

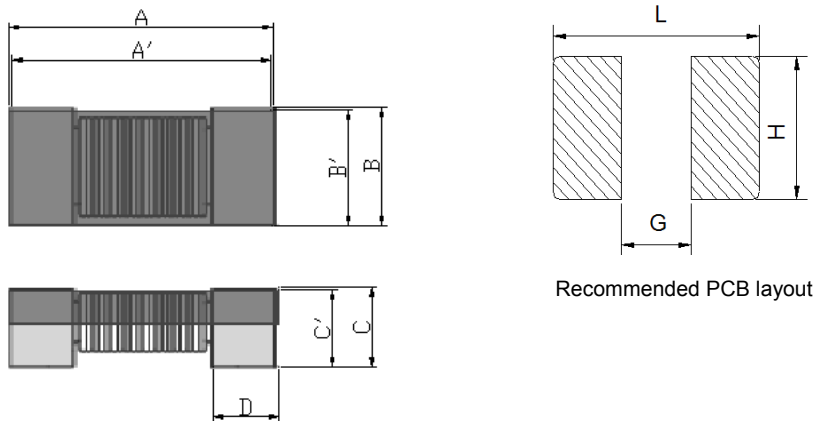
1. Part No. Expression:

W Q 4 4 2 0 - 2 5 2 M - F 1 0

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

- (a) Series Code
- (b) Dimension Code
- (c) Inductance Code
- (d) Tolerance Code
- (e) Test Frequency

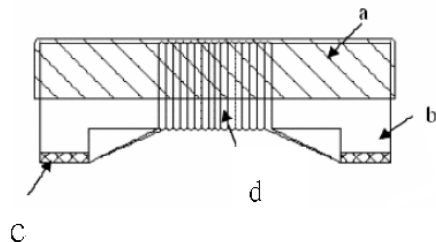
2. Configuration & Dimensions:



Unit: mm

| A | A' | B | B' | C | C' | D | L | G | H |
|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| 4.75±0.2 | 4.40±0.2 | 2.25±0.2 | 2.00±0.2 | 1.80±0.3 | 1.80±0.2 | 0.80 Ref. | 4.80 Ref. | 3.20 Ref. | 2.30 Ref. |

3. Material List:



- (a) Upper Plate
- (b) Core
- (c) Termination
- (d) Wire

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

4. General Specification:

- (a) Reliability test for this part meets AEC-Q200 standard
- (b) Operating Temp. : -55°C to +125°C(Including self - temperature rise)
- (c) Storage Temp. : -55°C to +125°C (on board)
- (d) Rated Current (Irms) will cause the coil temperature rise approximately Δt of 20°C
- (e) Humidity Range: 85 ± 3% RH
- (f) Storage Condition (Component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity : 60% RH

5. Electrical Characteristics:

| Part Number | Inductance (uH) | Test Frequency (Hz) | SRF (MHz) Min. | DCR (Ω) | Rated Current (mA) Max. |
|-----------------|-----------------|---------------------|----------------|----------|-------------------------|
| WQ4420-252M-F10 | 2500 ± 20% | 0.1V/10K | 1 | 82 ± 10% | 40 |
| WQ4420-352K-F10 | 3500 ± 10% | 0.1V/10K | 1 | 85 Max. | 20 |

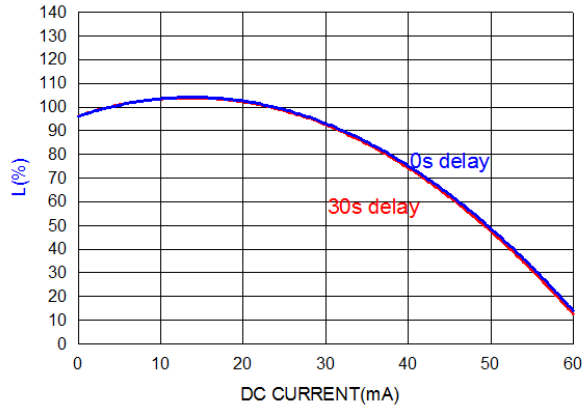
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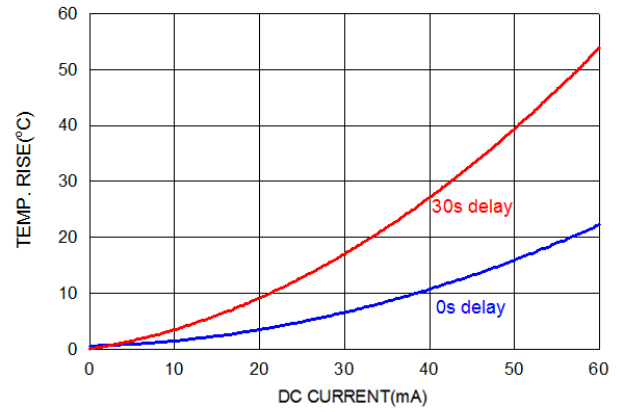
6. Characteristics Curves:

