



Approved by:
Checked by:
Issued by:

# SPECIFICATION

PRODUCT: QUARTZ CRYSTAL 27.13827MHZ +/-10PPM 15PF SMD 3225

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MODEL: 3225-27.13827-15-1020

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Product code: 40602700142

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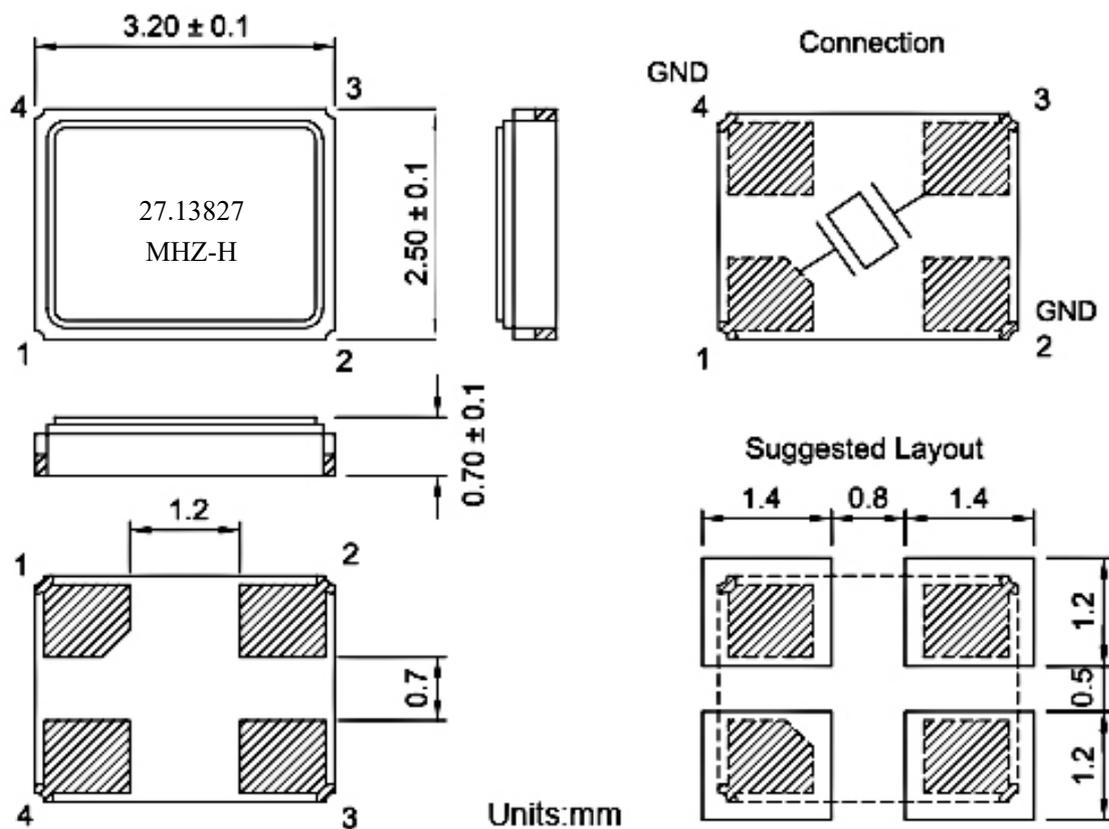
SHEN ZHEN HOPE MICROELECTRONICS CO.,LTD

