

QESM49H2 / H32

HC49 SMD Crystal – SMD packaged
Specification (Rev-G)

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May 23rd, 2016

Electrical Characteristics

Customized specification upon request

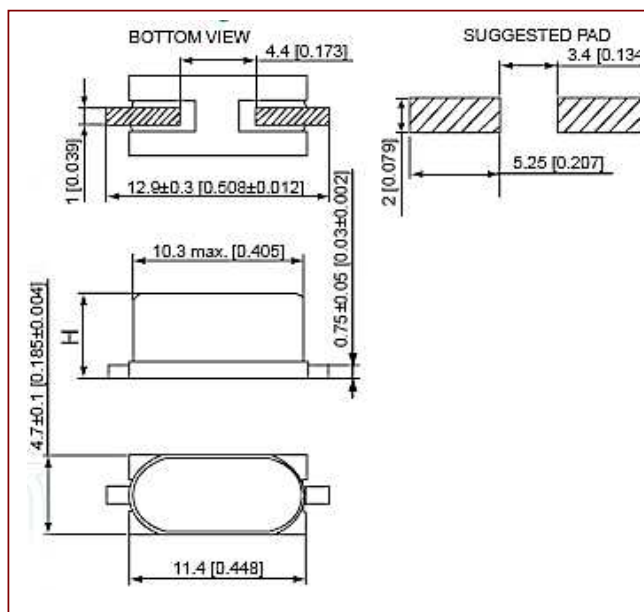
Electrical Parameters	Unit	Minimum	Typical	Maximum	Test conditions
Frequency range (see Note 1)	MHz	3.000		100.00	
Frequency Tolerance (at 25°C)	± ppm	10	30	50	Refer to Ordering Information
Temperature Stability	± ppm	10	30	50	Refer to Ordering Information
Operating Temperature Range	°C		-20/+70	-40/+85	Refer to Ordering Information
Storage temperature range	°C	-40		+85	
Shunt capacitance C ₀	pF			7.0	
Load capacitance	pF	6pF ~ 32pF or series			Refer to Ordering Information
Drive level	µW		100	500	
Ageing (First Year)	± ppm			3	Ref at 25°C
Insulator resistance	MΩ	500			At 100V _{DC}

Note 1 : 8 MHz is the minimum frequency for package QESM49H32

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)
3.00 to 3.49	Fund. / AT	150	10.00 to 10.99	Fund. / AT	40
3.50 to 3.99	Fund. / AT	120	11.00 to 19.99	Fund. / AT	30
4.00 to 4.99	Fund. / AT	100	20.00 to 40.00	Fund. / AT	25
5.00 to 6.99	Fund. / AT	80	27.00 to 29.99	3 rd / AT	100
7.00 to 7.99	Fund. / AT	70	30.00 to 44.99	3 rd / AT	80
8.00 to 8.99	Fund. / AT	60	45.00 to 80.00	3 rd / AT	60
9.00 to 9.99	Fund. / AT	50			

Mechanical Characteristics



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Heights (mm)	
49H2	H = 4.0 max
49H32	H = 3.2 max

Marking for SM94H2 / H32
Frequency in MHz (6 digits on the top)
ex: 10.000

Laser marking

Mechanical Conditions	
Vibration	10g, 10 H to 2 kHz according to standard CEI68-2-63
Shocks	100g, 6 ms according to standard CEI68-2-27

Note 1 : QESM49H serie is fully RoHS compliant.

