# PERICOM<sup>®</sup> SaRonix-ecera<sup>®</sup> PSE Technology Corporation

SPECIFICATION FOR APPROVAL

CUSTOMER

NOMINAL FREQUENCY

32.768 KHz

PRODUCT TYPE

TYPE G1 TUNING FORK X'TAL

G13270009

Jun.24,2011

A

SPEC. NO. ( P/N )

**CUSTOMER P/N** 

**ISSUE DATE** 

VERSION

APPROVED	PREPARED	QA
Brenda	Claire	Canthur
APPROVED BY	AVL Status	
Please return one copy v	vith approval to PSE-TW	

#### PSE Technology Corporation

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

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# TYPE G1 TUNING FORK X'TAL

### G13270009

VER. A 24-Jun-11

### **VERSION HISTORY**

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
А	Jun.24,2011			Initial Release	

## PERICOM SaRonix-eCera

# **TYPE G1 TUNING FORK X'TAL**

### G13270009

VER. A 24-Jun-11

#### **ELECTRICAL SPECIFICATIONS**

#### SRe Part Number: G13270009

Parameters	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	32.768	KHz	
Mode of Oscillation	MO	Fundamental		+2° X-Cut
Load Capacitance	CL	12.5	pF	Typical
Calibration Tolerance		± 20	ppm	at 25℃ ± 5℃
Operating Temperature Range	TR	-40~85	°C	
Drive Level	DL	1	$\mu W$	Max.
Equivalent Series Resistance	ESR	35	KΩ	Max.
Shunt Capacitance C0	C0	1.6	pF	Typical
Temperature Coefficient	К	-0.035	ppm/°C <sup>2</sup>	Typical
Aging		± 3	ppm	Max 1st year
Insulation Resistance		500	MΩ	at DC 100V ± 15V

#### Reliability (Mechanical and Environmental Endurance)

No.	Test Items	Test Method and Condition	Requirements
1	Vibration	(1) Vibration Frequency: 10 to 55Hz	Frequency Change: ±10ppm Max.
		(2) Vibration Amplitude: 1.5mm	Resistance Change: 5kohm Max.
		(3) Cycle Time: 1-2min(10-55-10Hz)	
		(4) Direction: X.Y.Z	
		(5) Duration: 2h/each direction	
2	Shock	3 Times free drop from 75cm height to hard wooden	Frequency Change: ±10ppm Max.
		board of thickness more than 30mm	Resistance Change: 5kohm Max.
3	Leakage Put crystal units into a hermetic container and		Leakage: 1x10 <sup>−</sup> 8Pa⋅m1/s Max.
		Helium for 0.5-0.6Mpa, and keep it for 1h;	
		Check the leakage by a Helium leak detector	

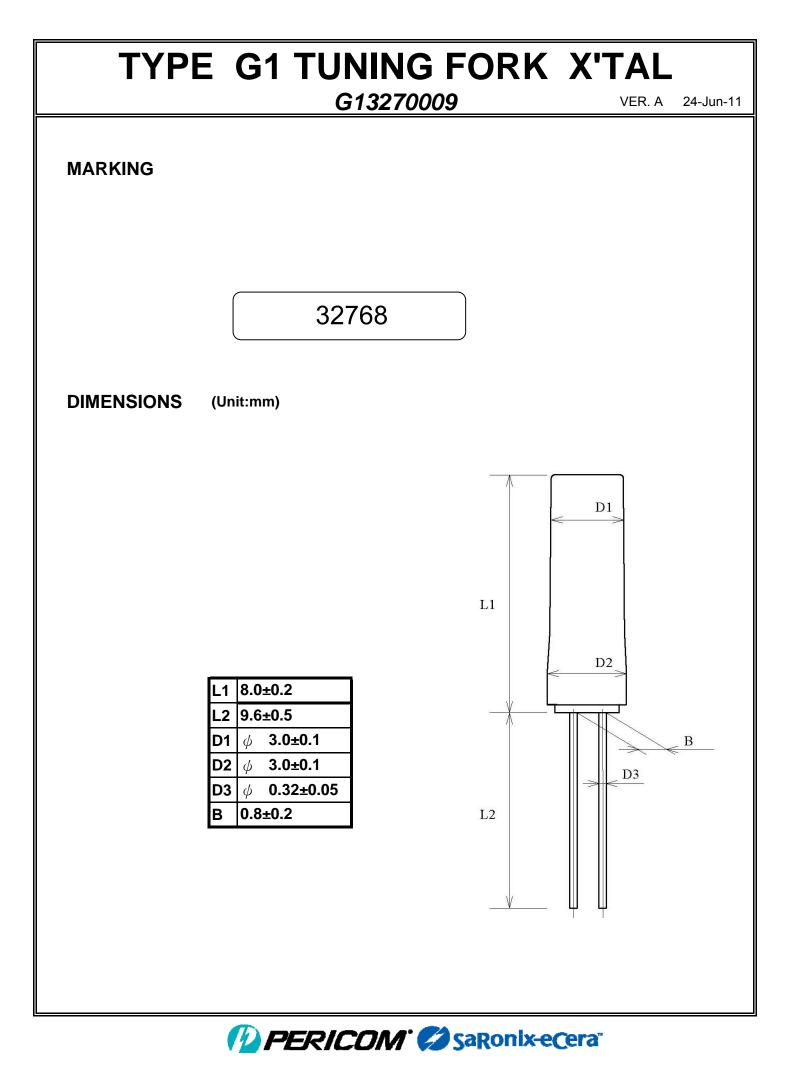
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## TYPE G1 TUNING FORK X'TAL G13270009 VER.A

