1. Part No. Expression:

W Q 3 0 1 2 E - 5 0 1 M

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

(a) Series Code

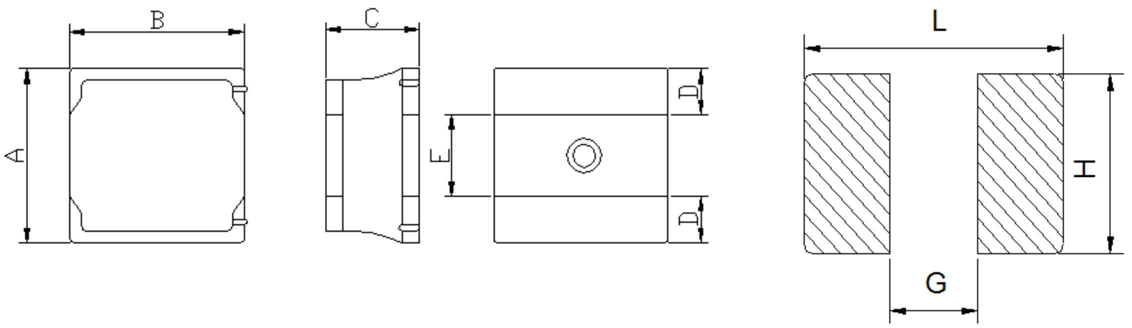
(b) Dimension Code

(c) Material Code

(d) Inductance Code

(e) Tolerance Code

2. Configuration & Dimensions:

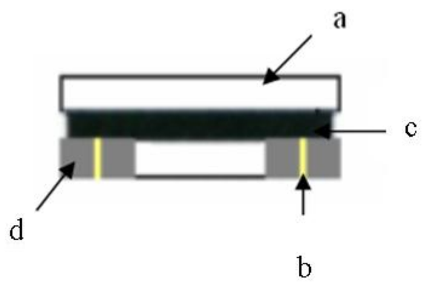


Recommended PCB layout

Unit: mm

A	B	C	D	E	L	G	H
3.0±0.2	3.0±0.2	1.2 Max.	1.0 Ref.	1.0 Ref.	3.2 Ref.	1.0 Ref.	3.2 Ref.

3. Material List:



(a) Core

(b) Wire

(c) Glue

(d) Terminal

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) Humidity Range: 85 ± 3% RH

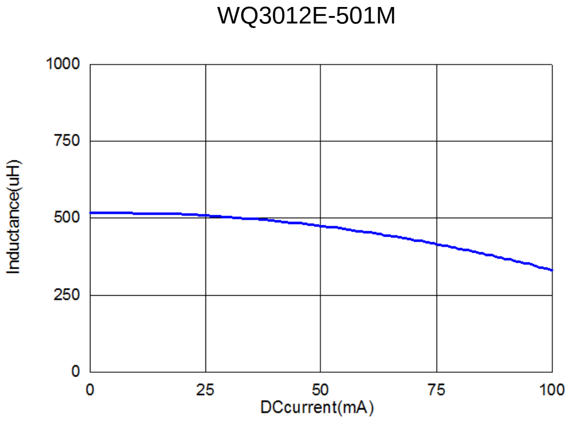
(e) Storage Condition (Component in its packaging)

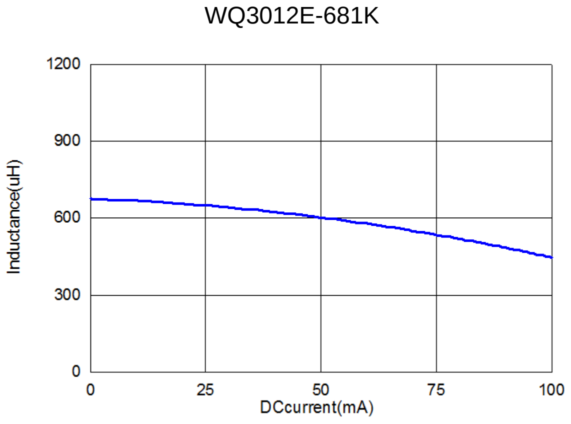
- i) Temperature: Less than 40°C
- ii) Humidity : 60% RH

5. Electrical Characteristics:

Part Number	Inductance (uH)	Test Frequency (Hz)	SRF (MHz) Typ.	DCR (Ω) Max.	Rated Current (mA) Max.
WQ3012E-501M	500±20%	1V/10K	5.0	18	80
WQ3012E-681K	680±10%	1V/10K	5.0	22	80

6. Characteristics Curves:





7. Soldering:

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

7-1 Solder Re-flow

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

7-2 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.

