

TYPE G3 Cylinder SMD Quartz Crystal

G33270007

VER. D 25-Apr-11

VERSION HISTORY

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
A	Mar.12,2010			Initial Release	
B	Jul.23,2010			Changed Pb- Free to RoHS Compliant by Exemption	
C	Aug.26,2010			Correct Marking from 32.768 to 32768	
D	Apr.25,2011			Revised format	

TYPE G3 Cylinder SMD Quartz Crystal

G33270007

VER. D 25-Apr-11

ELECTRICAL SPECIFICATIONS

SRe Part Number : G33270007

Parameters	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	32.768	KHz	
Mode of Oscillation	MO	Fundamental		+2° X-Cut
Load Capacitance	CL	12.5	pF	Typical
Calibration Tolerance		± 20	ppm	at 25°C ± 5°C
Operating Temperature Range	TR	-40~85	°C	
Drive Level	DL	1	μW	Max.
Series Resonant Resistance	CI/RR	50	KΩ	Max.
Temperature Coefficient	K	-0.035	ppm/°C ²	Typical
Aging		± 3	ppm	Max 1st year
Insulation Resistance		500	MΩ	at DC 100V ± 15V

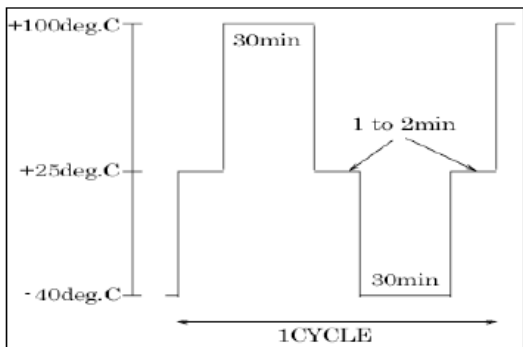
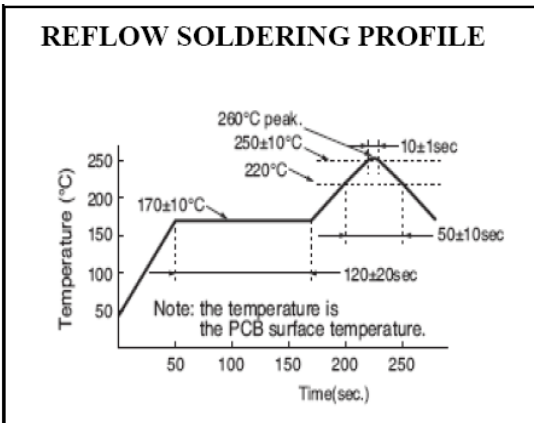
Reliability (Mechanical and Environmental Endurance)

No.	Test Items	Test Method and Condition	Requirements
1	Vibration	(1) Vibration Frequency: 10 to 55Hz (2) Vibration Amplitude: 1.5mm (3) Cycle Time: 1-2min(10-55-10Hz) (4) Direction: X.Y.Z (5) Duration: 2h/each direction	Frequency Change: ±10ppm Max. Resistance Change: ±15% or 5kΩ Max.
2	Shock	3 Times free drop from 75cm height to hard wooden board of thickness more than 30mm	Frequency Change: ±10ppm Max. Resistance Change: ±15% or 5kΩ Max.
3	Hermetic seal	Checked: before the molded crystal units	less than 1×10^{-7} mbar.l/sec.
4	High temperature	240 hours at +85°C ± 2°C After 1-2 hours past at room temperature from following test.	Frequency Change: ±10ppm Max. Resistance Change: ±25% or 10kΩ Max.