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4	Lead Strength	The crystal lead with the 0.9kg(9N) power (keep it for	The crystal lead is not abnormity
	(DIP)	$30s\pm5s$ ) and bend the crystal lead $90^\circ$ with 0.45kg	
		power and two times	
		$(% \label{eq:constraint})$ which you want to bend should be more than	
		1.5mm from the case)	
5	High Temperature	The crystal units shall be put in somewhere for 2 hrs	Frequency Change: ±10ppm Max.
	Endurance	at temperature of $85^\circ C \pm 2^\circ C$ , then keep it for 1 to 2 hrs	Resistance Change: 5kohm Max.
		under room temperature.	
6	Low Temperature	The crystal units shall be put in somewhere for 2 hrs	
	Endurance	at temperature of -25 $^\circ\!{ m C}$ , then keep it for 1 to 2 hrs	
		under room temperature.	
7	Humidity	The crystal units shall be put in somewhere at 40 $^\circ\!\mathrm{C}$	
	Endurance	in relative humidity of 90-95% for 48 hrs, then keep	
		it for one or two hours under room temperature.	
8	Temperature	Temperature shift from low(-40 $^\circ\!{\rm C}$ ) to high(100 $^\circ\!{\rm C}$ , keep	
	Cycle	30 mins), satisfy high(100 $^\circ\!{ m C}$ ) to low(-40 $^\circ\!{ m C}$ , keep	
		30 mins), then go up to room temperature for 5 cycles.	
9	Salt Spray Test	Put the crystal units in the salt spray room (salt	The appearance shall has no abnormity
		density: 5%) at the temperature of 35 $^\circ\!\!\!\! \mathbb C$ for 96 hrs.	and soldering is good.
		Then clean it with water and dry its surface.	Frequency Change: ±10ppm Max.
			Resistance Change: 5kohm Max.



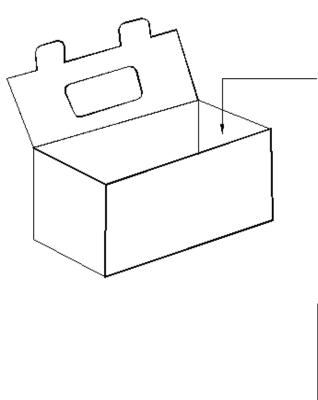


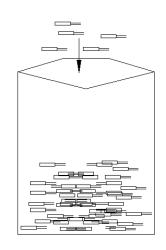
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### G13270009

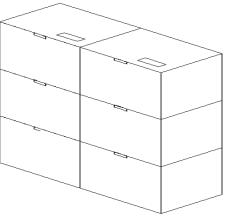
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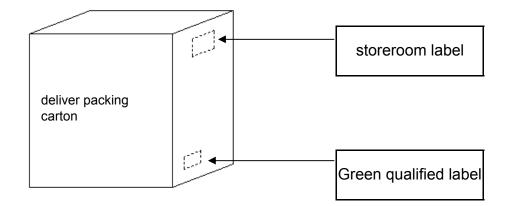
#### PACKING





Quantity for Each Bag : 1000 pcs





## PERICOM SaRonix-eCera

### **Mouser Electronics**

Authorized Distributor

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