



APPROVAL SHEET

Issued No. :

DESCRIPTION : SMD 3225 CRYSTAL
NOMINAL FREQ. : 24.000MHz
P/N :
MODEL : 3225-24-12-10-10/4B
REVISION : 1
DATE : 06/19/2017

QA	Checked	Prepared

CUSTOMER :

CUSTOMER P/N :

Customer Signature
Approved:
Date:



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IN NO EVENT SHALL TAITIEN'S TOTAL LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES ARISING OUT OF ANY CAUSE (INCLUDING, BUT NOT LIMITED TO, CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT) EXCEED THE PURCHASE COST OF THE CRYSTALS. IN NO EVENT SHALL TAITIEN BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES.



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ELECTRICAL SPECIFICATIONS

	Parameter	Min.	Typ.	Max.	Units	Test Condition
1-1	Nominal Frequency	24.000			MHz	
1-2	Frequency Tolerance.	-10		+10	ppm	at 25°C +/-3°C
1-3	Operating Temperature range	-40		+85	°C	
1-4	Storage Temperature range	-40		+85	°C	
1-5	Temperature Characteristics	-10		+10	ppm	-40°C to +85°C
1-6	Nominal Load Capacitance	12			pF	
1-7	Series Resistance			40	Ω	
1-8	Shunt Capacitance			3.0	pF	
1-9	Motion Capacitance				fF	
1-10	Motion Inductance				mH	
1-11	Q factor				K	
1-12	Spurious Response				dB	
1-13	Frequency Pull ability				ppm/pF	
1-14	C0/C1 Ratio					
1-15	Aging	-3/ year		+3/ year	ppm/year	
1-16	Insulation Resistance	500MΩ Min. @ DC100V				
1-17	Nominal Drive Level	10			μ W	into 10Ω
1-18	Dependency Condition				μ W	
1-19	Drive Level Dependency Resistance Max. Minus Min.				Ω	
1-20	Drive Level Dependency Frequency Max. Minus Min.				ppm	
1-21	Drive Level Dependency Resistance Max.				Ω	



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■ CUSTOMER SPECIAL REQUIREMENT

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■ ENVIRONMENTAL

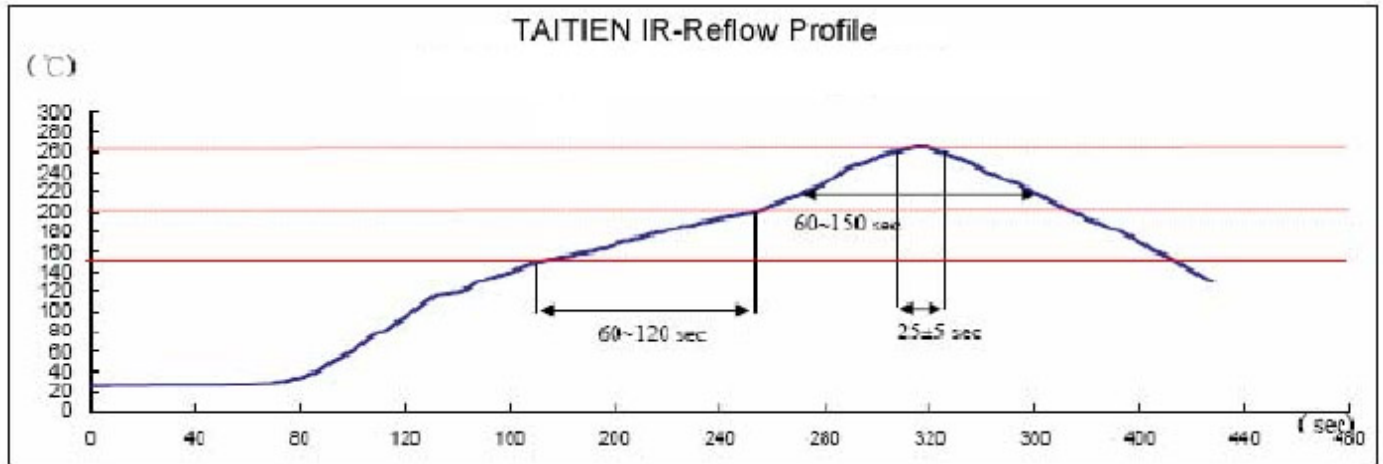
	Parameter	Reference Std.	Test Condition
3-1	Vibration Test	MIL-STD-883 2007 Condition A	10~2000Hz, 1.52mm, 20g, each axis for 4 hrs
		JESD22-B103 Condition 1	
3-2	Thermal Shock	MIL-STD-883 1010 Condition B	-55℃, 125℃; soak time is 10 mins, with total 200 cycles
		JESD22-A104 Condition B	
3-3	Mechanical Shock	MIL-STD-883 2002 Condition B	1500G, half-sine, 0.5ms, each axis for 3 times.
		JESD22-B104 Condition B	



