

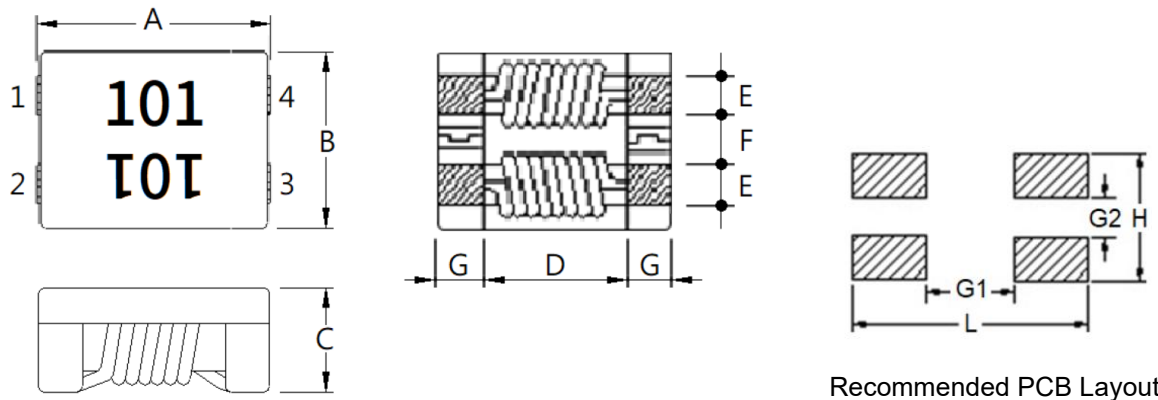
## 1. Part No. Expression

**W Q J F A S 1 0 1 - R W - 1 0**

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

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

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



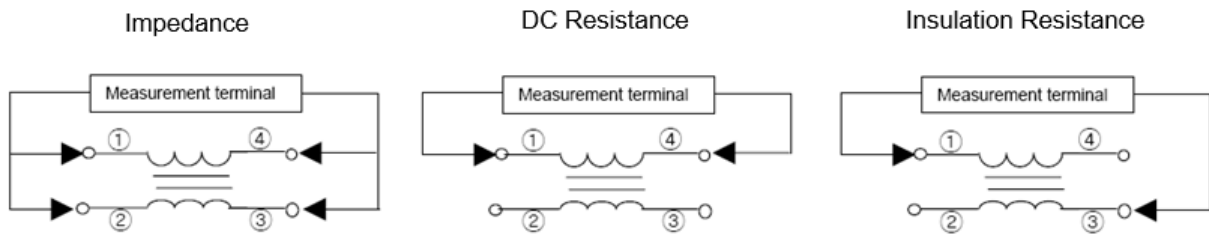
Note: 1. The above PCB layout reference only.

2. Laser Marking: Inductance Code

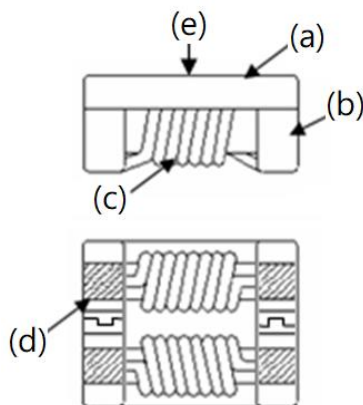
A	B	C	D	E	F
5.5±0.5	5.5±0.5	3.5 Max	3.3 Typ	1.2±0.5	1.9±0.5
G	L	H	G1	G2	-
1.1±0.5	5.9 Ref	4.3 Ref	3.3 Ref	1.9 Ref	-

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

### 3. Schematic



### 4. Material List



NO	Description
(a)	Upper Plate
(b)	Core
(c)	Wire
(d)	Termination
(e)	Marking

### 5. General Specifications

- (a) Reliability test for this part meets AEC-Q200 standard.
- (b) Operating Temp.: - 40°C to + 125°C (including self-temperature rise)
- (c) Storage Temp.: - 40°C to +125°C (on board)
- (d) All test data referenced to 25°C ambient.
- (e) Rated Current will cause the coil temperature rise approximately  $\Delta T$  of 40°C Max.
- (f) Storage Condition (Component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: Less than 60% RH

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## 6. Electrical Characteristics

Part Number	Impedance ( $\Omega$ )		Test Frequency (MHz)	DCR (m $\Omega$ ) Max	Rated Current (A) Max	Rated Voltage (Vdc) Max	IR (M $\Omega$ ) Min
	Min	Typ					
WQJFAS101-RW-10	100	140	100	6.0	8.5	80	10
WQJFAS301-RR-10	150	300	100	7.5	4.8	80	10
WQJFAS501-RQ-10	300	500	100	10.5	4.5	80	10
WQJFAS701-RP-10	500	700	100	13.0	3.8	80	10
WQJFAS102-RN-10	750	1000	100	20.0	3.0	80	10
WQJFAS142-RN-10	1000	1400	100	38.0	2.8	80	10