TYPE G3 Cylinder SMD Quartz Crystal

G33270007

VER. D 25-Apr-11

5	Low temperature	240 hours at $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ After 1-2hours past at room temperature from following test.	Frequency Change: $\pm 10\text{ppm}$ Max. Resistance Change: $\pm 15\%$ or 5kohm Max.
6	Humidity	240 hours at $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, relative humidity 90-95% After 1-2hours past at room temperature from following test.	Frequency Change: $\pm 10\text{ppm}$ Max. Resistance Change: $\pm 25\%$ or 10kohm Max.
7	Temperature cycle	After supplying the following temperature cycle (50cycles) 	Frequency Change: $\pm 10\text{ppm}$ Max. Resistance Change: $\pm 25\%$ or 10kohm Max.
8	Solderability	Dip the leads of crystal units into the solution (7-10%) of rosin $3 \pm 0.5\text{s}$, then dip it into the tank 5-10s. Temperature of solder melted tank is $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$	The dipped surface of the leads should be at least 95% covered with continuous new solder coating
9	Reflow soldering	The REFLOW SOLDERING PROFILE of Fig.1 for TMXLi-206F families. 	After 24h past from frequency test, Frequency Change: $\pm 10\text{ppm}$ Max. Resistance Change: $\pm 25\%$ or 10kohm Max. Notice: 1、Using the infrared lamp at soldering process may cause uneven temperature rise on plastic surface of the parts, so that please keep the package temperature within left conditions. 2、DO NOT dip the plastic part into solder.

