



A Product Line of  
Diodes Incorporated



# SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 14.318180 MHz

HOLDER TYPE TYPE GB 49S QUARTZ CRYSTAL

SPEC. NO. ( P/N ) GB1430027

CUSTOMER P/N \_\_\_\_\_

ISSUE DATE January 19, 2018

VERSION D

APPROVED	PREPARED	QA

## Diodes Incorporated

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\*RoHS Compliant  
\*HF-Halogen Free  
\*REACH Compliant

# TYPE GB 49S QUARTZ CRYSTAL

***GB1430027***

VER. D 19-Jan-18

## VERSION HISTORY

Version No.	Version Date	Description	Notes
A	Jan.23,2008	Initial Release	
B	Mar.12,2009	Revised Format	
C	Jun.22,2012	Updated Suggested IR Reflow Profile & Format & Changed Logo & Delete Maximum Drive Level 300 $\mu$ W	
D	Jan.19,2018	Updated packing & logo	



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### ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	14.318180	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	16	pF	
Calibration Tolerance	FL	±15	ppm	at 25°C±3°C
Operating Temperature Range	TR	-20 to +70	°C	
Frequency Stability (Frequency Deviation over the Operating Temperature Range)	F/T	±15	ppm	Reference to the Frequency at 25°C
Operating Drive Level		100	µW	
Equivalent Series Resistance	ESR	40	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

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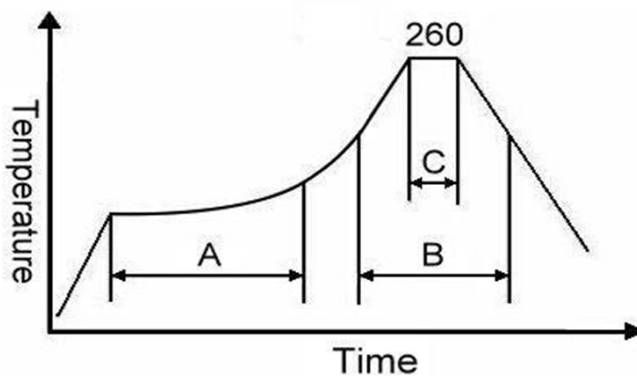
## RELIABILITY SPECIFICATIONS

### MECHANICAL AND ENVIRONMENTAL RATINGS:

- a) FINE LEAK TEST: JESD22-A109 (Condition 1A)
- b) GROSS LEAK TEST: JESD22-A109 (Condition C)
- c) MOISTURE RESISTANCE: JESD22-A113
- d) SHOCK: JESD22-B104 (Condition B)
- e) SOLDERABILITY : (RoHS version): J-STD-002
- f) VIBRATION: JESD22-B103
- g) SOLVENT RESISTANCE: JESD22-B107
- h) RESISTANCE TO SOLDERING HEAT (RoHS version): J-STD-020D Table 5.2 Pb free devices (3 cycles max)

## SUGGESTED IR REFLOW PROFILE

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



Note:

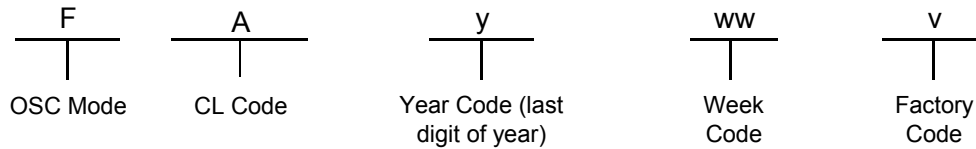
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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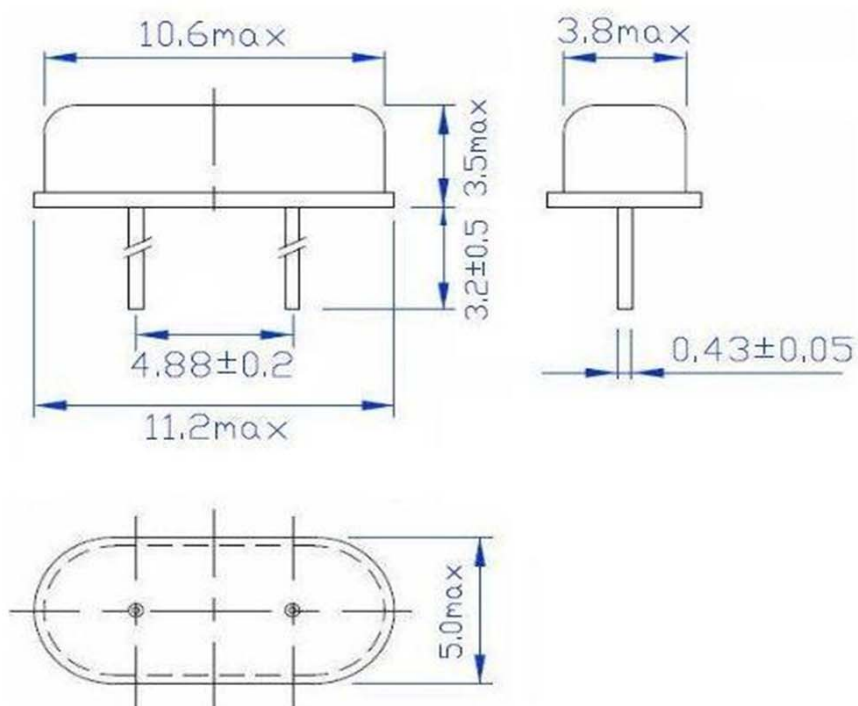
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### MARKING



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



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### PACKING

