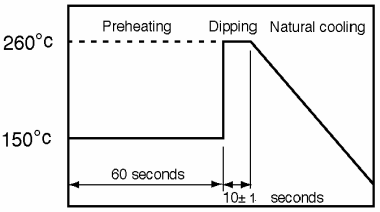
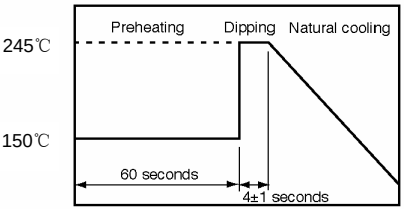
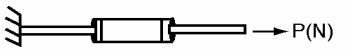
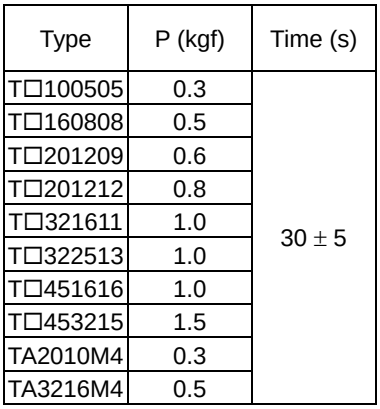
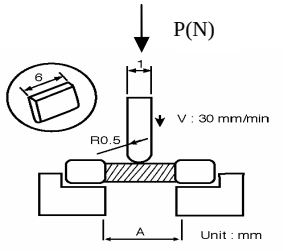
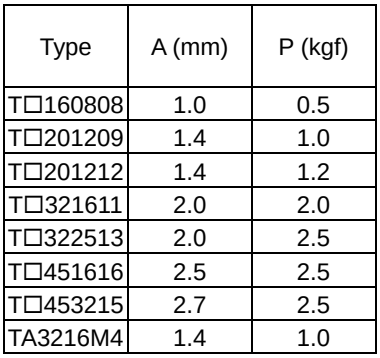
Multilayer Chip Beads
TB, TI, TC & TA Series

Reliability Test

Item	Performance	Test condition
Operating temperature range	-55 °C to + 125 °C	
Storage temperature and umidity ranges	40 °C MAX., 70% RH MAX.	
Soldering heat resistance	The chip shall not be cracks. More than 75% of terminal electrode shall be covered with solder.	Preheat: 150 °C, 60 seconds Solder temperature : 260 ± 5 °C Flux: Rosin Dip time: 10 ± 1 seconds 
Solderability	More than 90% of the terminal electrode shall be covered with new solder.	Preheat: 150 °C, 60 seconds Solder temperature: 245 ± 5 °C Flux: Rosin Dip time: 4 + 1 seconds 
Terminal strength	The terminal electrode and the body shall not be damaged by the forces applied on the right conditions. 	
Bending strength	The body shall not be damaged by the forces applied on the right conditions. 	

Type	P (kgf)	Time (s)
T□100505	0.3	30 ± 5
T□160808	0.5	
T□201209	0.6	
T□201212	0.8	
T□321611	1.0	
T□322513	1.0	
T□451616	1.0	
T□453215	1.5	
TA2010M4	0.3	
TA3216M4	0.5	

Type	A (mm)	P (kgf)
T□160808	1.0	0.5
T□201209	1.4	1.0
T□201212	1.4	1.2
T□321611	2.0	2.0
T□322513	2.0	2.5
T□451616	2.5	2.5
T□453215	2.7	2.5
TA3216M4	1.4	1.0

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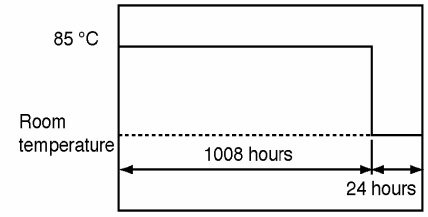
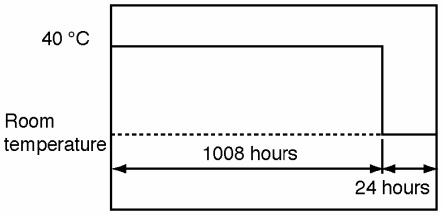
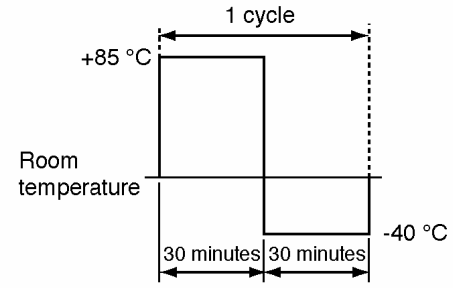
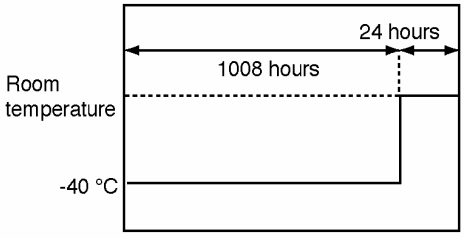
Item	Performance	Test Condition
High temperature resistance	Appearance: Ferrite shall not be damaged. Impedance: Within±20% of the initial value.	Temperature: 85±2℃ Testing time: 1008±12 hours Measurement: After placing for 24 hours min. 
Humidity resistance	Appearance: Ferrite shall not be damaged. Impedance: Within±20% of the initial value	Humidity: 90 to 95% RH Temperature: 40±2℃ Testing time: 1008±12 hours Measurement: After placing for 24 hours min. 
Thermal Shock	Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Impedance: Within±20% of the initial value	Temperature: -40℃, +85℃, kept stabilized for 30 minutes each Cycle: 100 cycles Measurement: After placing for 24 hours min. 
Low temperature storage life test	Appearance: Cracking, chipping or any other defects harmful to the characteristics shall not be allowed. Impedance: Within±20% of the initial value.	Temperature: -40±2℃ Testing time: 1008±12 hours Measurement: After placing for 24 hours min. 

