

QESM01

SMD 7.0x5.0 Crystal – Ceramic SMD packaged
Specification (Rev-E)

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May 02nd, 2013

Electrical Characteristics

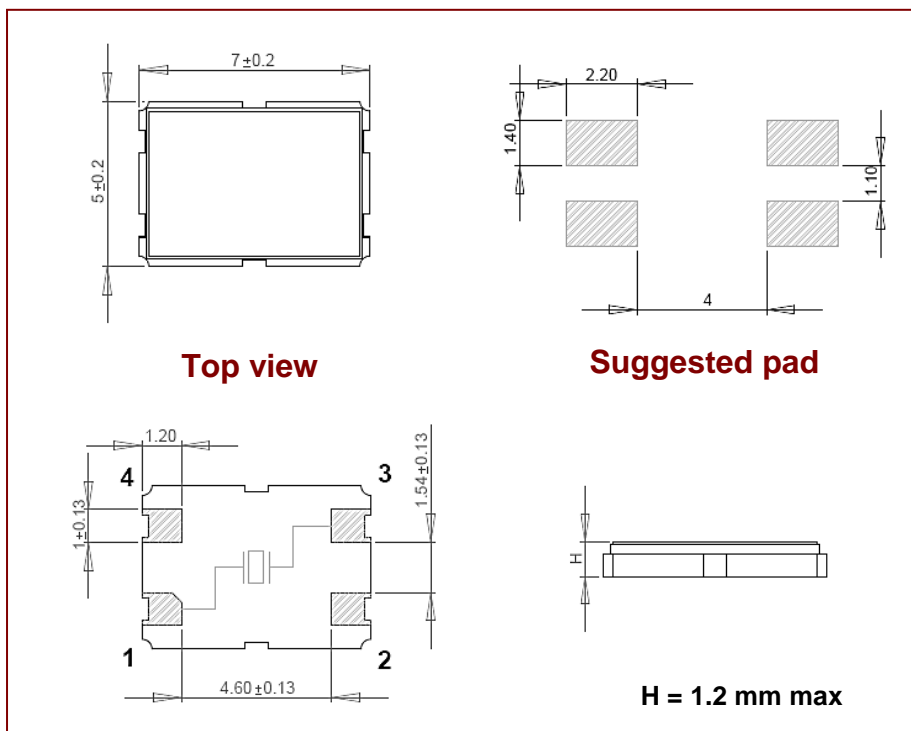
Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range	MHz	6.000		100	
Frequency Tolerance (at 25°C)	± ppm	10	30	50	Refer to Ordering Information
Temperature Stability	± ppm	10	30	50	Refer to Ordering Information
Operating Temperature Range	°C		-20/+70	-40/+85	Refer to Ordering Information
Storage temperature range	°C	-40		+85	
Shunt capacitance C ₀	pF			7.0	
Load capacitance	pF	10pF ~ 32pF or series			Refer to Ordering Information
Drive level	µW	10	100	500	
Aging (First Year)	± ppm			2	Ref at 25°C
Insulator resistance	MΩ	500			At 100V _{DC}

Customized specification upon request

ESR vs. frequency range and Mode of vibration

Frequency range (MHz)	Mode of vibration	Max ESR (Ω)	Frequency range (MHz)	Mode of vibration	Max ESR (Ω)
6.0000 to 7.999	Fund. / AT	100	40.000 to 83.999	3 rd Overtone	70
8.000 to 15.999	Fund. / AT	60	84.000 to 100.000	3 rd Overtone	60
16.000 to 39.999	Fund. / AT	40			

Mechanical Characteristics



Marking for QESM01	
Line 1	Manuf code + Rakon code (6 digits)
Line 2	Frequency in MHz (6 digits)

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 : QESM01 is fully RoHS compliant.