**Note:**

Measurement Board Data

Material: FR4

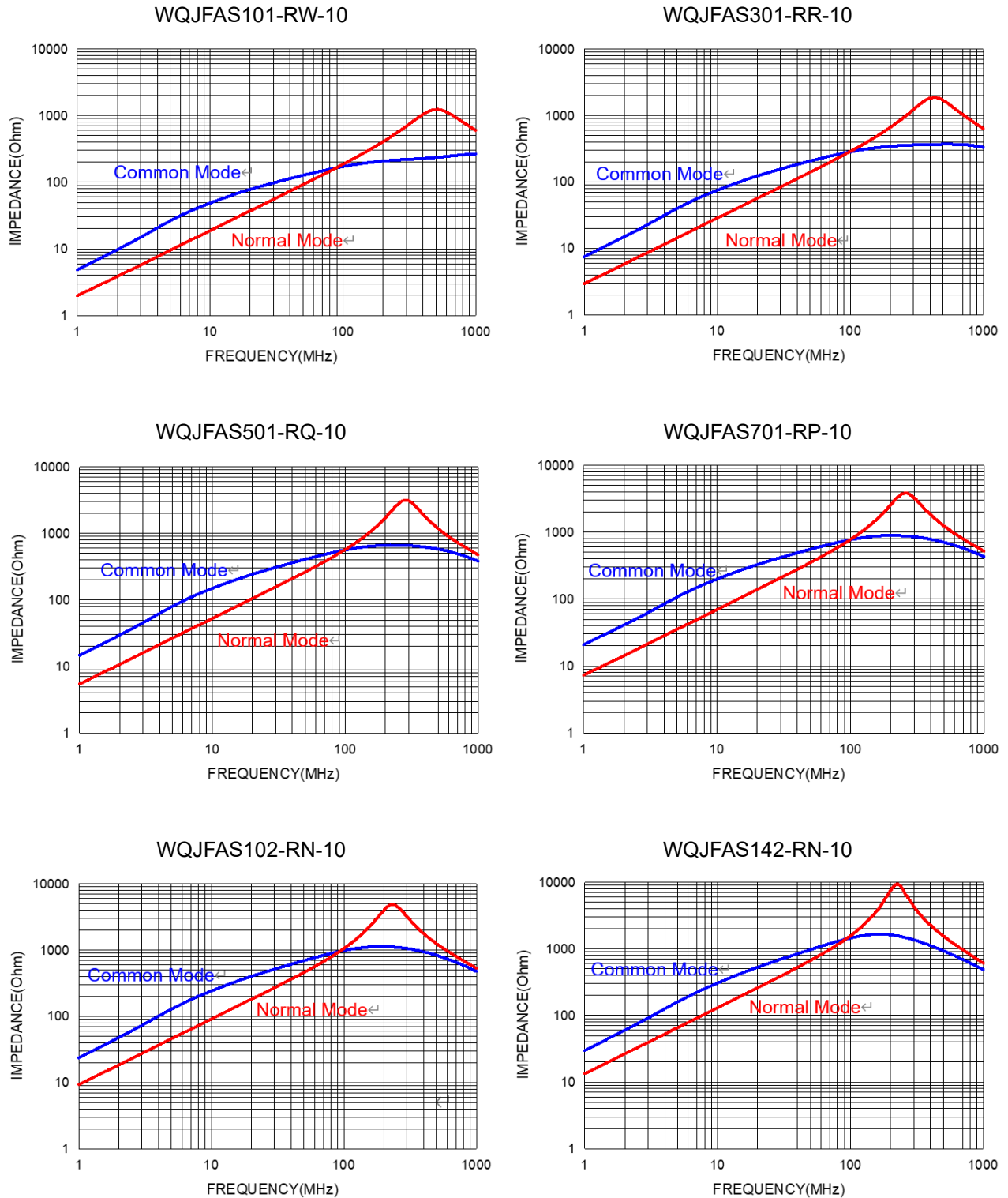
Board dimensions: 100 x 50 x 1.6t mm

Pattern dimensions: 45 x 30 mm (Double side board)

Pattern thickness: 50  $\mu$ m

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## 7. Characteristics Curve



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## 8. 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.

