

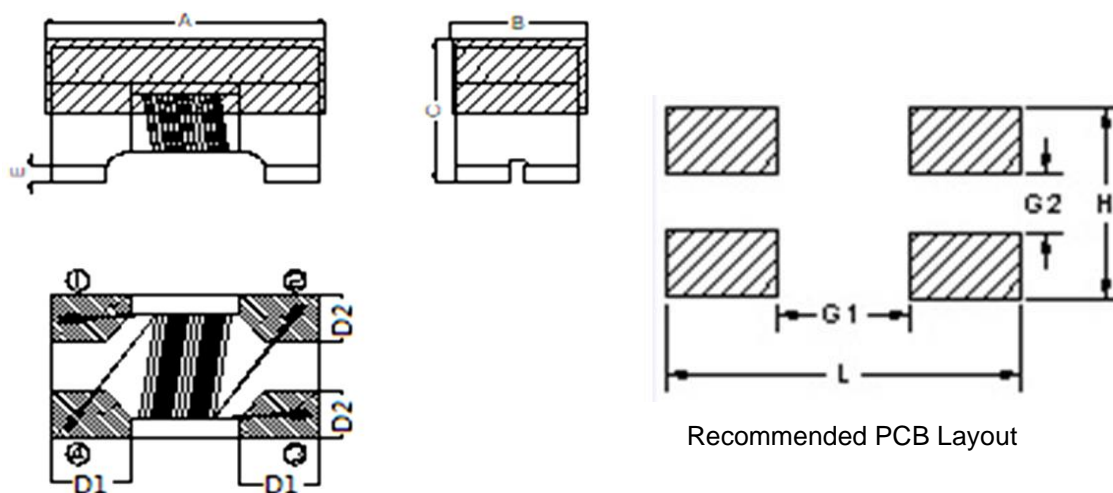
## 1. Part No. Expression

**W 2 F 9 0 0 - R F - 1 0**

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

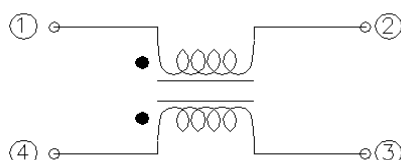
- (a) Series Code
- (b) Dimension Code
- (c) Material Code
- (d) Impedance Code
- (e) Packaging Code
- (f) Current Code
- (g) Internal Code

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



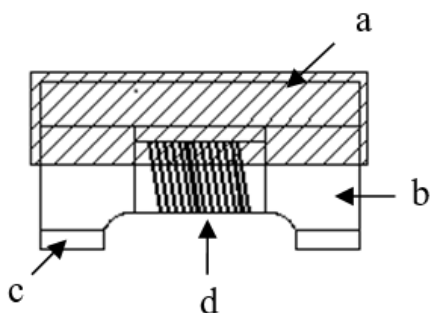
A	B	C	D1	D2	E	L	H	G1	G2
1.60±0.15	0.85±0.15	1.10±0.15	0.30 Typ	0.30 Typ	0.03 Min	2.10 Ref	1.00 Ref	0.70 Ref	0.30 Ref

