

## 1. Part No. Expression

**WD3532FU750-RC-10**

(a) (b) (c) (d) (e)(f) (g)

(a) Series Code

(b) Dimension Code

(c) Material Code

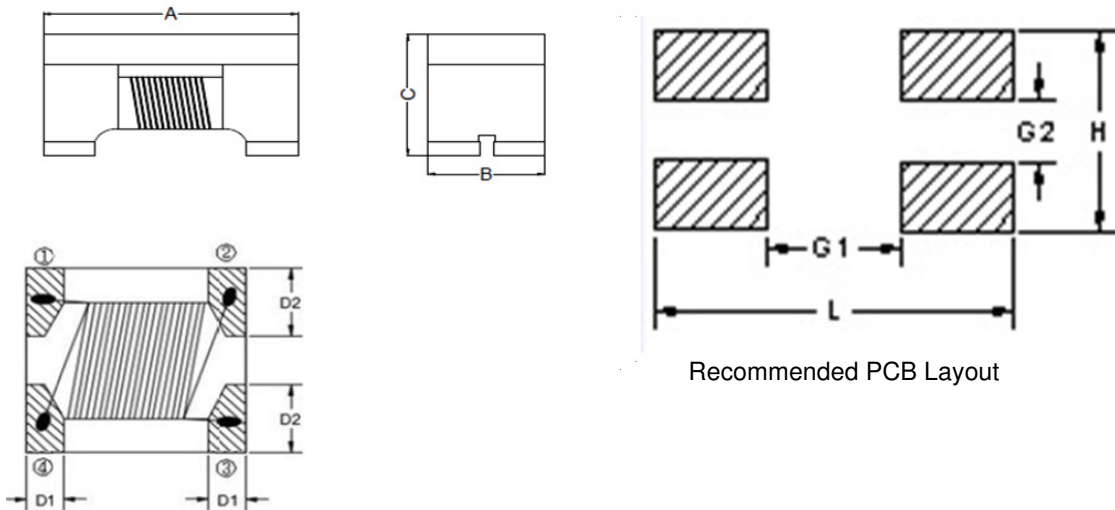
(d) Inductance Code

(e) Packaging Code

(f) Current Code

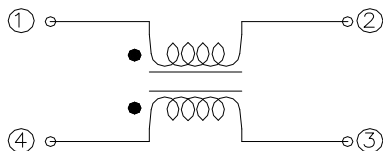
(g) Special Code

## 2. Configuration & Dimensions: (Unit:- mm)



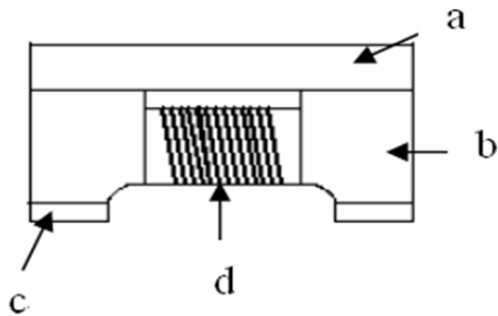
| A       | B       | C       | D1       | D2       | L        | H        | G1       | G2       |
|---------|---------|---------|----------|----------|----------|----------|----------|----------|
| 3.5±0.2 | 3.2±0.2 | 2.3±0.2 | 0.63±0.1 | 1.18±0.1 | 4.40 Ref | 3.80 Ref | 2.45 Ref | 0.90 Ref |

## 3. Schematic



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

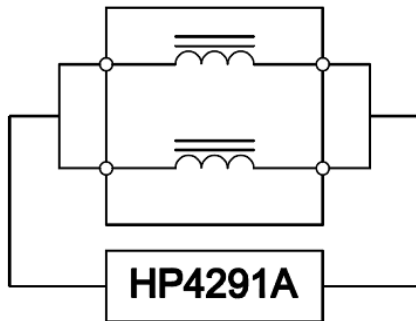
**4. Material List**



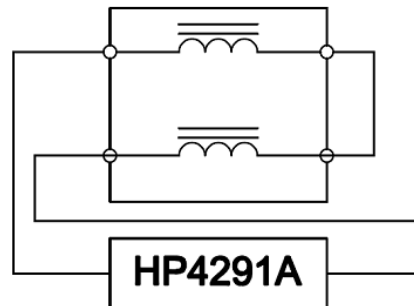
|    |             |
|----|-------------|
| a) | Upper Plate |
| b) | Core        |
| c) | Terminal    |
| d) | Wire        |

**5. Measuring Circuits 2 Lines**

**Common mode**



**Differential mode**



**6. 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) Irms: Based on temperature rise  $\Delta T$  40°C Max at rated current.
- (d) Storage Condition (Component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: 60% RH