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■ RECOMMENDED IR REFLOW PROFILE

- IR REFLOW PROFILE OF CERAMIC SMD PRODUCTS FOR Pb FREE PROCESS



IR-Reflow Test

Reference Standard : JEDEC-STD 020

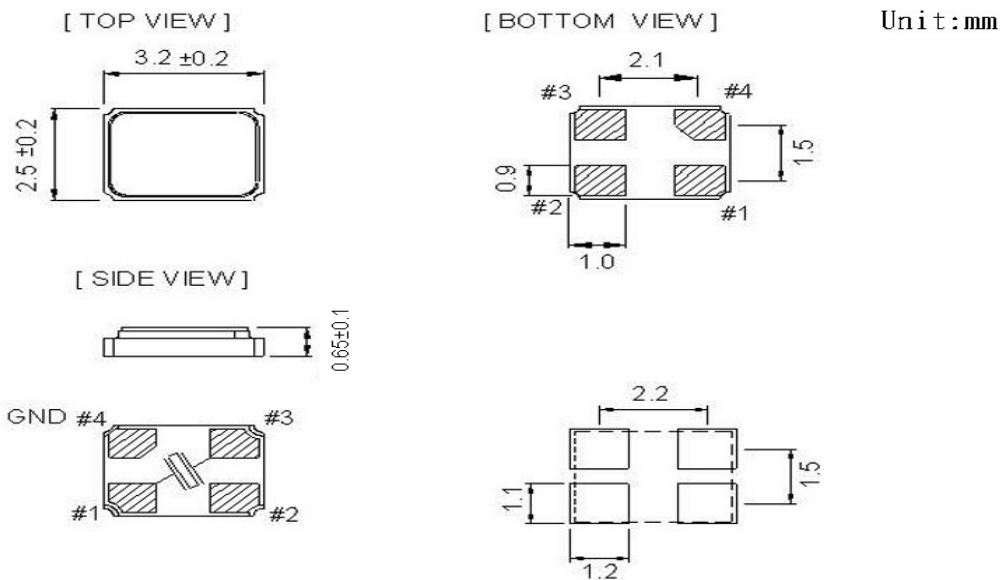
Test Conditions: Pre-heating : 150°C to 200 °C, 60~120 sec

Heating : 217 °C , 60~150 sec

Peak Temperature : 260±5 °C, 25±5 sec

■ PRODUCT DIMENSIONS

➤ DIMENSIONS

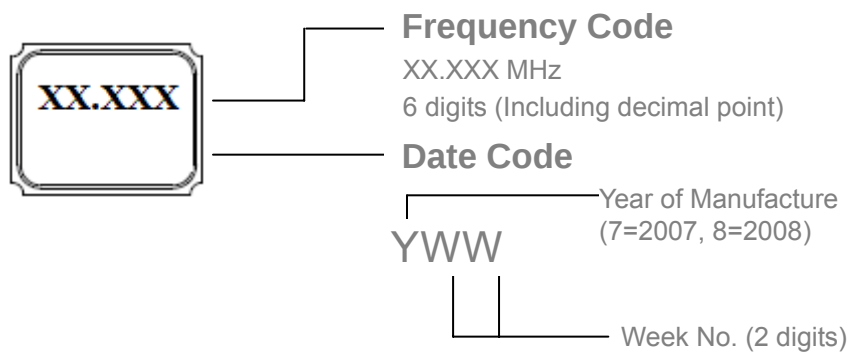


Marking #2 and #4 is connected with metal cap of top

Recommended soldering pattern

■ PRODUCT IDENTIFICATION (MARKING)