## 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) Termination
- (d) Wire

## 5. General Specifications

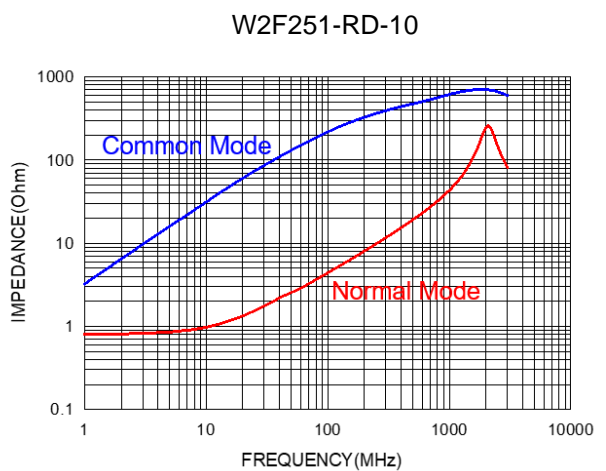
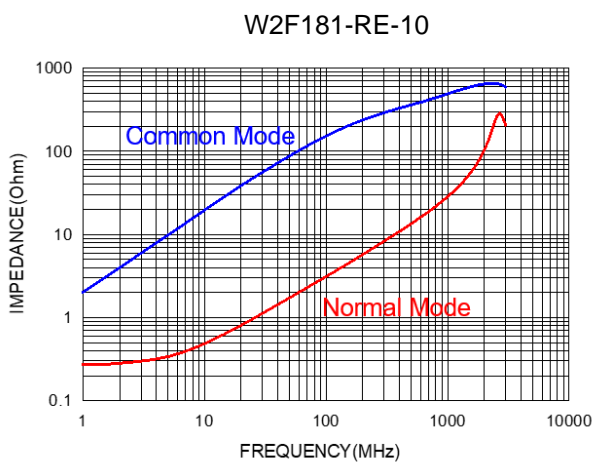
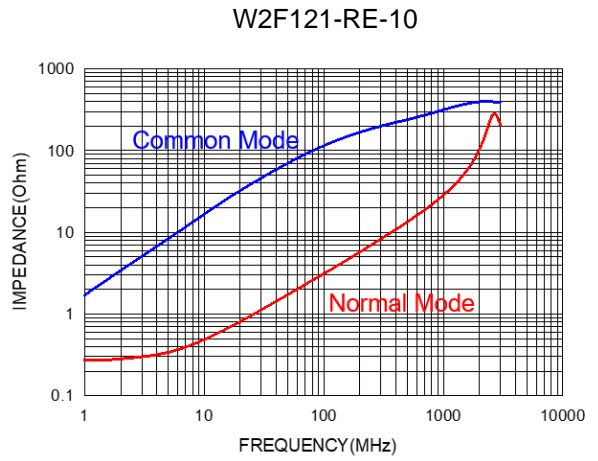
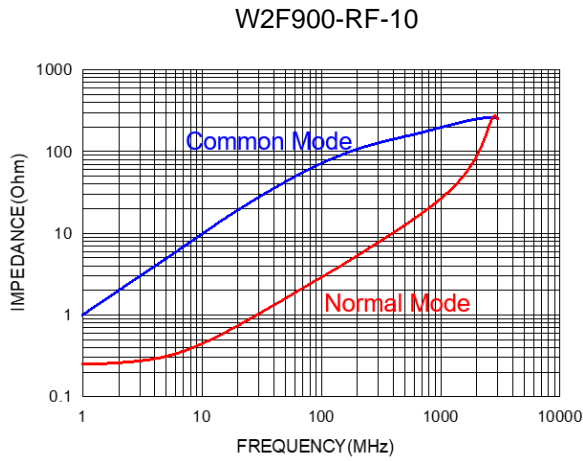
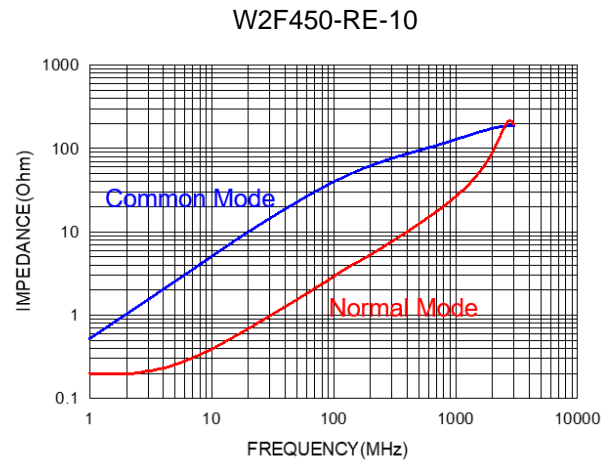
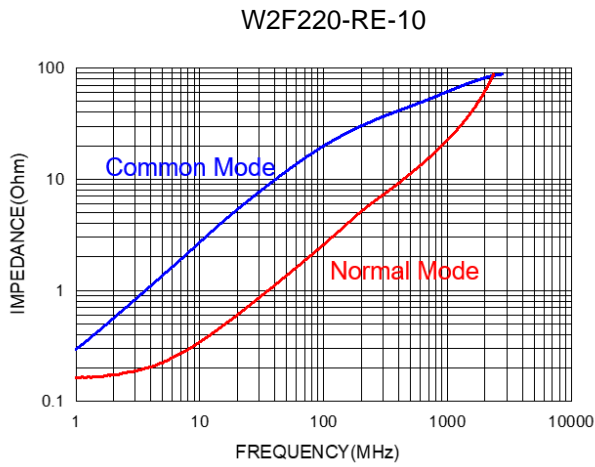
- (a) Operating Temp.: -40°C to +125°C (Including self - temperature rise).
- (b) Storage Temp.: -40°C to +125°C (On board).
- (c) Irms: Based on temperature rise  $\Delta T$  40°C Max at rated current.
- (d) Storage Condition (Component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: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

