



A Product Line of
Diodes Incorporated



SPECIFICATION FOR APPROVAL

CUSTOMER	_____
NOMINAL FREQUENCY	24.305000 MHz
PRODUCT TYPE	TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL
SPEC. NO. (P/N)	FW2430001Q
CUSTOMER P/N	_____
ISSUE DATE	June 13, 2018
VERSION	B

APPROVED	PREPARED	QA
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- *Pb-free
- *RoHS Compliant
- *HF-Halogen Free
- *REACH Compliant
- *AEC-Q200 Compliant

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FW2430001Q

VER. B 13-Jun-18

ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	24.305000	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	7	pF	
Calibration Tolerance	FL	±10	ppm	at 25°C±3°C
Operating Temperature Range	TR	-40 to +125	°C	
Frequency Stability (-40°C to +125°C)	F/T	±40	ppm	Reference to the Frequency at 25°C
Frequency Stability (-40°C to +85°C)	F/T	±30	ppm	Reference to the Frequency at 25°C
Operating Drive Level		10	μW	
Maximum Drive Level		100	μW	Max.
Equivalent Series Resistance	ESR	100	Ω	Max
Shunt Capacitance	C0	5	pF	Max
Aging at 25°C		±3	ppm	Max, 1st year
Storage Temperature		-55 to +125	°C	
Insulation Resistance		500	MΩ	Min

※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

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FW2430001Q

VER. B 13-Jun-18

AEC-Q200 RELIABILITY TEST SPECIFICATIONS:

1. Initial

- 1.1 Physical Dimensions: JESD22, Method JB1-100
- 1.2 External Visual: MIL-STD-883, Method 2009
- 1.3 Freq. Vs. Temperature: Per Specification/Datasheet

2. Mechanical

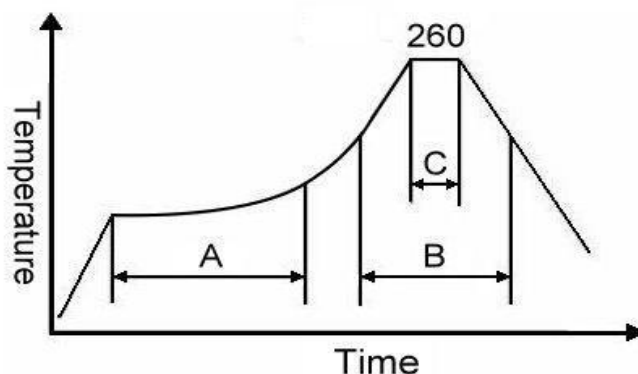
- 2.1 Mechanical Shock: MIL-STD-202 Method 213
- 2.2 Vibration: MIL-STD-202 Method 204
- 2.3 Solderability: J-STD-002
- 2.4 Board Flex: AEC Q200-005
- 2.5 Terminal Strength (SMD): AEC Q200-006

3.Environmental

- 3.1 Temp Cycle: JESD22, Method JA-104
- 3.2 Resistance to Solder Heat: MIL-STD-202 Method 210
- 3.3 High Temperature Operating Life: MIL-STD-202, Method 108
- 3.4 High Temp Exposure: MIL-STD-202, Method 108
- 3.5 High Temp & High Humidity: MIL-STD-202, Method 103
- 3.6 Thermal Shock: MIL-STD-202, Method 107

SUGGESTED IR REFLOW PROFILE

*As per IPC-JEDEC J-STD-020D



Note:

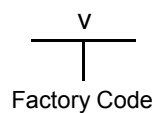
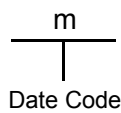
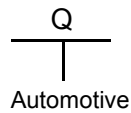
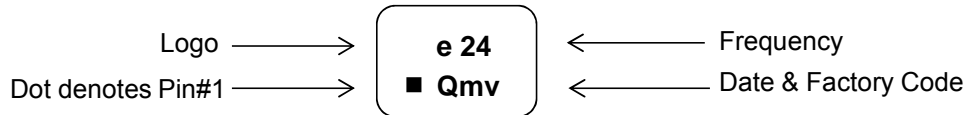
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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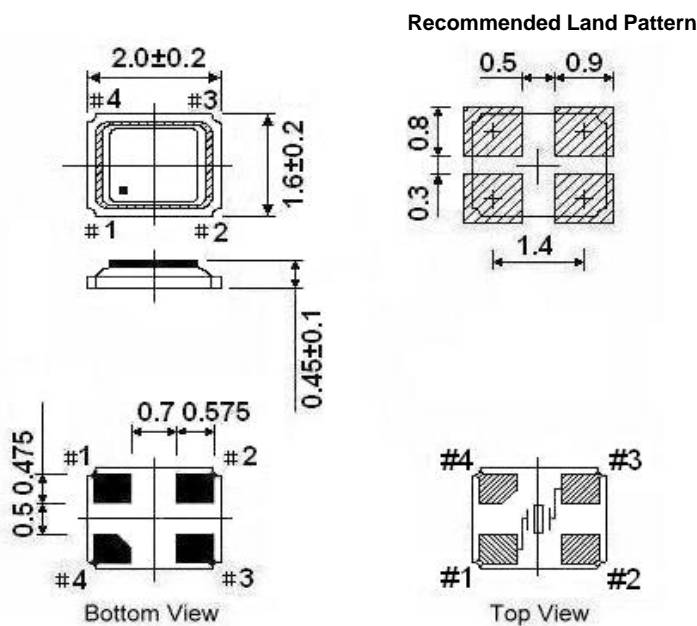
FW2430001Q

VER. B 13-Jun-18

MARKING



MECHANICAL DRAWINGS (Scale: None. Dimensions are in mm.)



** Recommended - Pin 1 & 3: CRYSTAL
Pin 2 & 4: GND

Notes:

1. Package drawings are for reference only, and the appearances of objects may vary.
Actual packages are based on the real product.
2. The marking dot denotes Pin#1.
3. The position and shape of the chamfer pin may vary and are based on the real product.

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FW2430001Q

VER. B 13-Jun-18

PACKING