➤ PROCEDURE: LASER

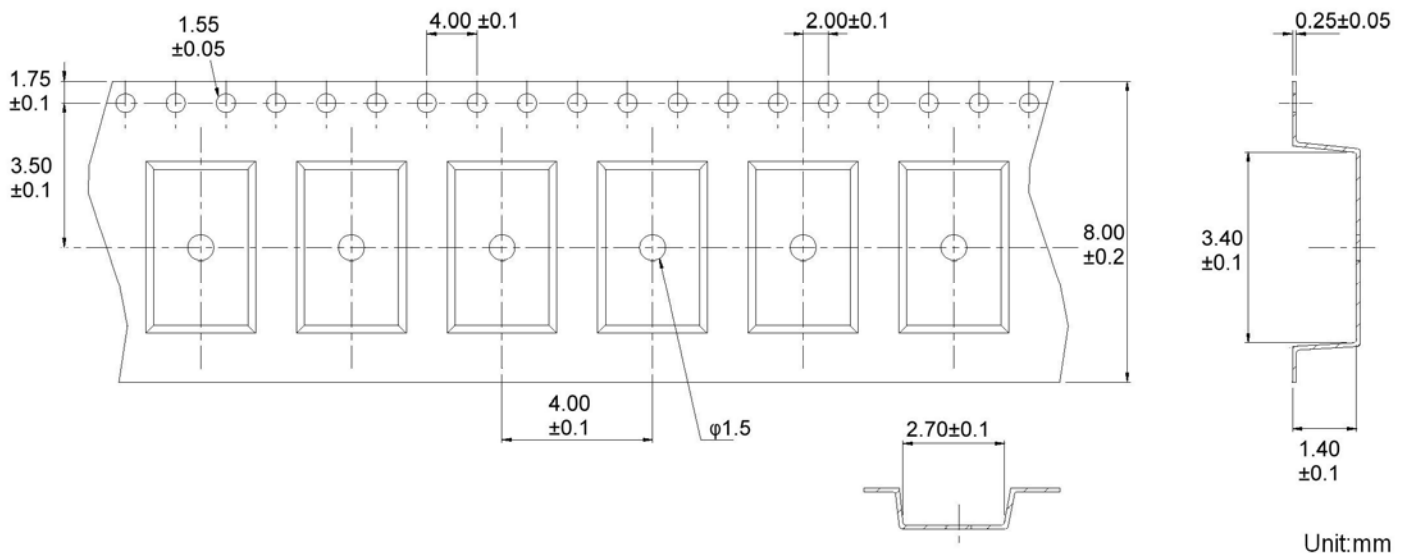


➤ FOR EXAMPLE:

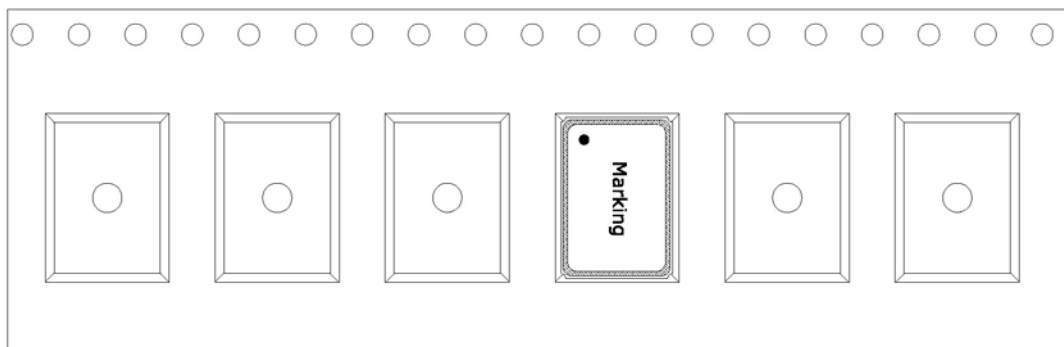


■ PACKAGE INFORMATION

➤ TAPE (CARRIER) DIMENSIONS



➤ THE DIRECTION OF PACKING



➤ REEL DIMENSIONS