TYPE G3 Cylinder SMD Quartz Crystal

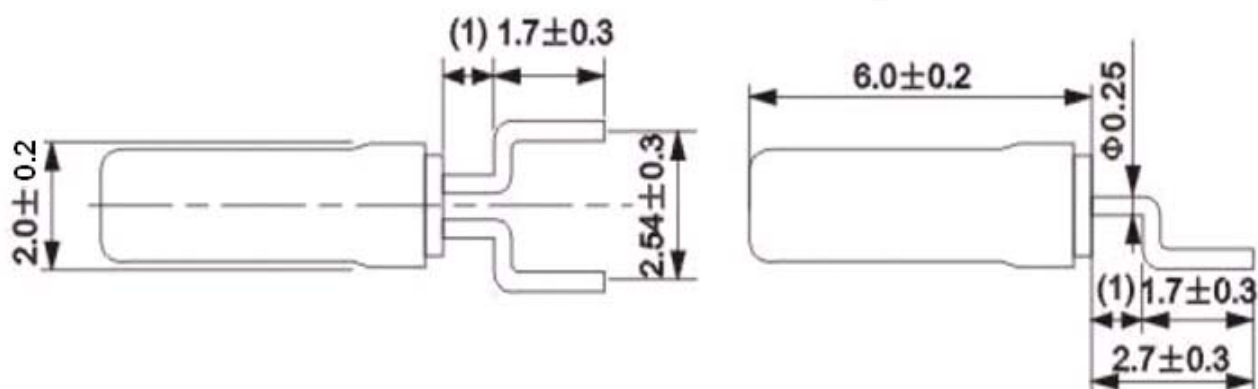
G33270007

VER. D 25-Apr-11

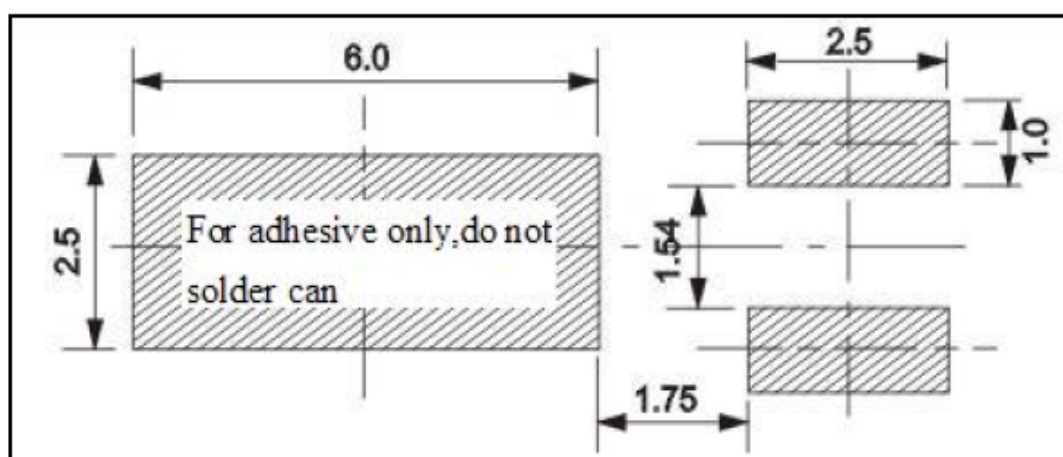
MARKING

32768

DIMENSIONS (Unit:mm)



