

SMD Tuning Fork Crystal**MCM450S-327****MEC Crystals**

SMD Ultra Miniature Type

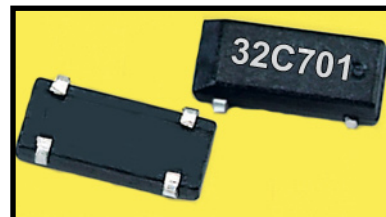
(32.768 KHz, 12.5pF)

Features:

- High stability
- Low profile, plastic SM package
- Tape & Reel (3000 pcs/reel)
- Frequency: 32.768 KHz
- Load Capacitance 12.5pF
- **RoHs Compliant (Pb Free)**
- **Soldering Temp. Profile 260°C**

Applications:

- Microprocessor systems
- Consumer electronics

**Electrical Specifications:**

Series		MCM450S10-327	MCM450S-327
Item	Symbol	Specifications	
Frequency	f ₀	32.768 KHz	
Frequency Tolerance	delta f/f ₀ (25°C)	±10ppm	±20ppm
Turnover	TO	25 ± 5°C	
Frequency Temp. Coefficient	beta	-0.034 ± 0.006ppm / °C2	
Quality Factor	Q	100000 Typical	
Operating Temperature	T	-40°C ~ +85°C	
Storage Temperature	T _{stg}	-55°C ~ +125°C	
Equivalent Series Resistance	R ₁ (25°C ref.)	50 Kohm max	
Max Insulation Resistance	IR	500 Mohm Min. (DC 100V ± 15V)	
Load Capacitance	CL	12.5 pF	
Motional Capacitance	C ₁	0.0024 pF Typical	0.003 pF Typical
Shunt Capacity	C ₀	1.3 pF Typical	1.35 pF Typical
Capacitance Ratio	gamma	450 Typical	
Drive Level	DL	1.0 μ W Max.	
Aging	f _a	±3ppm / year (25°C ± 3°C)	
Shock Resistance		±5ppm Max. Drop test of 3 times on a hard board from 75cm height or shock test of 3000G x 0.3ms x 1/2sin wave x 3 directions.	

Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.

