



# QESM08

SMD 2.5x2.0 Crystal – Ceramic SMD packaged  
*Specification (Rev-A)*

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Specification (rev-A)

January 25<sup>th</sup>, 2008

## Electrical Characteristics

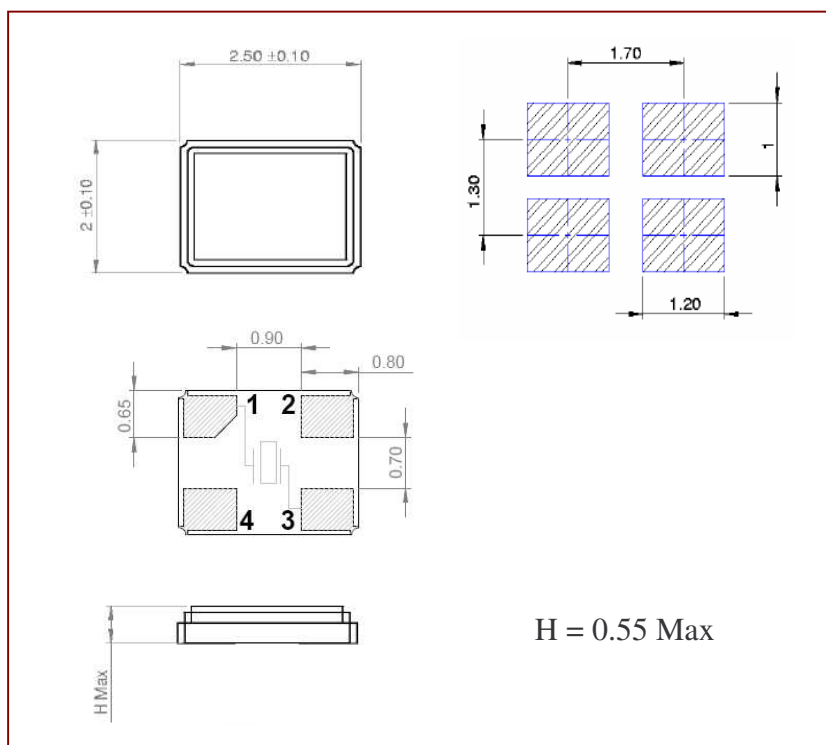
Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	16		60	
Frequency Tolerance (at 25°C)	± ppm	10		50	Refer to Ordering Information
Temperature Stability	± ppm	10		50	Refer to Ordering Information
Operating Temperature Range	°C		-20/+70	-40/+85	Refer to Ordering Information
Storage temperature range	°C	-40		+85	
Shunt capacitance C <sub>0</sub>	pF			3.0	
Load capacitance	pF	8pF ~ 12pF			Refer to Ordering Information
Drive level	µW		50	100	
Aging (First Year)	± ppm			2	Ref at 25°C
Insulator resistance	MΩ	500			At 100V <sub>DC</sub>

Customized specification upon request

## ESR vs. frequency range and Mode of vibration

Frequency range (MHz)	Mode of vibration	Max ESR (Ω)
16.000 to 19.999	Fundamental (AT-cut)	120
20.000 to 29.999	Fundamental (AT-cut)	80
30.000 to 60.000	Fundamental (AT-cut)	50

## Mechanical Characteristics



Marking for QESM08	
Line 1	Temex code (3 digits)
Line 2	T+date code (2digits)

Mechanical conditions	
Vibration	10g, 10Hz to 2KHz according to standard CEI 68-2-63
Shocks	100g, 6ms according to standard CEI 68-2-27