WQ4420-252M-F10

L v.s. DC Current

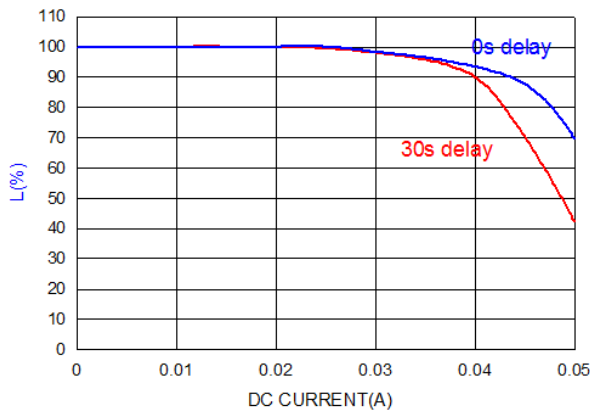


Temp.Rise v.s. DC Current

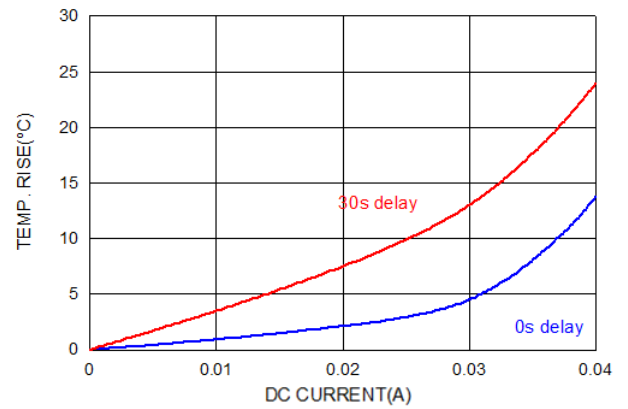


WQ4420-352K-F10

L v.s. DC Current



Temp.Rise v.s. DC Current



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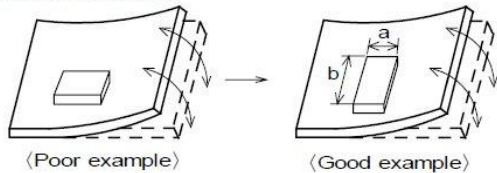
7. Soldering:

7-1. Attention regarding P.C.B. bending

The following shall be considered when designing P.C.B.'S

- (a) P.C.B. shall be designed so that products are not subjected to the mechanical stress for board warpage.

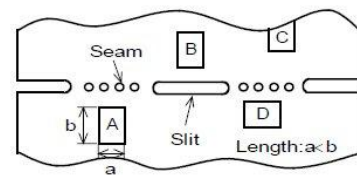
<Products direction>



Products shall be located in the sideways direction
(Length: $a < b$) to against the mechanical stress.

- (b) Products location on P.C.B.

Products (A,B,C,D) shall be located carefully to prevent mechanical stress when warping the board.
Products may be subjected to the mechanical stress in the order of $A > C > B = D$.



7-2. Soldering

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

7-2.1 Solder Re-flow

Recommended temperature profiles for re-flow soldering in Figure 1.

7-2.2 Soldering Iron (Figure 2)

Products attachment with 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.

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.