SMD Tuning Fork Crystal

MCM450S-327

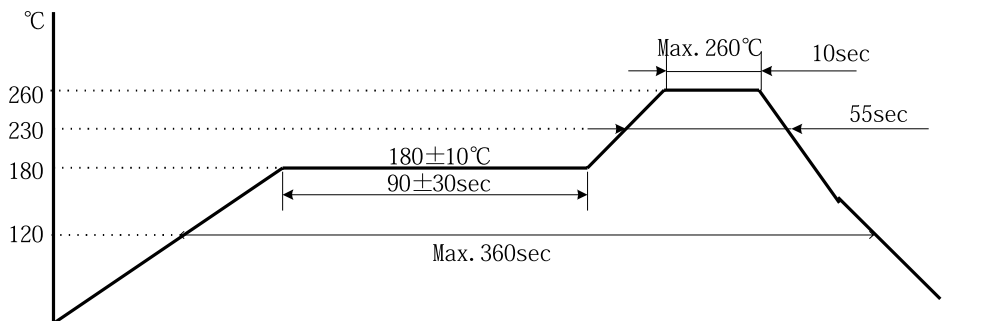


SMD Ultra Miniature Type

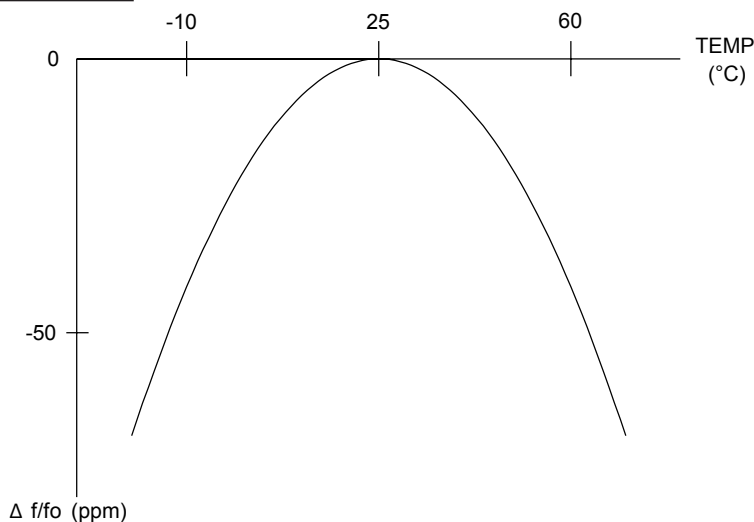
(32.768 KHz, 12.5pF)

Soldering Profile:

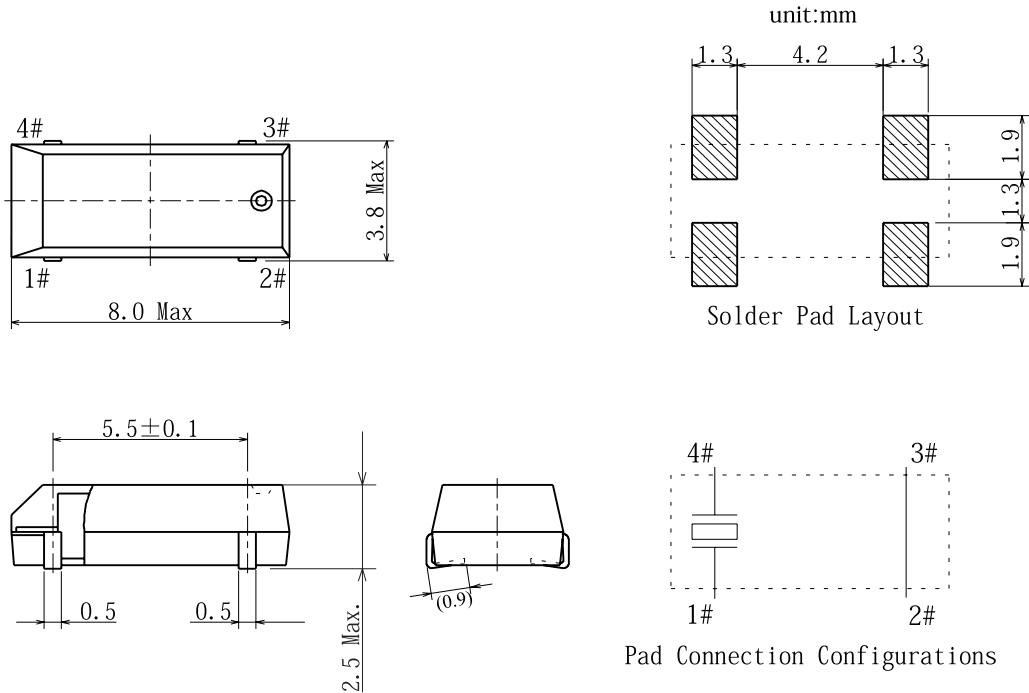
The soldering temperature is $260 \pm 5^\circ\text{C}$ for 10 sec max.



Frequency vs Temperature Curve:



Dimensions:



Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.