**Note 1 :** Pin 2 and Pin 4 are connected through cover. In case connected to GND, frequency might be drifted.

**Note 2 :** QESM08 is fully RoHS compliant.

# QESM08

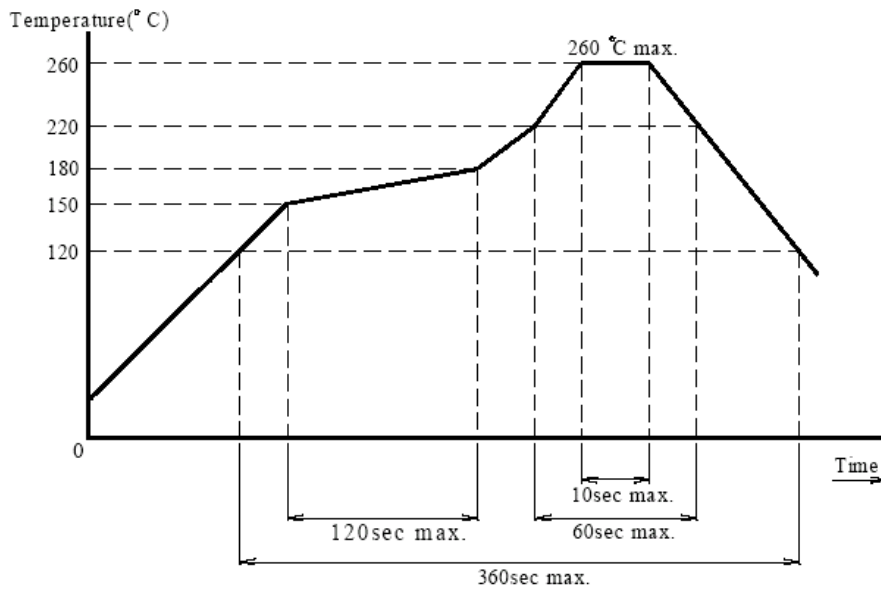
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## Ordering Information

Part numbering system						
QESM08	1	10	HQ	10	10	26.0000MHZ
Package type	Vibration mode	Frequency tolerance	Operating temperature range	Frequency stability	Load Capacitance	Nominal Frequency (MHz)
<b>SMD Package</b> <b>QESM08</b> : SMD ceramic 2.5 x 2.0	1=Fundamental	10=±10ppm 20=±20ppm 30=±30ppm 50=±50ppm	D=-40°C F= -30°C H=-20°C J=-10°C L=0°C M=+50°C N=+55°C O=+60°C Q=+70°C T=+85°C	10=±10ppm 20=±20ppm 30=±30ppm 50=±50ppm	10=10pF  Please, enter the value of load capacitance	Please enter the nominal frequency

## Suggested Reflow Soldering Profile

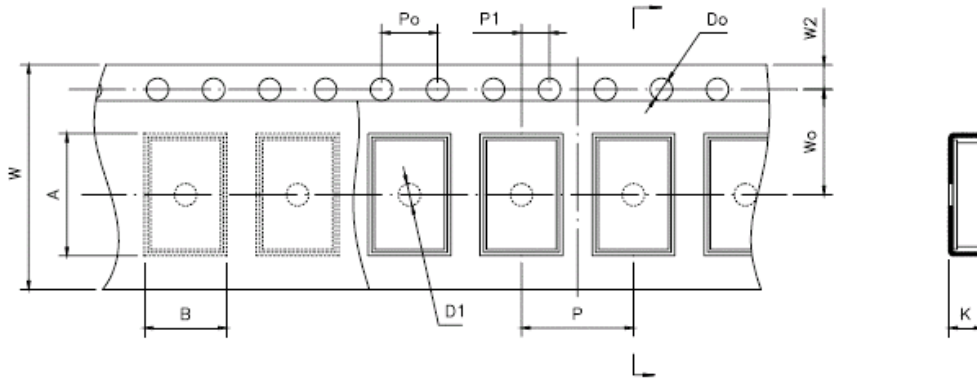


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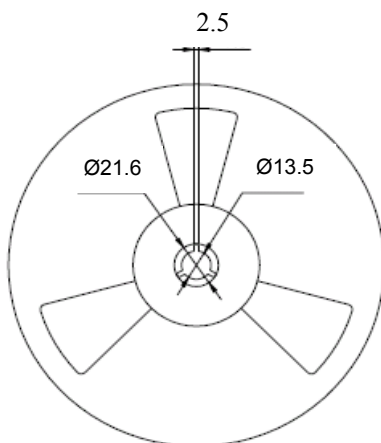
January 25<sup>th</sup>, 2008

## ▣ Tape Drawing



	Code	Dimension	Tolerance
Pitch of components	P	4.0	± 0.1
Pitch of sprocket hole	Po	4.0	± 0.1
Length from hole center to component center	P1	2.0	± 0.1
Width of carrier tape	W	8.0	± 0.3
Width of adhesive tape	W0	3.5	± 0.1
Height of component hole	A	2.8	± 0.1
Width of component hole	B	2.3	± 0.1
Gap of hold down tape and carrier tape	W2	0.5	± 0.1
Diameter of sprocket hole	Do	∅ 1.5	± 0.05
Diameter of feed hole	D1	∅ 1.5	± 0.25
Total of tape thickness	K	1.0	± 0.1

## ▣ Reel Drawing



**Multiple :**  
 3000pcs per reel

