

## 1. Part No. Expression

**WD4532FU500A-10**

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

(a) Series Code

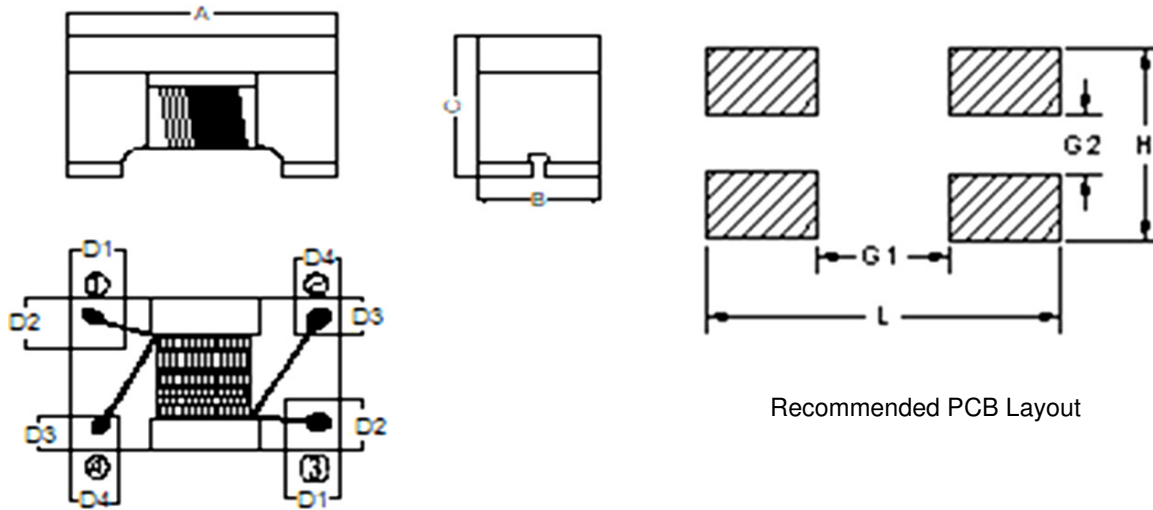
(b) Dimension Code

(c) Material Code

(d) Inductance Code

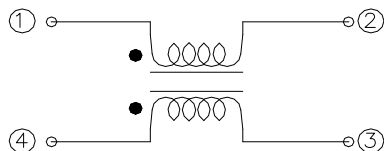
(e) Special Code

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



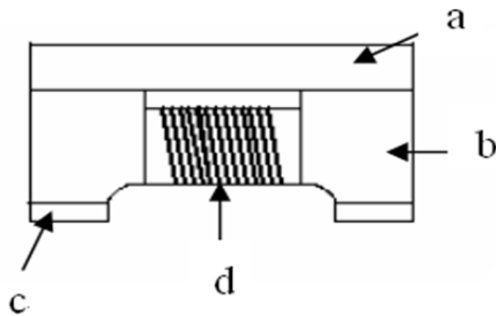
A	B	C	D1	D2	D3
4.5±0.2	3.2±0.2	2.8±0.2	1.1±0.1	0.85±0.1	0.85±0.1
D4	L	H	G1	G2	
0.85±0.1	4.8 Ref	3.8 Ref	2.5 Ref	1.6 Ref	

## 3. Schematic



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

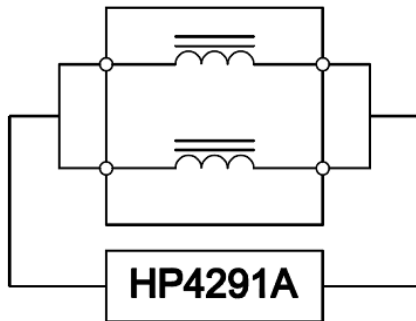
## 4. Material List



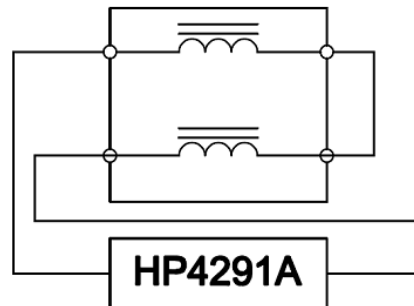
a)	Upper Plate
b)	Core
c)	Terminal
d)	Wire