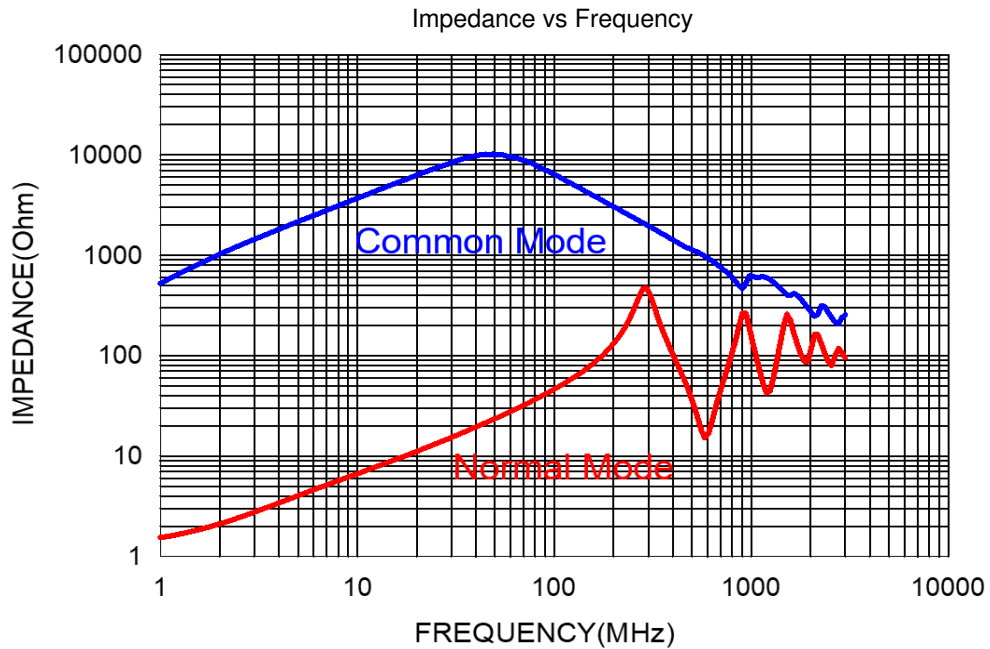
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## 7. Electrical Characteristics

| Part Number       | Inductance (uH)<br>@0.1V/100kHz<br>Min | DCR (Ω)<br>Max | Rated Current (mA) | Rated Volt. (Vdc) | Withstand Volt. (Vdc)<br>Max | IR (MΩ)<br>Min |
|-------------------|--|----------------|--------------------|-------------------|------------------------------|----------------|
| WD3532FU750-RC-10 | 75                                     | 0.8            | 300                | 50                | 125                          | 10             |

## 8. Characteristics Curve



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### 9. Soldering and Mounting

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.

#### 9-1 IR Soldering Reflow

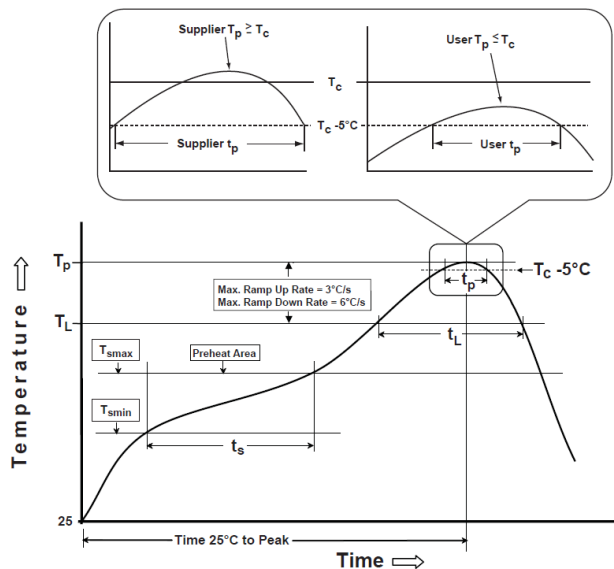
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

#### 9-2 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).

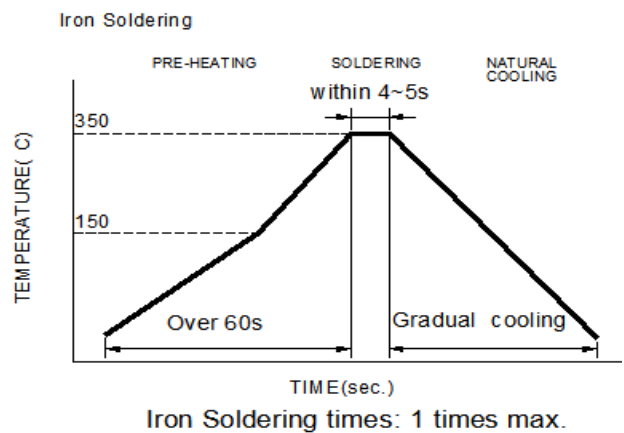
Note:

- 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



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.  |
| Liquidus 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<sub>p</sub>**: maximum peak package body temperature, **T<sub>c</sub>**: the classification temperature.