■ SOLDER PATTERN

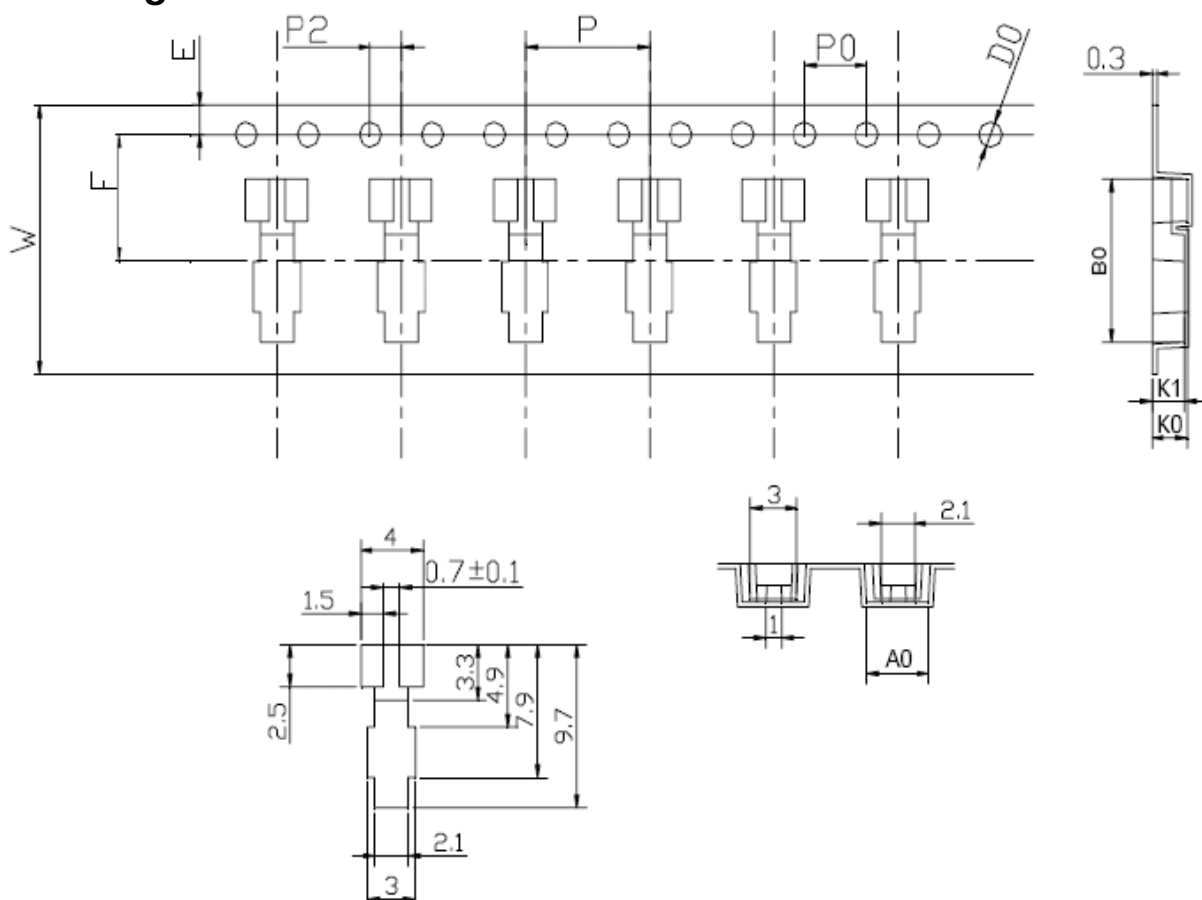


TYPE G3 Cylinder SMD Quartz Crystal

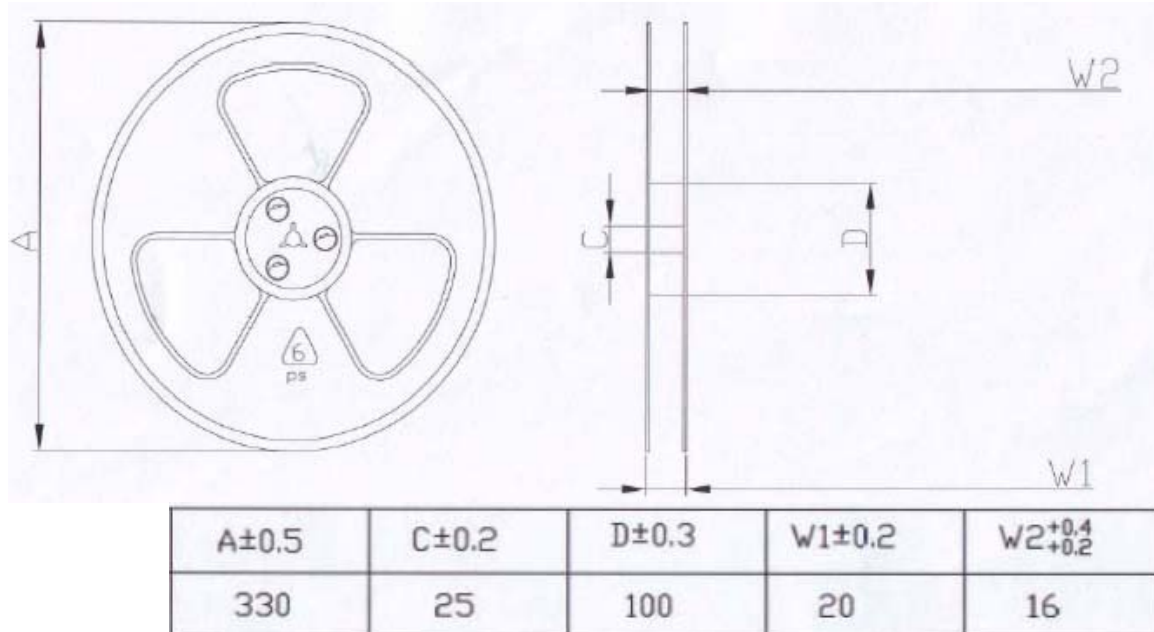
G33270007

VER. D 25-Apr-11

Packing



W	A0	B0	E	F	P	P0	P2	D0	K0	K1
16 ^{+0.30} _{-0.30}	4.0 ^{+0.10} _{-0.10}	9.7 ^{+0.10} _{-0.10}	1.75 ^{+0.10} _{-0.10}	7.5 ^{+0.10} _{-0.10}	8 ^{+0.10} _{-0.10}	4 ^{+0.10} _{-0.10}	2 ^{+0.15} _{-0.15}	1.5 ^{+0.15} _{-0.00}	2.3 ^{+0.10} _{-0.10}	2.1 ^{+0.10} _{-0.10}



A±0.5	C±0.2	D±0.3	W1±0.2	W2 ^{+0.4} _{+0.2}
330	25	100	20	16

TYPE G3 Cylinder SMD Quartz Crystal

G33270007

VER. D 25-Apr-11

Packing

