



APPROVAL SHEET

Issued No. :

DESCRIPTION : SMD 3225 CRYSTAL
NOMINAL FREQ. : 24.000MHz
P/N :
MODEL : 3225-24-20-10-10/4B
REVISION : 1
DATE : 06/19/2017

QA	Checked	Prepared

CUSTOMER : _____

CUSTOMER P/N : _____

Customer Signature
Approved:
Date:



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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	20			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

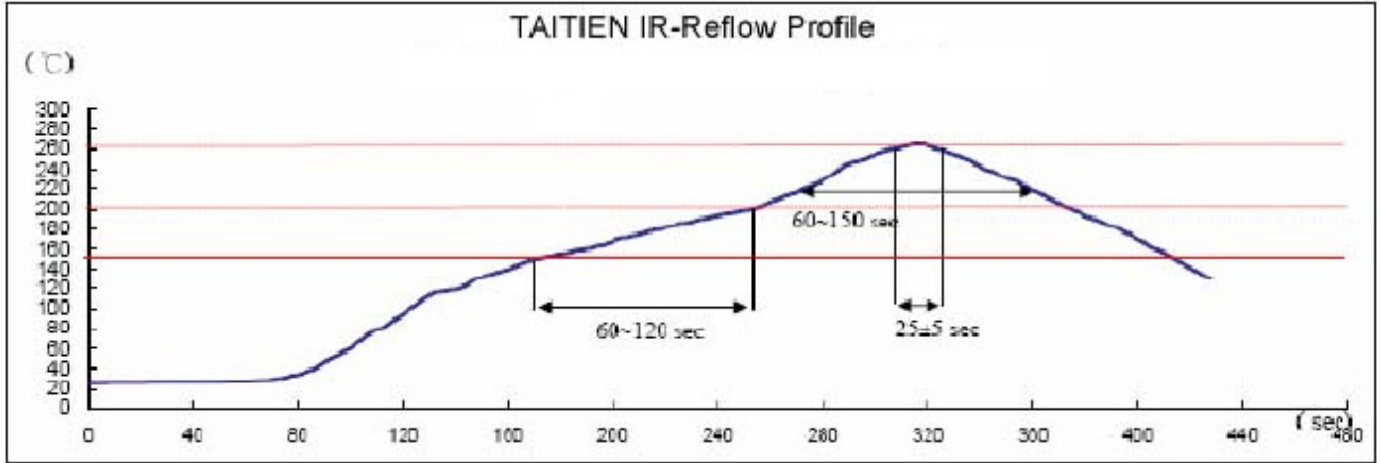
	Parameter	Reference Std.	Test Condition
3-1	Vibration Test	MIL-STD-883 2007 Condition A	10~2000Hz, 1.52mm, 20g, each axis for 4 hrs
		JESD22-B103 Condition 1	
3-2	Thermal Shock	MIL-STD-883 1010 Condition B	-55°C, 125°C; soak time is 10 mins, with total 200 cycles
		JESD22-A104 Condition B	
3-3	Mechanical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

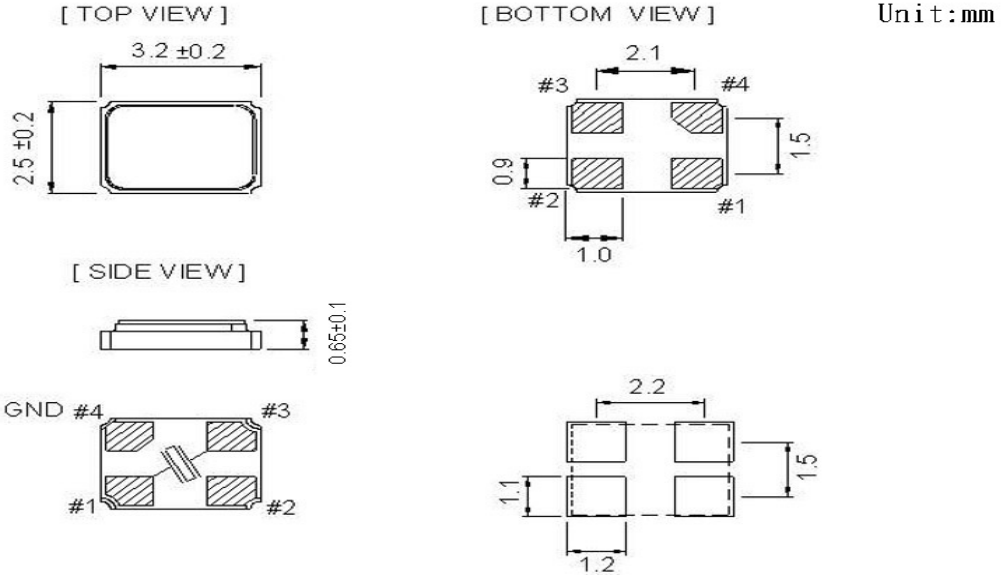
Test Conditions: Pre-heating : 150°C to 200 °C, 60~120 sec

