

1. Part No. Expression

Z 4 0 3 0 2 5 W 4 5 3 0

(a) (b) (c) (d)

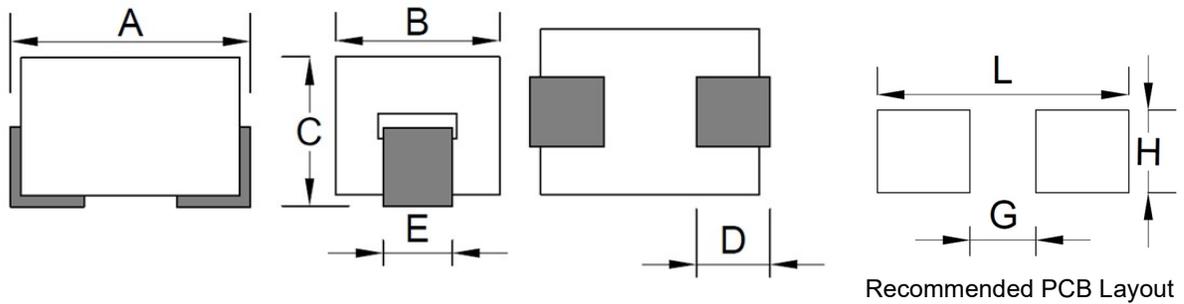
(a) Series Code

(c) Material Code

(b) Dimension Code

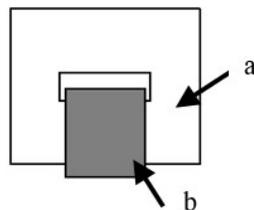
(d) Impedance Code

2. Configuration & Dimensions (Unit: mm)



| A | B | C | D | E | L | G | H |
|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| 4.70±0.40 | 3.10±0.15 | 2.90±0.20 | 1.35±0.20 | 1.35±0.15 | 4.80 Ref | 1.40 Ref | 1.50 Ref |

3. Material List



(a) Core

(b) Wire

NOTE: Specifications subject to change without notice. Please check our website for latest information.

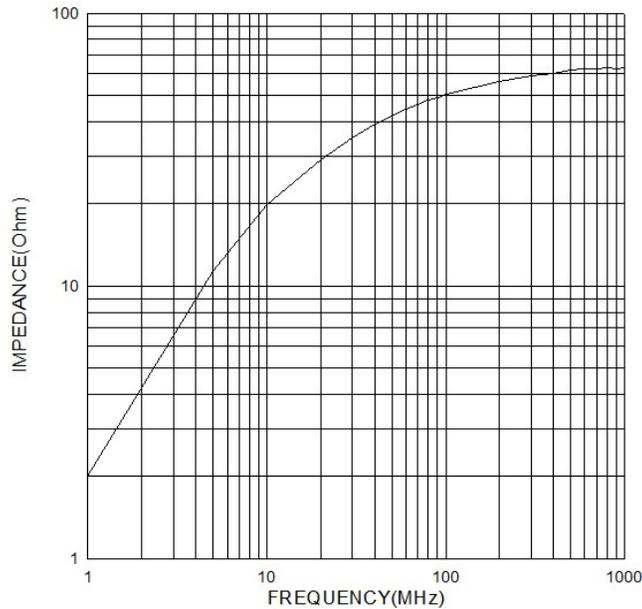
4. General Specifications

- (a) Operating Temp.: -40°C to +125°C (including self-temperature rise)
- (b) Storage Temp.: -40°C to +125°C (on board)
- (c) Storage Condition (Component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity: Less than 60% RH

5. Electrical Characteristics

| Part Number | Electrical Requirements 1 | | | | Electrical Requirements 2 | | | | DCR (mΩ) Max |
|--------------|---------------------------|----------------------|----------------------------------|----------------------------------|---------------------------|----------------------|----------------------------------|----------------------------------|--------------|
| | Impedance (Ω) ±25% | Test Frequency (MHz) | I _{rms} (A) ΔT=40°C Typ | I _{rms} (A) ΔT=60°C Typ | Impedance (Ω) ±25% | Test Frequency (MHz) | I _{rms} (A) ΔT=40°C Typ | I _{rms} (A) ΔT=60°C Typ | |
| Z403025W4530 | 35 | 25 | 35.0 | 45.0 | 53 | 100 | 15.0 | 18.0 | 0.60 |