## 5. Measuring Circuits 2 Lines

### Common mode



### Differential mode



## 6. General Specifications

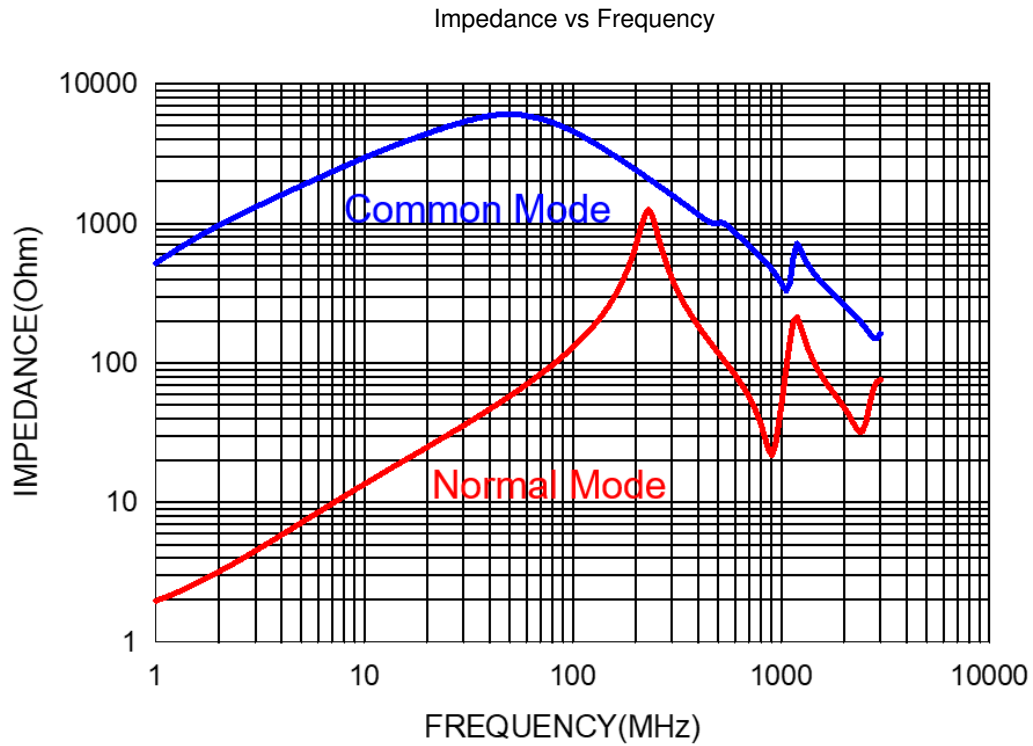
- (a) Operating Temp. : -40°C to +125°C (Including self - temperature rise).
- (b) Storage Temp. : -40°C to +125°C (On board).
- (c) Irms: Based on temperature rise  $\Delta T$  40°C Max at rated current.
- (d) Storage Condition (Component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: 60% RH

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## 7. Electrical Characteristics

Part Number	Inductance (uH) @100kHz Min	Capacitance (pF) Max	DCR (Ω) Max	Rated Volt. (Vdc)	Withstand Volt. (Vdc) Max	IR (MΩ) Min
WD4532FU500A-10	50	5.5	0.75	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

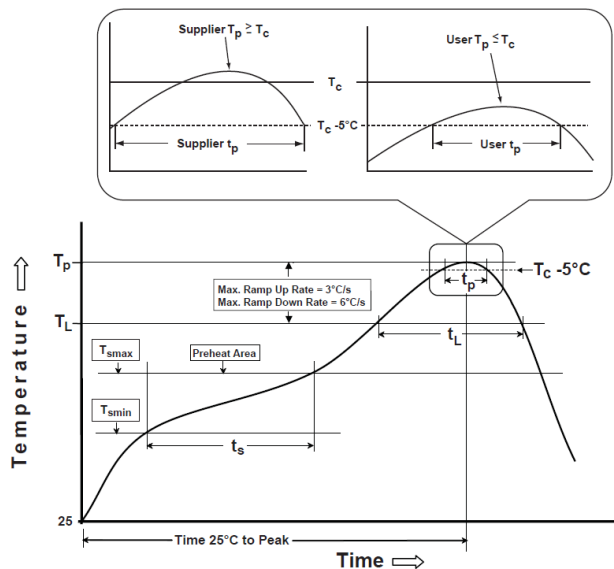
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

#### 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).

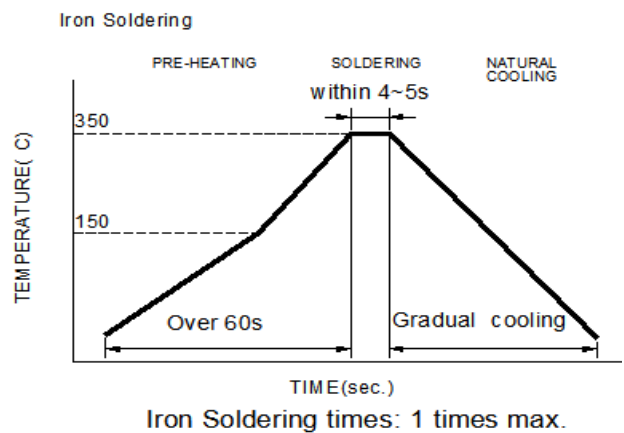
Note:

- 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 ( $T_c$ )**

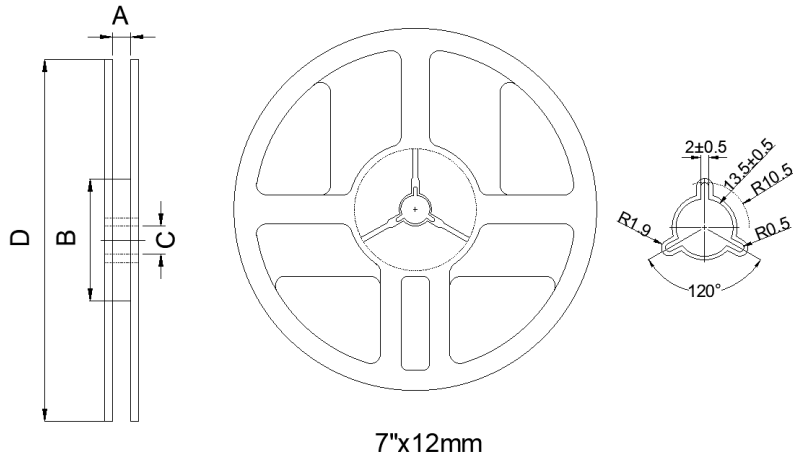
	Package Thickness	Volume $\text{mm}^3$ <350	Volume $\text{mm}^3$ 350-2000	Volume $\text{mm}^3$ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	$\geq 2.5\text{mm}$	250°C	245°C	245°C

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

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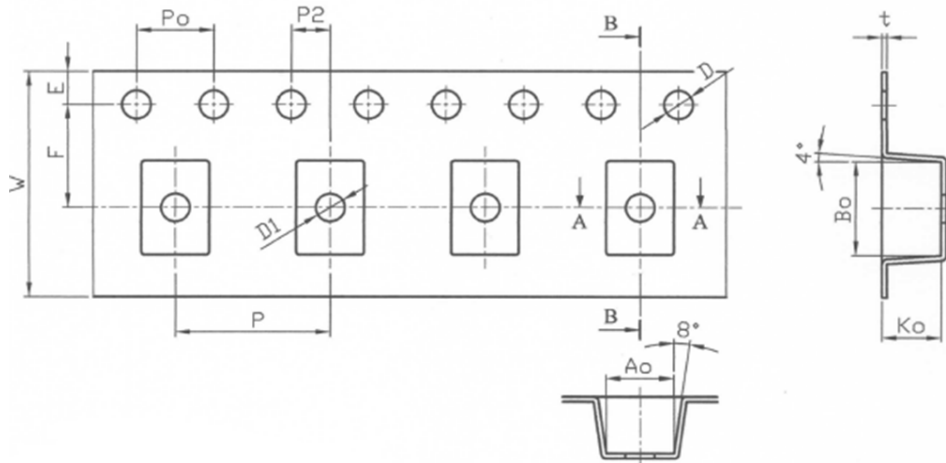
10. Packaging Information

10-1 Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x12mm	13.5±0.5	60±2	13.5±0.5	178±2

10-2 Tape Dimension / 12mm



Series	P(mm)	Po(mm)	P2(mm)	Bo(mm)	Ao(mm)	Ko(mm)
	8.00±0.10	4.00±0.10	2.00±0.05	4.90±0.10	3.60±0.10	3.00±0.10
WD4532FU	D(mm)	E(mm)	F(mm)	W(mm)	t(mm)	D1(mm)
	1.50+0.10/-0	1.75±0.10	5.50±0.05	12.00±0.10	0.26±0.05	1.50±0.10

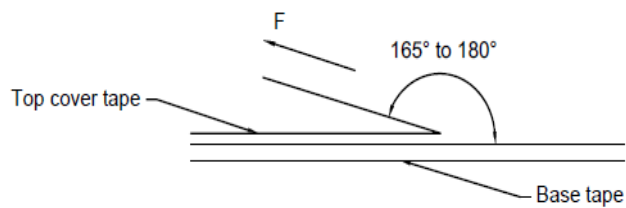
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### 10-3 Packaging Quantity

Chip Size	WD4532FU
Chip / Reel	500
Inner Box	2000
Middle Box	10000
Carton	20000

### 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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