## 6. Electrical Characteristics

Part Number	Common Mode Impedance ( $\Omega$ ) $\pm 25\%$	Test Frequency (MHz)	DC Resistance ( $\Omega$ ) Max.	Rated Current (mA) Max.	Rated Volt. (Vdc) Max.	Withstand Volt. (Vdc) Max.	IR (M $\Omega$ ) Min.
W2F220-RE-10	22	100	0.080	500	50	125	10
W2F450-RE-10	45	100	0.110	500	50	125	10
W2F900-RF-10	90	100	0.145	550	50	125	10
W2F121-RE-10	120	100	0.175	500	50	125	10
W2F181-RE-10	180	100	0.210	500	50	125	10
W2F251-RD-10	250	100	0.280	400	50	125	10

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

## 7. Characteristics Curves



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## 8. 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.

### 8-1 IR Soldering Reflow

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

### 8-2 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:

- Preheat circuit and products to 150°C.
- 350°C tip temperature (Max.)
- Never contact the ceramic with the iron tip
- 1.0mm tip diameter (Max.)
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- Limit soldering time to 4~5 sec.

Figure 1: IR Soldering Reflow

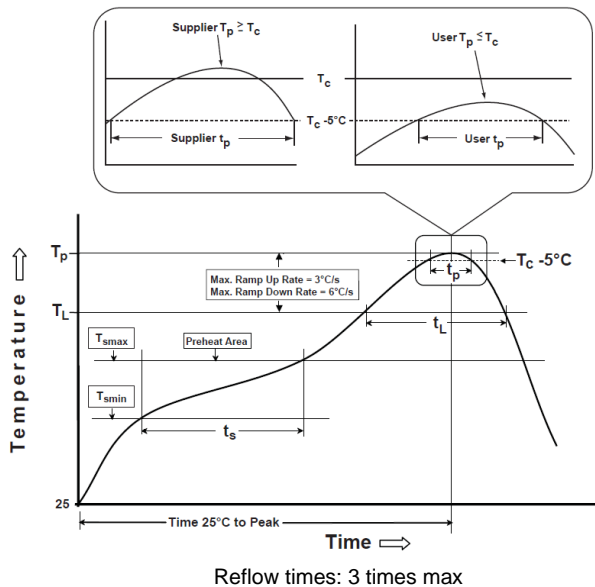
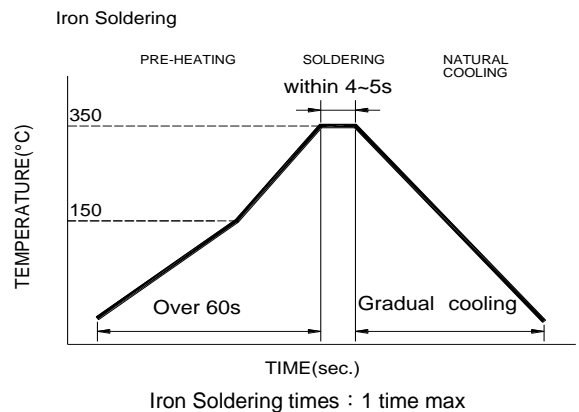


Figure 2: Iron soldering temperature profiles



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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.