SMD Tuning Fork Crystal

MCM450S-327

SMD Ultra Miniature Type

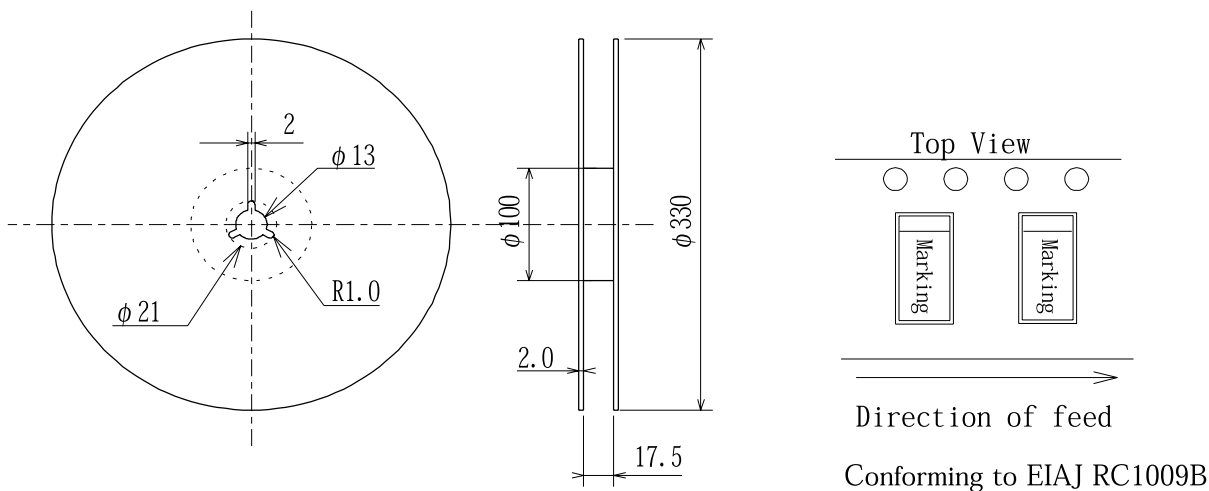
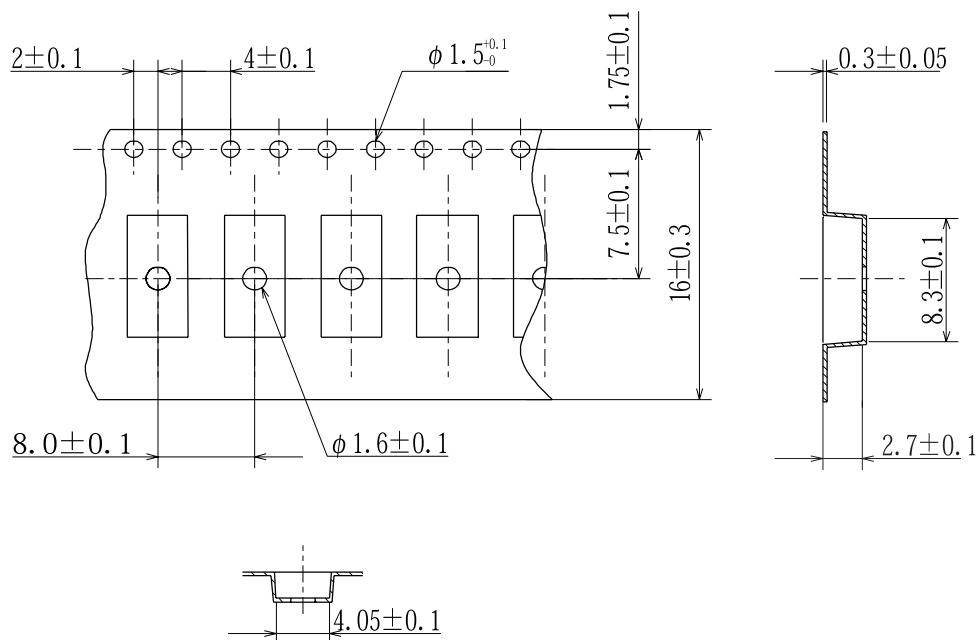
(32.768 KHz, 12.5pF)



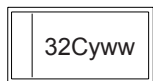
Packaging:

3000 pieces / Reel (13" Reel)

Precautions are taken to prevent damage due to transportation and handling.



Component Marking:



32C or 32S: Manufacturer's location ID Code

y: The last digit of production year.

ww: Week Code

Label Marking:

Identified with RoHS 260°C

Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.