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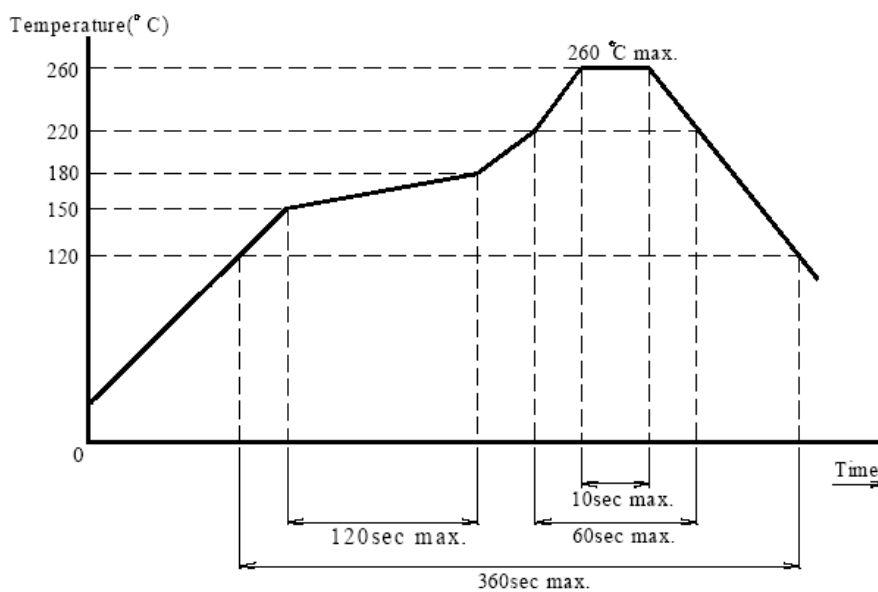
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Ordering Information

Part numbering system						
QESM01	1	50	LQ	50	00	24.000MHZ
Package type	Vibration mode	Frequency tolerance	Operating temperature range	Frequency stability	Load Capacitance	Nominal Frequency (MHz)
SMD Package QESM01 : SMD ceramic 7.0 x 5.0	1=Fundamental 3=3 rd overtone	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	00=series 10=10pF 30=30pF Please, enter the value of load capacitance	Please enter the nominal frequency

Suggested Reflow Soldering Profile

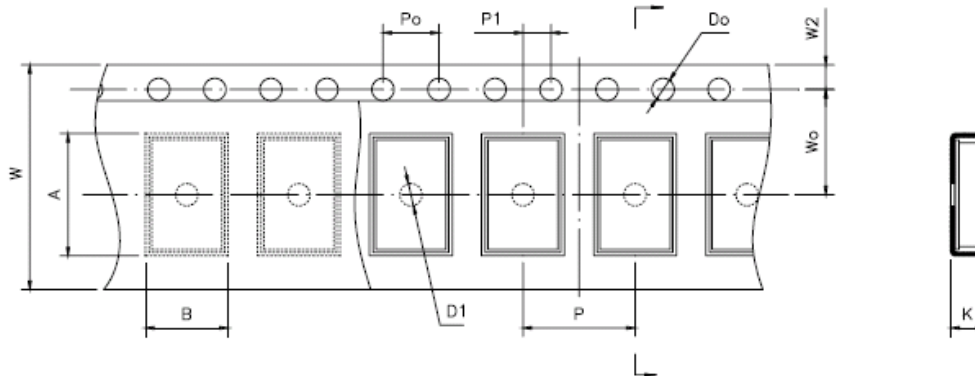


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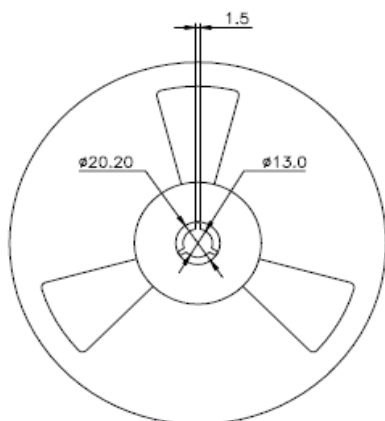
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▣ Tape Drawing



Item	Code	Dimension	Tolerance
Pitch of components	P	8.0	± 0.1
Pitch of sprocket hole	P ₀	4.0	± 0.1
Length from hole center to component center	P ₁	2.0	± 0.1
Width of carrier tape	W	16.0	+0.3/-0.1
Width of adhesive tape	W ₀	7.5	± 0.1
Height of component hole	A	8.18	± 0.1
Width of component hole	B	5.56	± 0.1
Gap of hold down tape and carrier tape	W ₂	1.75	± 0.1
Diameter of sprocket hole	D ₀	∅ 1.5	± 0.05
Diameter of feed hole	D ₁	∅ 1.5	± 0.25
Total of tape thickness	K	2.16	± 0.1

▣ Reel Drawing



Multiple : 1Kpcs per Reel

Unit : mm