Heating : 217 °C , 60~150 sec

Peak Temperature : 260±5 °C , 25±5 sec

■ PRODUCT DIMENSIONS

➤ DIMENSIONS



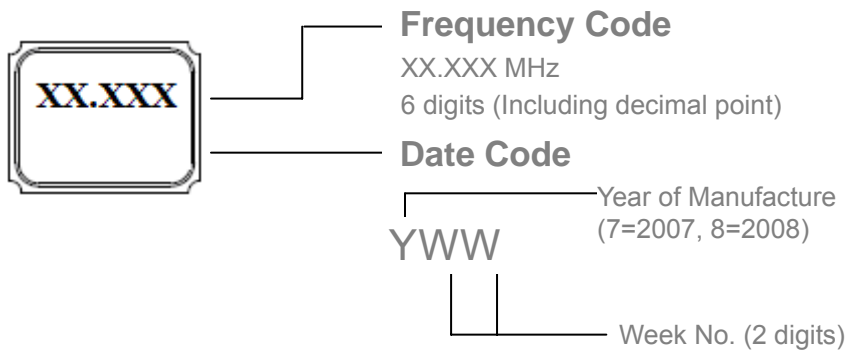
Unit:mm

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

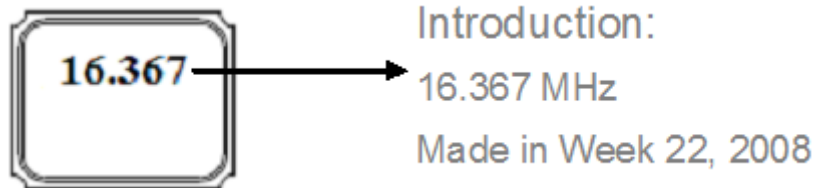
Recommended soldering pattern

■ PRODUCT IDENTIFICATION (MARKING)

➤ PROCEDURE: LASER

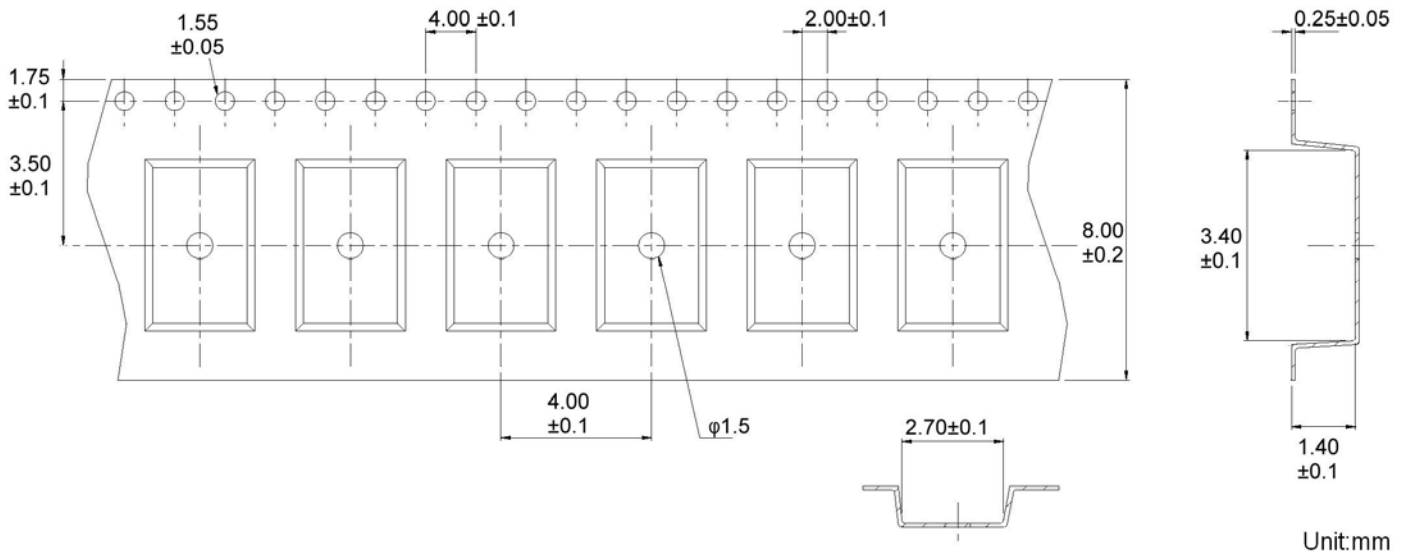


➤ FOR EXAMPLE:

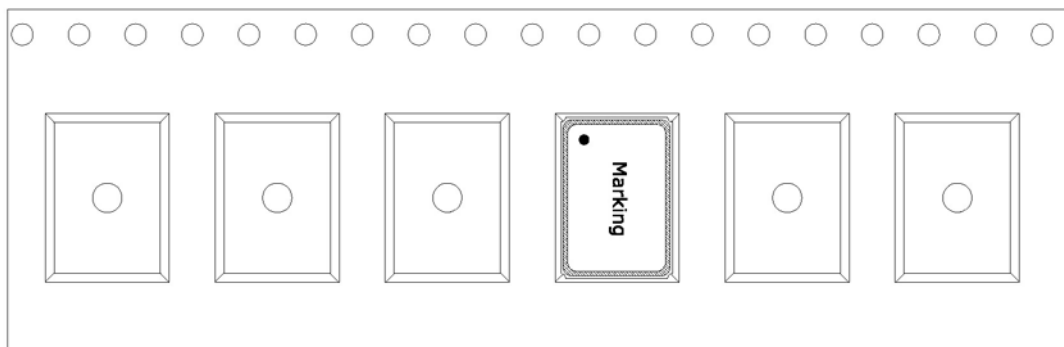


■ PACKAGE INFORMATION

➤ TAPE (CARRIER) DIMENSIONS



➤ THE DIRECTION OF PACKING



➤ REEL DIMENSIONS

