



A Product Line of  
Diodes Incorporated



## SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 25.000000 MHz

PRODUCT TYPE TYPE GC 49S SMD QUARTZ CRYSTAL

SPEC. NO. ( P/N ) GC2500083

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

ISSUE DATE November 24, 2017

VERSION C

APPROVED	PREPARED	QA

### Diodes Incorporated

No.2, Ziqiang 5th Rd., Zhongli Industrial Park,  
Zhongli Dist., Taoyuan City 32063, Taiwan (R.O.C.)  
TEL: 886-3-451-8888  
FAX: 886-3-461-3865  
<https://www.diodes.com>

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



# TYPE GC 49S SMD QUARTZ CRYSTAL

## GC2500083

VER. C 24-Nov-17

### ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	25.000000	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	18	pF	
Calibration Tolerance	FL	±30	ppm	at 25°C±3°C
Operating Temperature Range	TR	-40 to +85	°C	
Frequency Stability (Frequency Deviation over the Operating Temperature Range)	F/T	±50	ppm	Reference to the Frequency at 25°C
Operating Drive Level		100	µW	
Maximum Drive Level		500	µW	
Equivalent Series Resistance	ESR	30	Ω	Max
Shunt Capacitance	C0	7	pF	Max
Aging at 25°C		±5	ppm	Max, 1st year
Storage Temperature		-55 to +125	°C	
Insulation Resistance		500	MΩ	Min

# TYPE GC 49S SMD QUARTZ CRYSTAL

**GC2500083**

VER. C 24-Nov-17

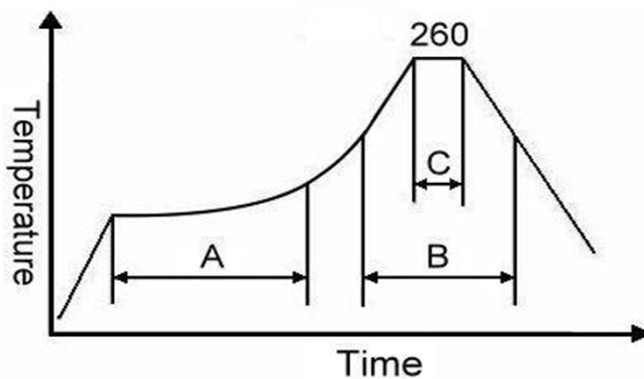
## RELIABILITY SPECIFICATIONS

### 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:

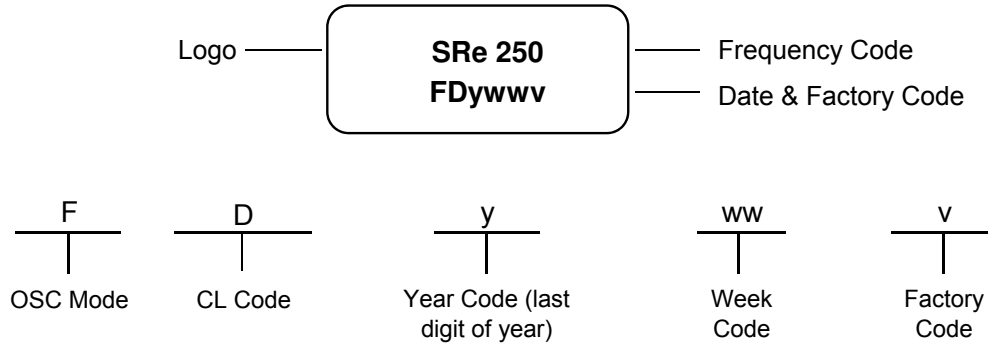
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

# TYPE GC 49S SMD QUARTZ CRYSTAL

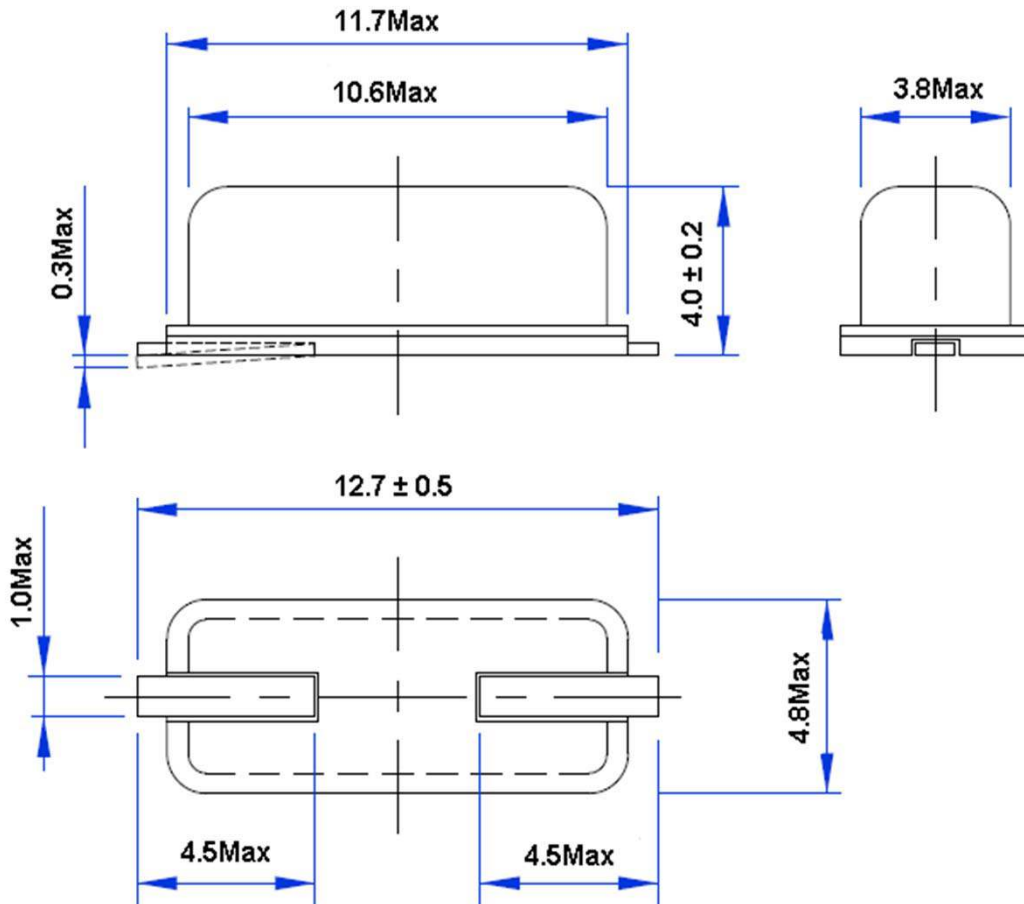
## GC2500083

VER. C 24-Nov-17

### MARKING



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



# TYPE GC 49S SMD QUARTZ CRYSTAL

**GC2500083**

VER. C 24-Nov-17

## PACKING