**1. Electrical characteristics**

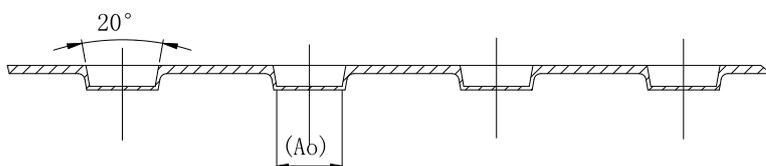
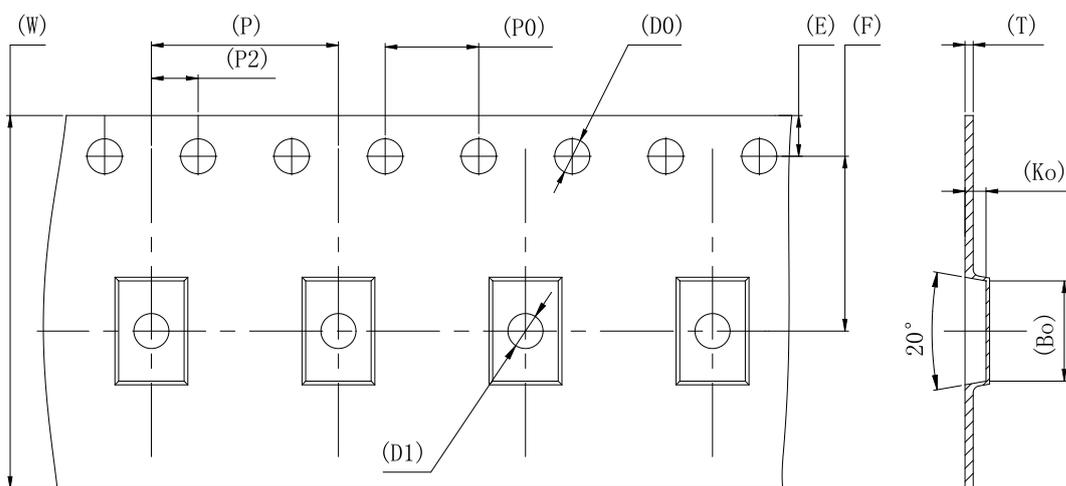
Type	SMD3225-4P Crystal Resonator
Nominal frequency:	27.138270MHz
Frequency tolerance at (25°C±3°C)	±10ppm
Mode of vibration	FUND
Load capacitance	15pF
Effective series resistance	50Ω
Shunt capacitance	≤3pF
Operating temperature range	-40°C~+85°C
Storage temperature range	-55°C~+125°C
Frequency stability vs. operating temperature	±20ppm
Drive level	100μW
Insulation resistance	500MΩ/100V±15V <sub>DC</sub>
Aging	±3ppm/First year
Test machine	S&A 250B

**Remark:** Sample Data See Attachment

## 2. Dimension (mm)

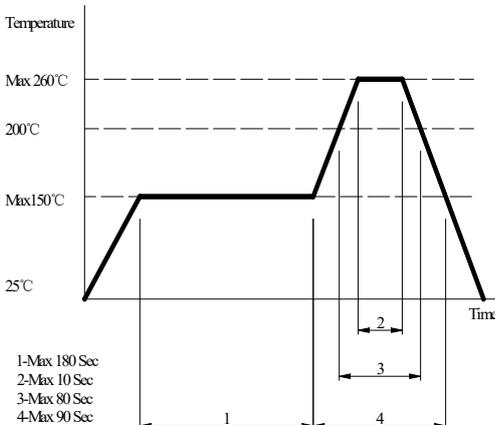


### 3.Packing Specification



W	16.00±0.05	P	8.00±0.10	A0	3.90±0.10	B0	6.40±0.10
S		P0	4.00±0.10	A1		B1	
E	1.75±0.10	P2	2.00±0.10			B2	
F	7.50±0.10	D0	$\phi 1.50 \pm 0.10$	K0	1.50±0.10		
T	0.35±0.05	D1	$\phi 1.50$ MIN	K1			

## 4. Reliability Specification

	Item	Condition	Standard
1	Drop characteristics	Free drop from 50cm height on a hard wooden board for 3 times. (Board is thickness more than 30 mm.)	Frequency change: $\leq 5\text{ppm}$ Rr as specification
2	Shake characteristics	Shake frequency 10~55Hz, cyc1~2 minutes, swing 1.5mm, direction x/y/z, all 30 minutes, test after 1 hours.	Frequency change: $\leq 5\text{ppm}$ Rr as specification
3	Airproof characteristics	Put crystal into the pressure cabin with alcohol, keep pressure 0.4~0.5mpa 10 minutes, then take out and blow for 5 minutes	$IR \geq 500M\Omega$
4	Weld characteristics	$335 \pm 5^\circ\text{C}$ , 3 seconds	90% exhibit tin ok
5	Humidity characteristics	$+40 \pm 2^\circ\text{C}$ & 90%~95% R.H. 250 hours	Frequency change: $\leq 5\text{ppm}$ Rr as specification
6	Low temperature characteristics	$-30 \pm 2^\circ\text{C}$ , 250 hours, put in room temperature, test after 1 hours.	Frequency change: $\leq 5\text{ppm}$ Rr as specification
7	High temperature characteristics	$+85 \pm 2^\circ\text{C}$ , 250 hours, put in room temperature, test after 1 hours.	Frequency change: $\leq 5\text{ppm}$ Rr as specification
8	Temperature cycling	$-30 \pm 3^\circ\text{C}/30 \pm 3 \text{ min} \sim +85 \pm 2^\circ\text{C}/30 \pm 3 \text{ min}$ , 5 cycles	Frequency change: $\leq 5\text{ppm}$ Rr as specification
9	Refluence examination	 <p>Temperature</p> <p>Max 260°C</p> <p>200°C</p> <p>Max 150°C</p> <p>25°C</p> <p>Time</p> <p>1-Max 180 Sec 2-Max 10 Sec 3-Max 80 Sec 4-Max 90 Sec</p>	Frequency change: $\leq 5\text{ppm}$ Rr as specification