6. Characteristics Curve



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7. Soldering Specification

Mildly activated rosin fluxes are preferred. Our terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

7-1. IR Soldering Reflow

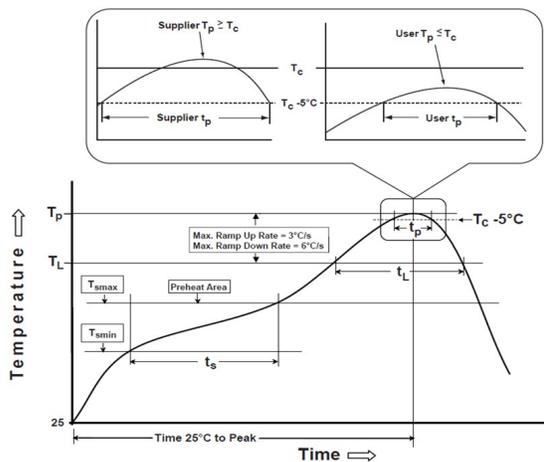
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

7-2. Iron Reflow

Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended (Figure 2).

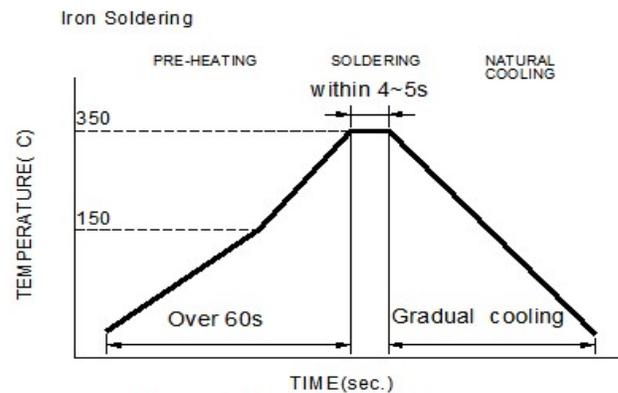
Note:

- (a) Preheat circuit and products to 150°C.
- (b) 355°C tip temperature (Max.)
- (c) Never contact the ceramic with the iron tip
- (d) 1.0mm tip diameter (Max.)
- (e) Use a 20 watt soldering iron with tip diameter of 1.0mm
- (f) Limit soldering time to 4~5 sec.



Reflow times: 3 times Max

Figure 1: IR Soldering Reflow



Iron Soldering times: 1 times max.

Soldering iron method: 350±5°C Max

Figure 2: Iron soldering temperature profiles

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Table (1.1) Reflow Profiles

| | |
|--|------------------|
| Profile Type: | Pb-Free Assembly |
| Preheat | |
| -Temperature Min (T_{smin}) | 150°C |
| -Temperature Max (T_{smax}) | 200°C |
| -Time (t_s) from (T_{smin} to T_{smax}) | 60-120seconds |
| Ramp-up rate (T_L to T_p) | 3°C /second max. |
| Liquids temperature (T_L) | 217°C |
| Time (t_L) maintained above T_L | 60-150 seconds |
| Classification temperature (T_c) | See Table (1.2) |
| Time (t_p) at $T_c - 5^\circ\text{C}$ (T_p should be equal to or less than T_c .) | * < 30 seconds |
| Ramp-down rate (T_p to T_L) | 6°C /second max. |
| Time 25°C to peak temperature | 8 minutes max. |

T_p: maximum peak package body temperature, **T_c**: the classification temperature.

For user (customer) **T_p** should be equal to or less than **T_c**.

*Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

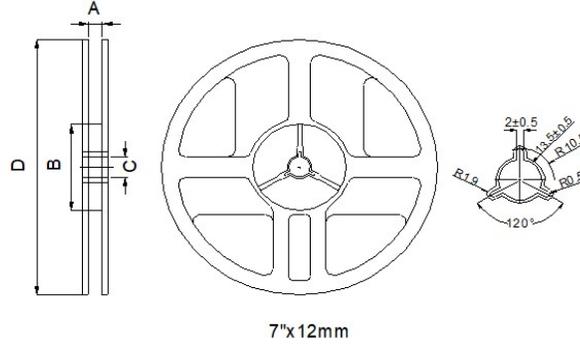
| | Package Thickness | Volume mm ³ <350 | Volume mm ³ 350-2000 | Volume mm ³ >2000 |
|------------------|-------------------|-----------------------------|---------------------------------|------------------------------|
| PB-Free Assembly | <1.6mm | 260°C | 260°C | 260°C |
| | 1.6-2.5mm | 260°C | 250°C | 245°C |
| | ≥2.5mm | 250°C | 245°C | 245°C |

Reflow is referred to standard IPC/JEDEC J-STD-020E.

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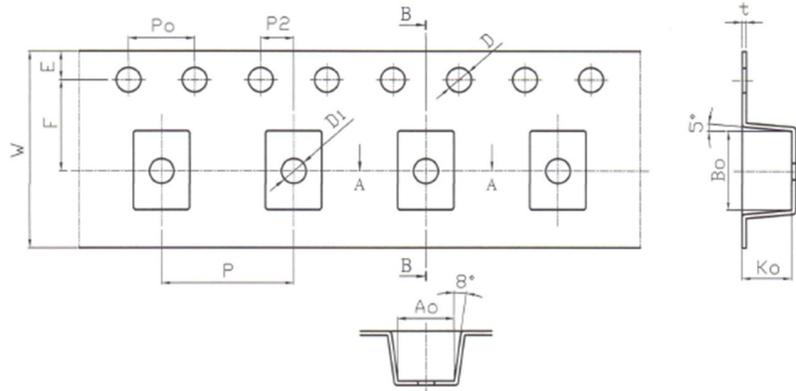
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



| Type | A(mm) | B(mm) | C(mm) | D(mm) |
|-----------|----------|----------|----------|-----------|
| 7" x 12mm | 13.5±0.5 | 60.0±2.0 | 13.5±0.5 | 178.0±2.0 |

8-2. Tape Dimension (Unit: mm)



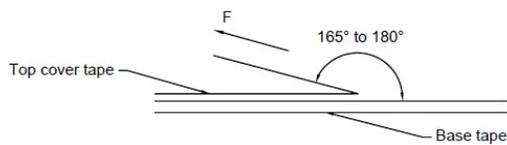
| | | | | | |
|------------|-----------|-----------|-----------------|-----------|-----------|
| W | P | Po | D | D1 | E |
| 12.00±0.10 | 8.00±0.10 | 4.00±0.10 | 1.50+0.10/-0.00 | 1.50±0.10 | 1.75±0.10 |
| F | P2 | Ao | Bo | Ko | t |
| 5.50±0.10 | 2.00±0.10 | 3.30±0.10 | 4.80±0.10 | 3.10±0.10 | 0.28±0.05 |

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8-3. Packaging Quantity (Unit: Pcs)

| | |
|------------|--------|
| Chip/ Reel | 500 |
| Inner Box | 2,000 |
| Middle Box | 10,000 |
| Carton | 20,000 |

8-4. Tearing Off Force



The force for tearing off cover tape is according to the follow table, in the arrow direction under the following conditions.

(Referenced ANSI/EIA-481-D-2008 of 4.11 standard)

| Room Temp. (°C) | Room Humidity (%) | Room atm (hPa) | Tearing Speed (mm/min) |
|-----------------|-------------------|----------------|------------------------|
| 5~35 | 45~85 | 860~1060 | 300±10 |

| Tape Size | 8 mm | 12 to 56 mm | 72 mm or Wider |
|---------------------------|--------|-------------|----------------|
| Tearing Off Force (grams) | 10~100 | 10~130 | 10~150 |

Application Notice

1. Storage Conditions

To maintain the solderability of terminal electrodes:

- (a) Recommended products should be used within 12 months from the time of delivery.
- (b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation

- (a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- (b) Vacuum pick up is strongly recommended for individual components.
- (c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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