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

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

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

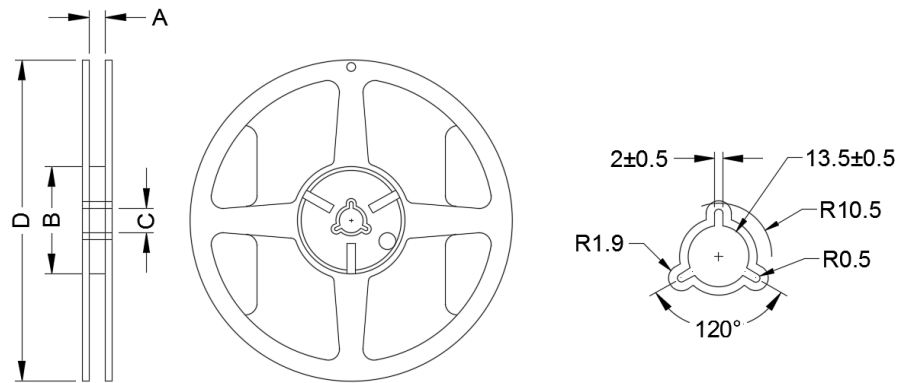
	Package Thickness	Volume $\text{mm}^3$ <350	Volume $\text{mm}^3$ 350-2000	Volume $\text{mm}^3$ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	$\geq 2.5\text{mm}$	250°C	245°C	245°C

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

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## 9. Packaging Information

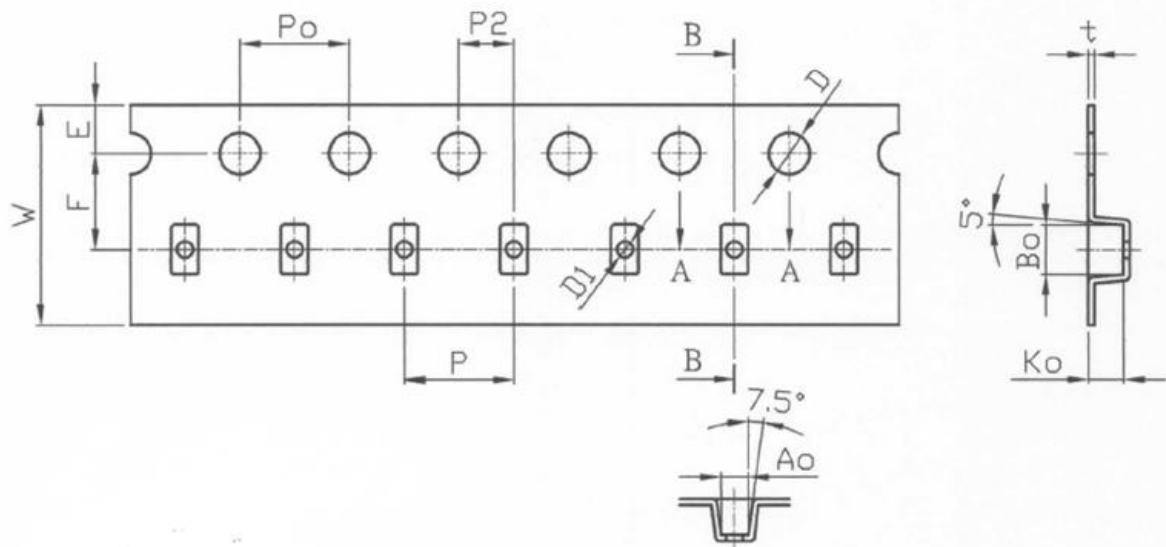
### 9-1 Reel Dimension



7" x 8mm

Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	9.0±0.5	60±2	13.5±0.5	178±2

### 9-2 Tape Dimension



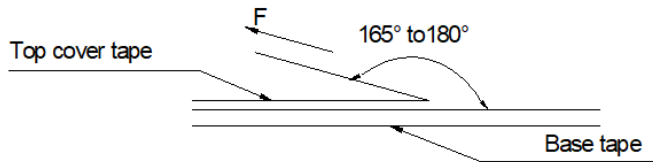
W(mm)	P(mm)	E(mm)	F(mm)	P2(mm)	D(mm)
8.00±0.10	4.00±0.10	1.75±0.10	3.50±0.05	2.00±0.05	1.50+0.10/-0.00
D1(mm)	P0(mm)	A0(mm)	B0(mm)	K0(mm)	t(mm)
0.60±0.05	4.00±0.10	1.00±0.10	1.80±0.10	1.30±0.10	0.22±0.05

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## 9-3 Packaging Quantity

Chip / Reel	3,000
Inner Box	15,000
Middle Box	75,000
Carton	150,000

## 9-4 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:

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

### 2. Transportation

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

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