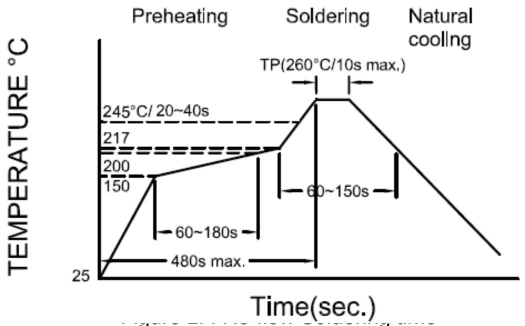
b) 355°C tip temperature (Max.)

c) Never contact the ceramic with the iron tip

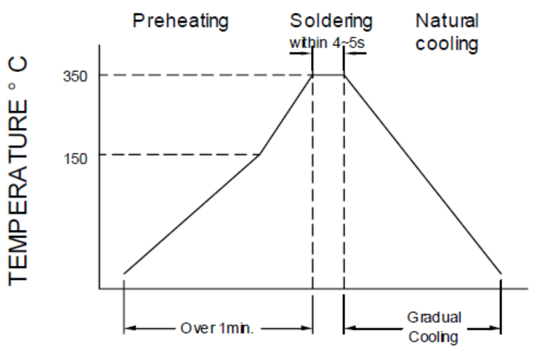
d) 1.0mm tip diameter (Max.)

e) Use a 20 watt soldering iron with tip diameter of 1.0mm

f) Limit soldering time to 4~5 sec.



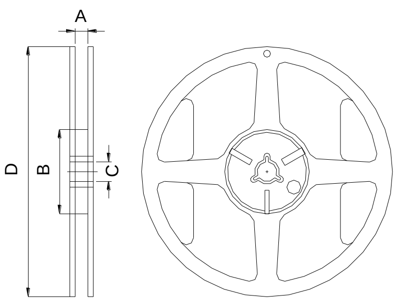
3 times max



1 times max

8. Packaging Information:

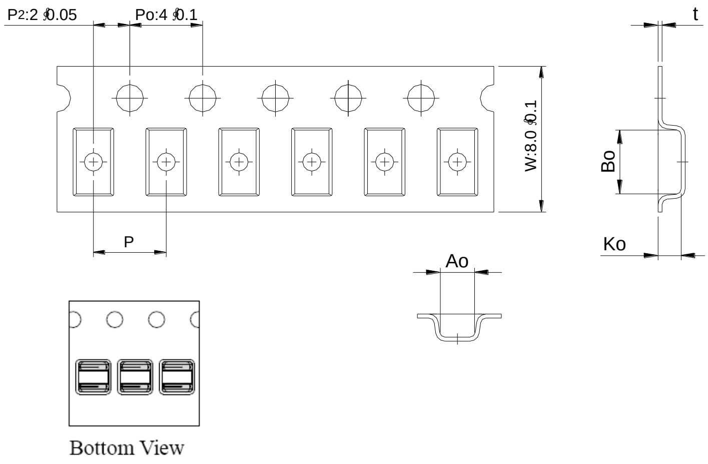
8-1 Reel Dimension



7"x8mm

Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	8.4±1.0	50 Min.	13±0.8	178±2.0

8-2 Tape Dimension

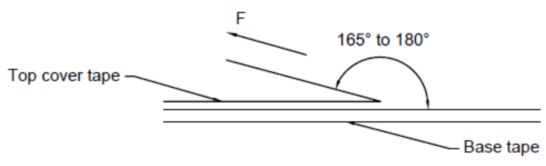


Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	t(mm)
WQ3012E	3.20±0.05	3.20±0.05	1.40±0.2	4.00±0.05	0.23±0.05

8-3 Packaging Quantity

Chip Size	WQ3012E
Chip/Reel	2,000

8-4 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. (℃)	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.