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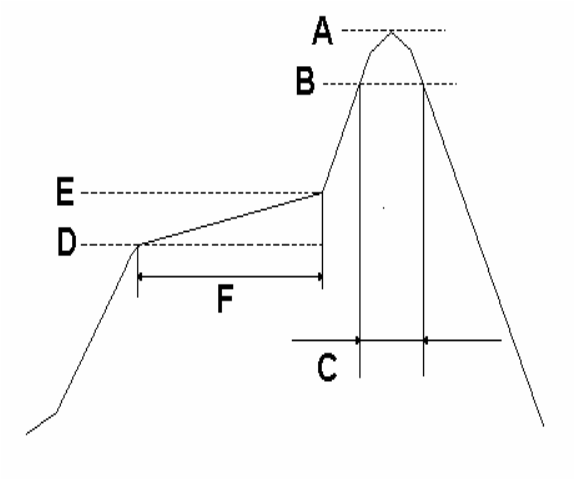
Reliability Test

✱ **Recommended Soldering Conditions**

(Reflow Temperature Profile) Lead-Free

A	260 ± 5 ℃
B	230 ± 5 ℃
C	30 ± 10 sec
D	150 ℃
E	180 ℃
F	90 ± 30 sec



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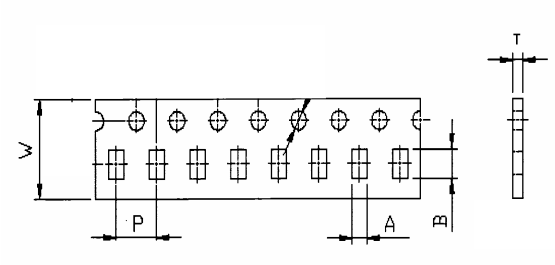
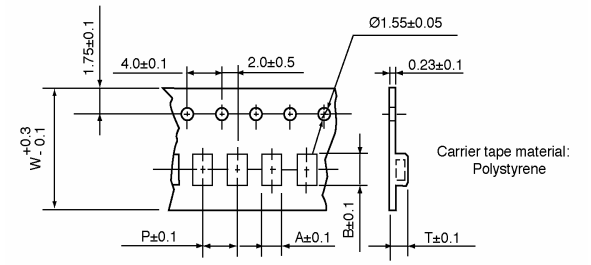
Packaging

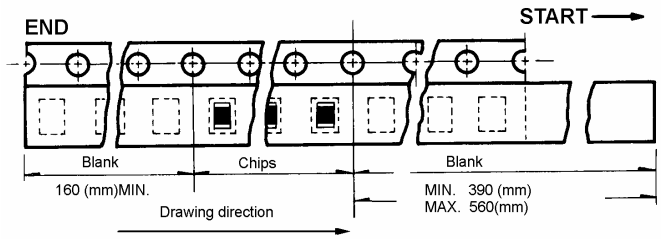
★ **Carrier tape material：Paper**



Carrier tape material：Plastic

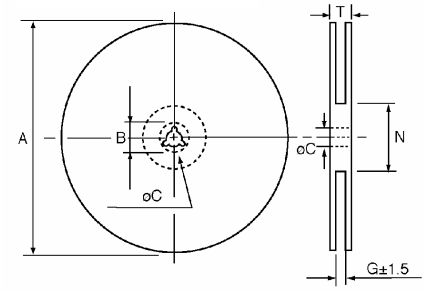


Material：Paper (Dimensions in mm)						
TYPE	A	B	W	P	T	CHIPS / REEL
100505	0.62	1.12	8	2	0.60	10000
160808	1.10	1.90	8	4	0.95	4000
201209	1.50	2.30	8	4	0.95	4000
Material：Plastic (Dimensions in mm)						
TYPE	A	B	W	P	T	CHIPS / REEL
160808	1.01	1.80	8	4	1.02	4000
201209	1.42	2.25	8	4	1.04	4000
201212	1.50	2.35	8	4	1.45	2000
321611	1.88	3.50	8	4	1.27	3000
322513	2.77	3.42	8	4	1.55	2000
451616	1.93	4.95	12	4	1.93	2000
453215	3.66	4.95	12	8	1.85	1000
TA3216M4	1.88	3.50	8	4	1.40	3000



★ **Reel dimensions**

Material：Plastic



Dimensions in mm

TYPE	8mm	12mm
A	178±2	178±2
B	21.0±0.8	21.0±0.8
C	13.0±0.8	13.0±0.8
G	10.0	14.0
N	75	75
T	12.5	16.5