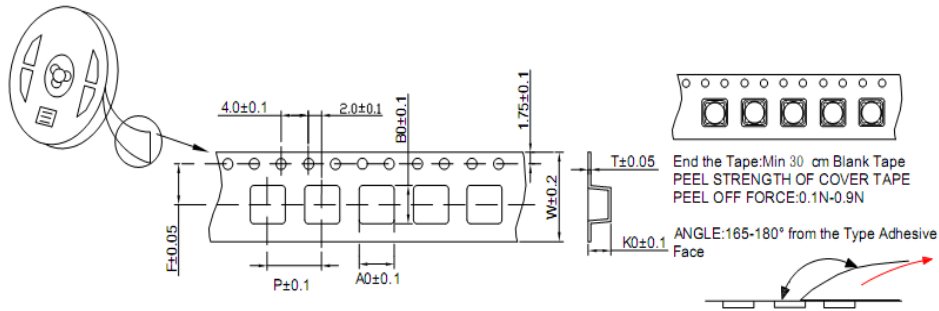


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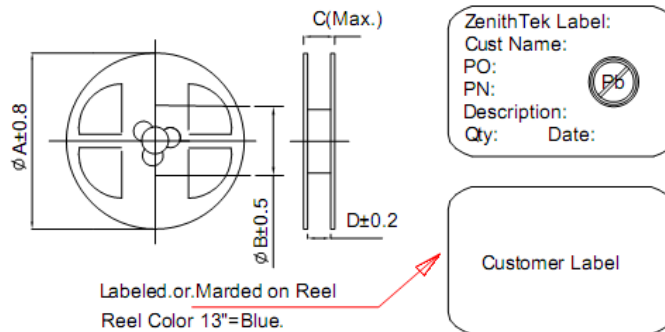
Package

Taping Dimension (mm)



| Size(mm) | W | P | A0 | B0 | K0 | T | F |
|----------|-------|-------|------|------|------|------|-------|
| ZOV-1040 | 24.00 | 16.00 | 10.7 | 10.7 | 4.10 | 0.35 | 11.50 |
| ZOV-1050 | 24.00 | 16.00 | 10.8 | 10.8 | 5.20 | 0.35 | 11.50 |

Reel Dimension (mm)



| Size(mm) | A | B | C | D | Reel/Size | Qty./Size |
|----------|-----|-----|------|------|-----------|-----------|
| ZOV-1040 | 330 | 100 | 28.9 | 24.5 | 13" | 1000 Pcs |
| ZOV-1050 | 330 | 100 | 28.9 | 24.4 | 13" | 750 Pcs |

Box Dimension (mm)