For user (customer) **T<sub>p</sub>** should be equal to or less than **T<sub>c</sub>**.

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

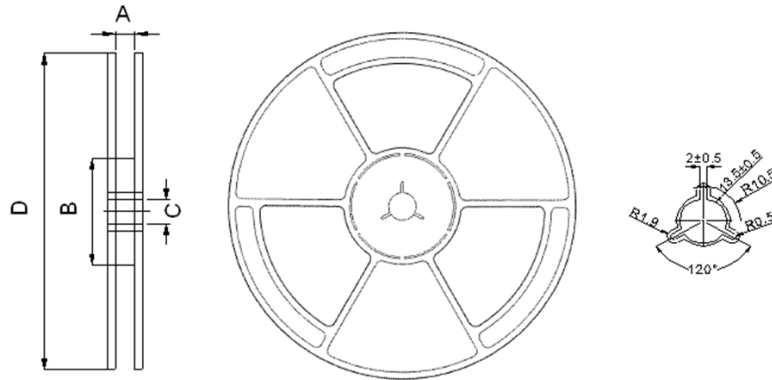
|                  | Package Thickness | Volume mm <sup>3</sup><br><350 | Volume mm <sup>3</sup><br>350-2000 | Volume mm <sup>3</sup><br>>2000 |
|------------------|-------------------|--------------------------------|------------------------------------|---------------------------------|
| PB-Free Assembly | <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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10. Packaging Information

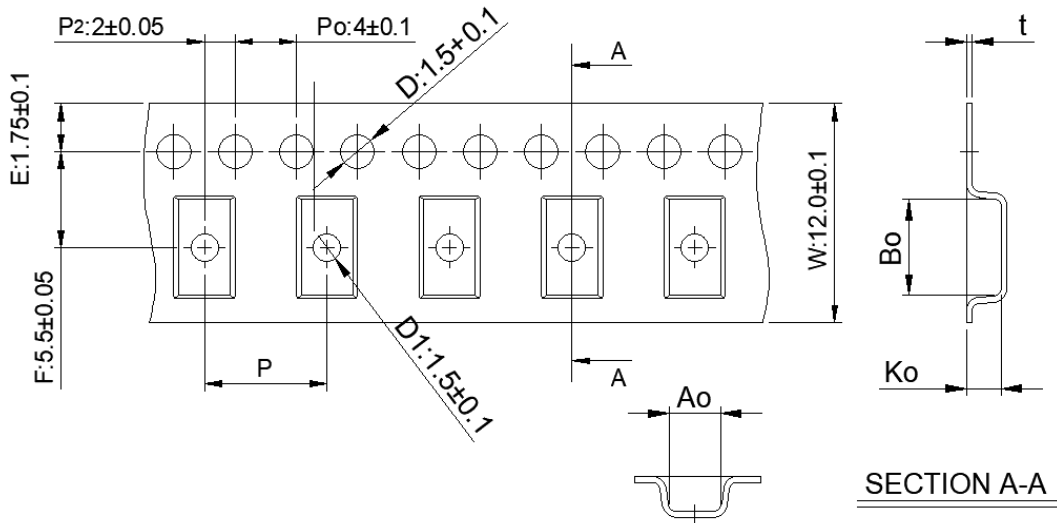
10-1 Reel Dimension



13 "x12mm

| Type     | A(mm)  | B(mm)   | C(mm)    | D(mm)   |
|----------|--------|---------|----------|---------|
| 13"x12mm | 12±1.5 | 100±0.5 | 13.2±0.5 | 330±0.5 |

10-2 Tape Dimension / 12mm



| Series   | Bo(mm)   | Ao(mm)   | Ko(mm)   | P(mm)    | t(mm)     |
|----------|----------|----------|----------|----------|-----------|
| WD3532FU | 3.80±0.1 | 3.40±0.1 | 2.50±0.1 | 8.00±0.1 | 0.26±0.05 |

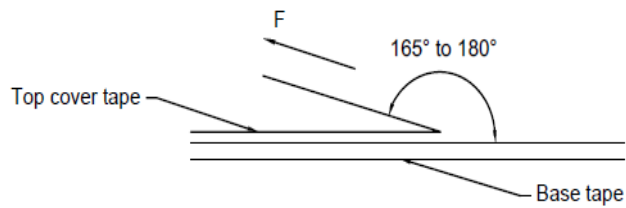
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### 10-3 Packaging Quantity

|             |          |
|-------------|----------|
| Chip Size   | WD3532FU |
| Chip / Reel | 2000     |
| Inner Box   | 4000     |
| Carton      | 32000    |

### 10-4 Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

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

### 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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