

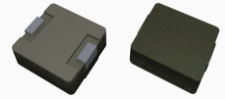
# SPECIFICATION



ZenithTek

Brand  
Product Series Code  
File Version  
Description

ZenithTek  
ZBWM101040A8R22MB  
V0  
SMD Molding Power Inductor



## Features

- High Rated Current.
- Low DC Resistance.
- Frequency Range up to 3MHz.
- Halogen Free, Lead Free, RoHS and REACH Compliance.

## Applications

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

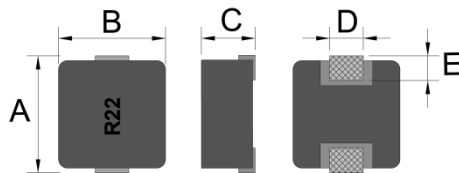
## Product Identification

**ZBWM 101040 A8 R22 M B**

1            2            3            4            5            6

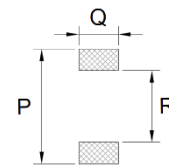
- 1.Product Code:  
ZBWM = ZenithTek Code.
- 2.Dimension Code:  
101040 = 11.5 \* 10.0 \* 3.8 mm.
- 3.Type Code:  
A8.
- 4.Inductance Code:  
R22 = 0.22μH.
- 5.Tolerance Code:  
M = ±20%.
- 6.Inner Code:  
B.

## Dimension (Unit: mm)



Type	A(Max.)	B(±0.30)	C(±0.20)	D(±0.50)	E(±0.50)
ZBWM101040	11.50	10.00	3.80	3.00	2.00

## Land Pattern (Unit: mm)



Type	P(Ref.)	Q(Ref.)	R(Ref.)
ZBWM101040	13.60	4.10	5.40

## Electrical Characteristic

Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (KHz)/1V	DCR (mΩ±7%)	Saturation Current Isat(A/Typ.)	Heat Rating Current Irms(A/Typ.)	Marking
ZBWM101040A8R22MB	0.22	±20	100	0.60	50	38	Black

Note 1: Isat: The DC current at which the inductance decreases approximately 30% from the actual initial value.  
Note 2: Irms: The DC current at which the temperature rises approximately ΔT=40°C.

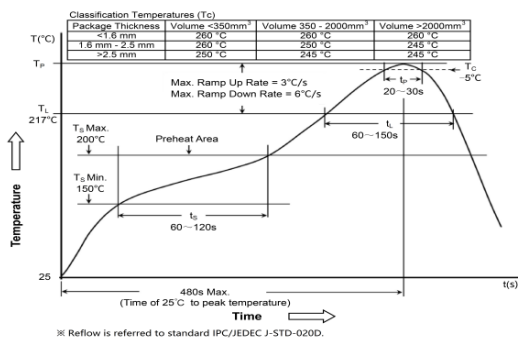
## Product Structure



## Schematic



## Reflow Heat Endurance



## Operating Conditions

Operating Temp. : -55°C~+125°C (including self-temp. rise)

## Standard & Atmospheric Condition

Ambient Temp. : 25°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±2°C / Relative Humidity : 65±5%.

## Test Equipment

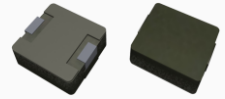
LCR Meter : WK-3260B + WK-3265B / Fixture : 10164.  
Micro ohm Meter : HIOKI-RM3545 / Fixture : L2002.  
CHORMA-16502 / Fixture : A165016.  
Caliper : Mitsutoyo 150mm.

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## Care Note

### 1 Care note for Use

- (1) Storage Condition:  
Temperature and humidity conditions : <35°C and < 60%RH.
- (2) Use Temperature:
  - a. Minimum Temperature: -55°C Ambient temperature of power choke coil.
  - b. Maximum Temperature: +125°C The value of temperature including ambient of the transformer and temperature rise of power choke coil.
  - c. There is not a problem from -55°C ~ +125°C in a reliability test.
  - d. However, this is not meant a temperature grade guarantee of UL.
- (3) Model:  
When this power choke coil was used in a similar or new product to the original one, sometimes it might be unable to satisfy the specifications due to difference of condition of usage.
- (4) Drop:  
If the power choke coil suffered mechanical stress such as drop, characteristic may become poor (due to damage on coil bobbin, etc.).  
Never use such stressed power choke coil.