### 8-1. IR Soldering Reflow

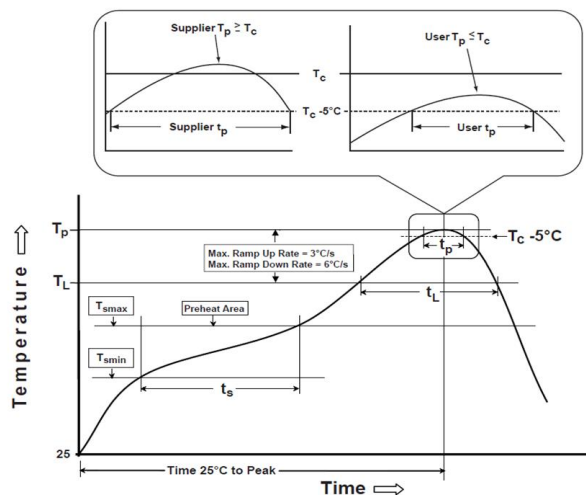
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

### 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).

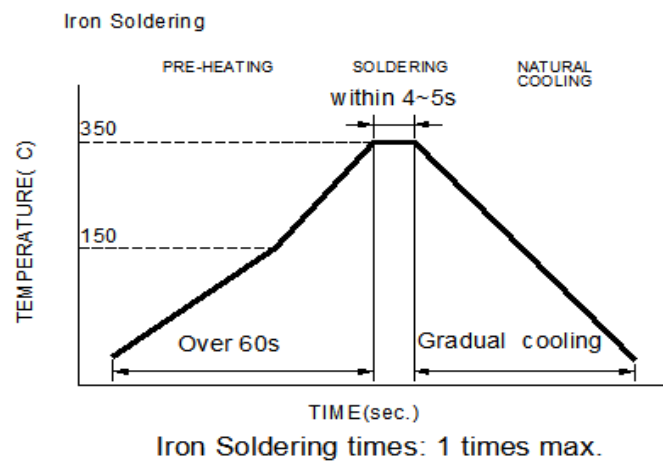
Note:

- Preheat circuit and products to 150°C.
- 355°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.



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.
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<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>**.

\*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 ( $T_c$ )

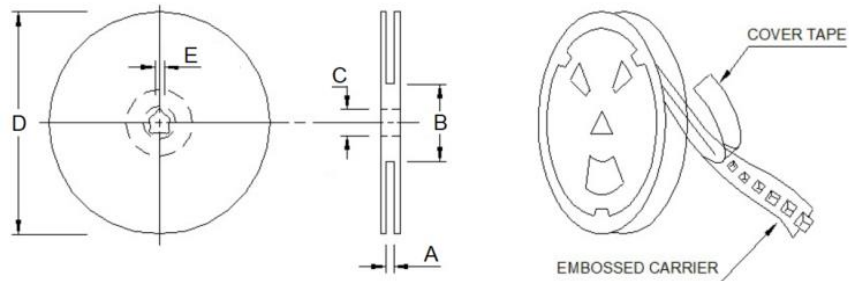
	Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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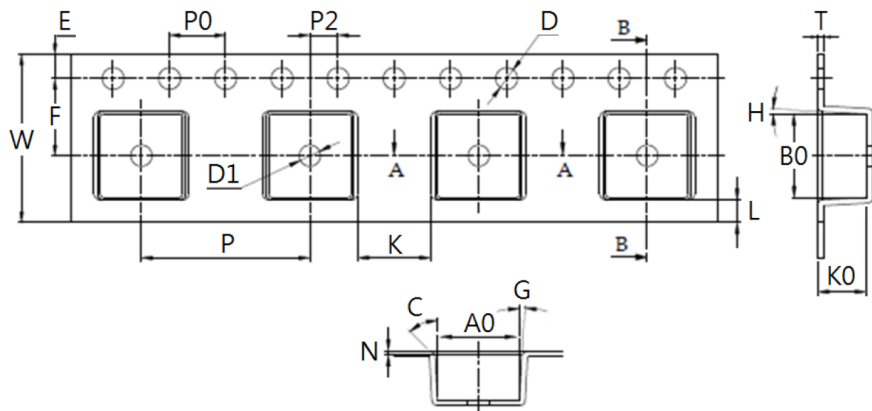
## 9. Packaging Information

### 9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E
13"x12mm	12.5±0.5	100.0±2.0	13.5±0.5	330.0	2.0±0.5

### 9-2. Tape Dimension (Unit: mm)

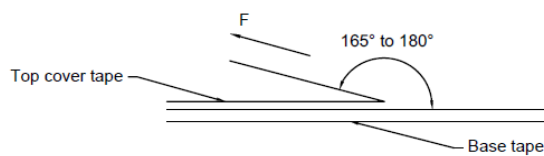


W	P	E	F	P0
12.0000±0.3000	12.0000±0.1000	1.7500±0.1000	5.5000±0.1000	4.0000±0.1000
P2	B0	A0	K0	D
2.0000±0.1000	5.9500±0.1000	5.8500±0.1000	3.5000±0.1000	1.5000+0.1000/-0.0000
D1	T	C	G	H
1.5000±0.1000	0.4000±0.0500	45°	3°	3°
K	L	N	-	-
5.2146	1.5916	0.3000	-	-

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**9-3. Packaging Quantity (Unit: Pcs)**

Chip/ Reel	1,500
Inner Box	3,000
Carton	15,000

**9-4. 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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