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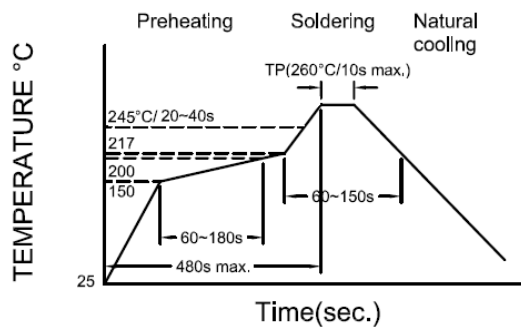


Figure 1. : Re-flow Soldering time
3 times max

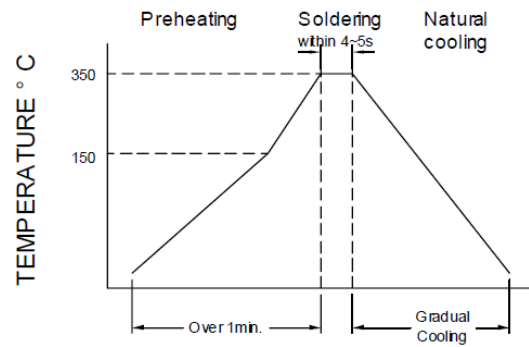
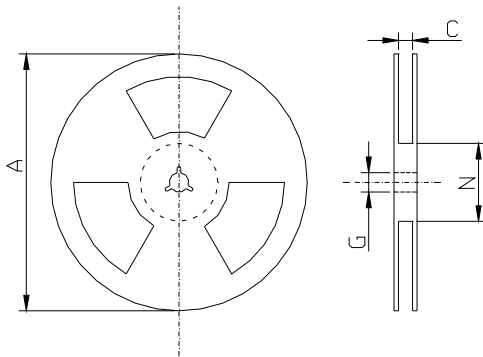


Figure 2. : Iron Soldering time
1 times max

8. Packaging Information:

8-1 Reel Dimension

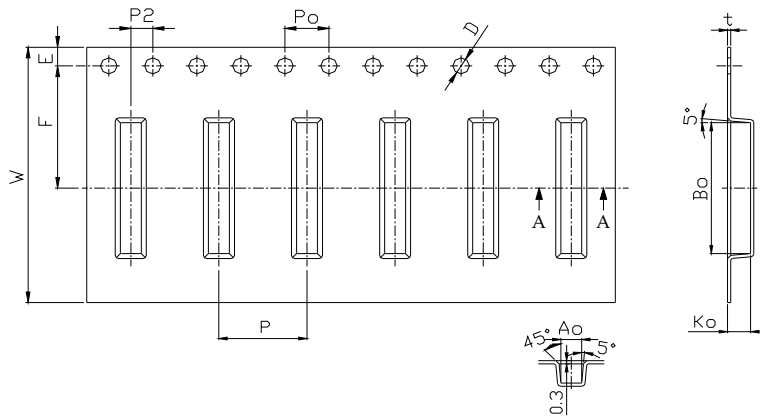


| Type | A(mm) | C(mm) | G(mm) | N(mm) |
|---------|---------|----------|----------|---------|
| 7"x12mm | 180±2.0 | 16.5±1.0 | 13.5±0.5 | 100±2.0 |

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8-2 Tape Dimension

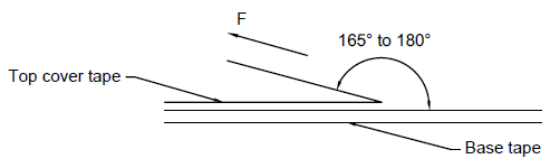


| | | | | | | |
|--------|-------------|----------|----------|------------|-----------|----------|
| Size | P(mm) | Po(mm) | P2(mm) | Bo(mm) | Ao(mm) | Ko(mm) |
| | 8.00±0.1 | 4.00±0.1 | 2.00±0.1 | 5.00±0.1 | 2.50±0.1 | 2.10±0.1 |
| WQ4420 | D(mm) | E(mm) | F(mm) | W(mm) | t(mm) | |
| | 1.50+0.1/-0 | 1.75±0.1 | 5.50±0.1 | 12.00±0.30 | 0.30±0.05 | |

8-3 Packaging Quantity

| | |
|-----------|--------|
| Chip Size | WQ4420 |
| Chip/Reel | 1,000 |

8-4 Tearing Off Force



The force for tearing off cover tape is 10 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 |

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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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