### 2 Care note for Safety

- (1) Provision to Abnormal Condition:  
This power choke coil itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc.  
Therefore, it shall be confirmed as the end product that there is no risk of smoking, fire, dielectric withstand voltage, insulation resistance, etc. in abnormal conditions to provide protective devices and/or protection circuit in the end product.
- (2) Temperature Rise:  
Temperature rise of power choke coil depends on the installation condition on end products.  
It shall be confirmed on the actual end product that temperature rise of power choke coil is in the limit of specified temperature class.
- (3) Dielectric Strength:  
Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.
- (4) Water:  
This power choke coil must not be used in wet condition by water, coffee or any liquid because insulation strength becomes very low on the condition.
- (5) Detergent:  
Please consult our company once in case of this because the confirmation of reliability etc. is needed when the washing medicine is used for the power choke coil.

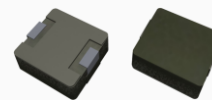
### 3 To maintain the solderability of terminal electrodes

- (1) Packaging material should be kept away from where chlorine or sulfur exists.
- (2) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- (3) The use of tweezers or vacuum pick up is strongly recommended for individual components.
- (4) Bulk handling should ensure that abrasion and mechanical shock are minimized.

# SPECIFICATION



**Brand** ZenithTek  
**Product Series Code** ZBWM101040A8R22MB  
**File Version** V0  
**Description** SMD Molding Power Inductor



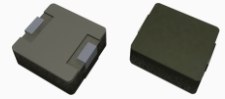
## Reliability Test

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: $160^{\circ}\text{C}$ , 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: $30\pm 1$ sec.
9	Terminal Strength.	No visible mechanical damage.	Reflow 2 times. Force: 10N , Keep time: 5 sec , X,Y directs.

# SPECIFICATION

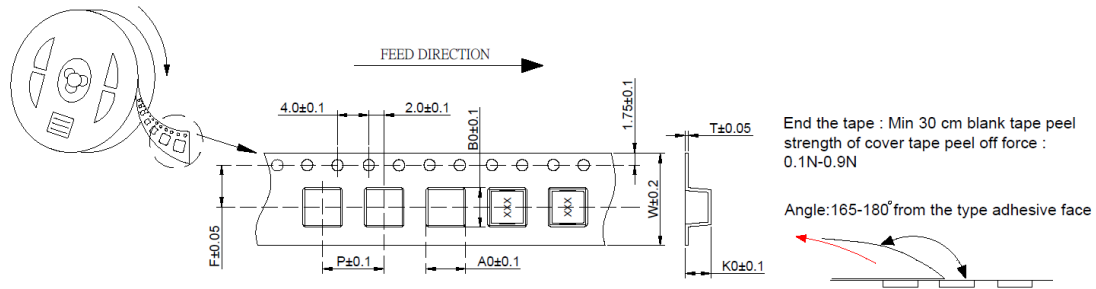


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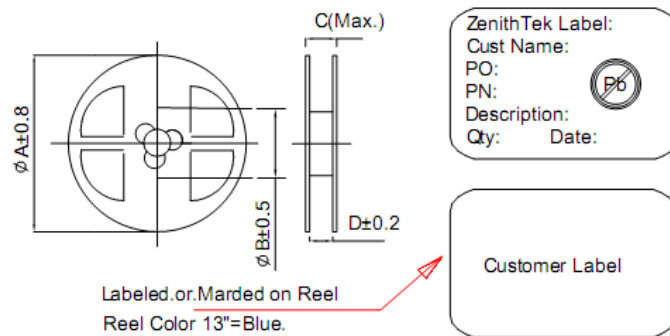
## Package

### Taping Dimension (mm)



Size(mm)	W	P	A0	B0	K0	T	F
ZBWM101040	24.00	16.00	10.70	12.00	4.50	0.35	11.50

### Reel Dimension (mm)



Size(mm)	A	B	C	D	Reel/Size	Qty./Size
ZBWM101040	330	100	26.5	24.5	13"	500 Pcs

### Box Dimension (mm)

