



A Product Line of
Diodes Incorporated



PRODUCT SPECIFICATION

NOMINAL FREQUENCY	10.000000 MHz
PRODUCT TYPE	TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL
SPEC. NO. (P/N)	FE1000008
ISSUE DATE	April 25, 2022
VERSION	A

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>

*Pb-free
*RoHS Compliant
*HF-Halogen Free
*REACH Compliant
*MSL: Level 1

TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL

FE1000008

VER. A 25-Apr-22

VERSION HISTORY

[illegible]

TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL

FE1000008

VER. A 25-Apr-22

ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	10.000000	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	8	pF	
Calibration Tolerance	FL	±20	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	±30	ppm	Reference to the Frequency at 25°C
Operating Drive Level		100	μW	
Maximum Drive Level		300	μW	
Equivalent Series Resistance	ESR	80	Ω	Max
Shunt Capacitance	C0	2	pF	Max.
Aging at 25°C		±3	ppm	Max, 1st year
Storage Temperature		-55 to +125	°C	
Insulation Resistance		500	MΩ	Min

TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL

FE1000008

VER. A 25-Apr-22

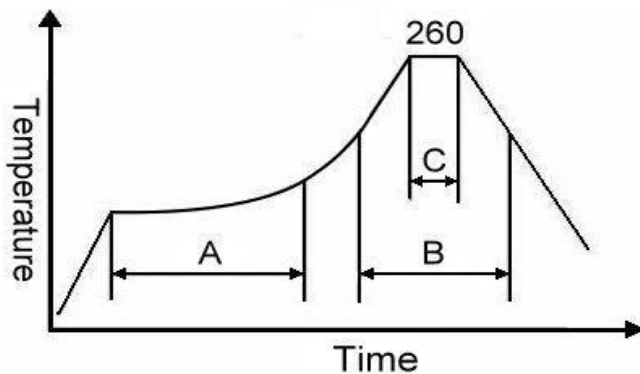
RELIABILITY SPECIFICATIONS

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:

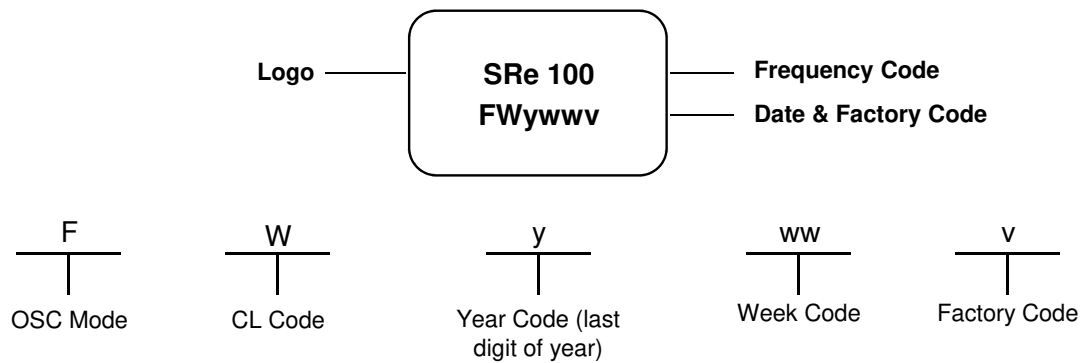
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL

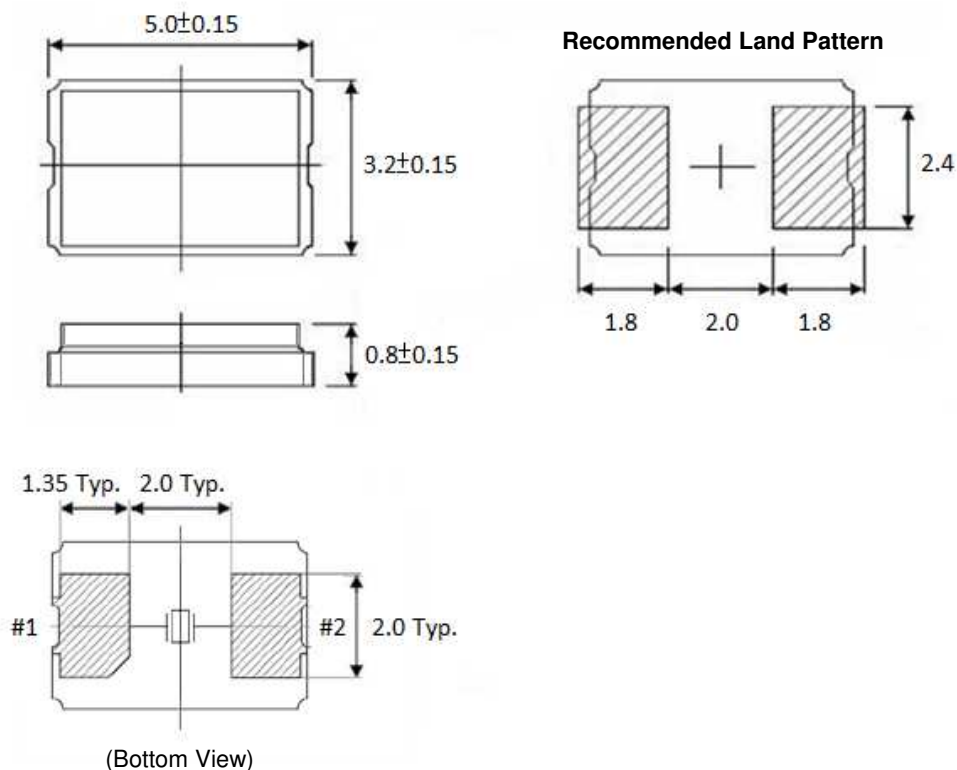
FE1000008

VER. A 25-Apr-22

MARKING



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



Note:

Pin shape is only for reference, and the Pin with chamfer or without chamfer is based on the real product.

VER. A 25-Apr-22

TYPE FE 5.0x3.2 SEAM SEALED CRYSTAL

FE1000008

VER. A 25-Apr-22

PACKING