Ordering Information

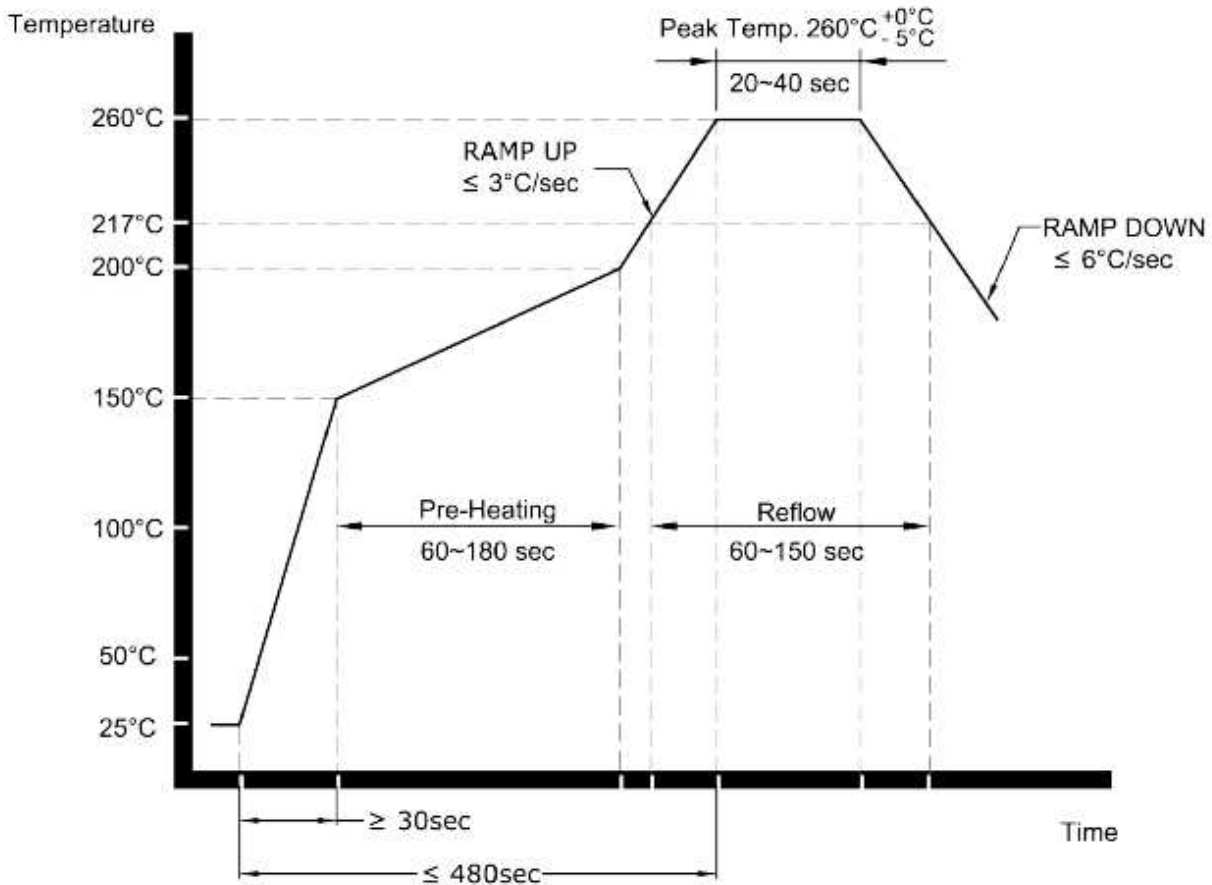
Part numbering system						
QESM49H2	1	30	HQ	50	20	25.000MHZ
Package type	Vibration mode	Frequency tolerance	Operating temperature range	Frequency stability	Load Capacitance	Nominal Frequency (MHz)
QESM49H2 : QESM49H32 : HC49 SMD package	1 = Fundamental 3 = 3 rd Overtone	10=±10ppm 30=±30ppm 50=±30ppm	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 30=±20ppm 50=±30ppm	16=16pF Please, enter the value of load capacitance	Please enter the nominal frequency

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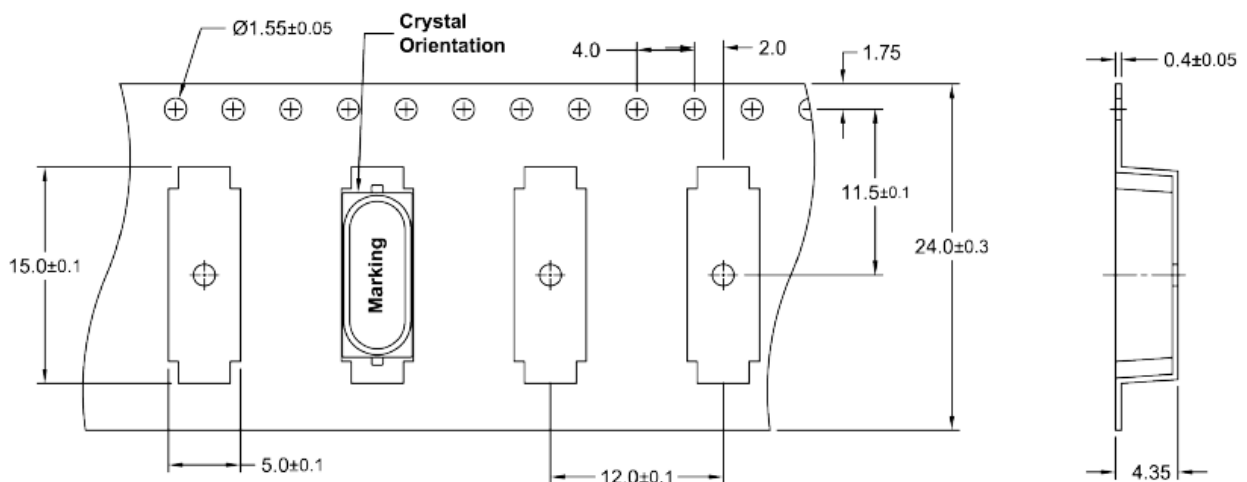
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▣ Suggested Reflow Soldering Profile



The product has been tested to withstand the Reflow Profile shown. The Reflow Profile used to solder TEMEXPRESS QESM49Hx crystals are determined by the solder paste Manufacturer's specification. It is recommended that the Reflow Profile used does not exceed the one shown above.

▣ Tape Drawing

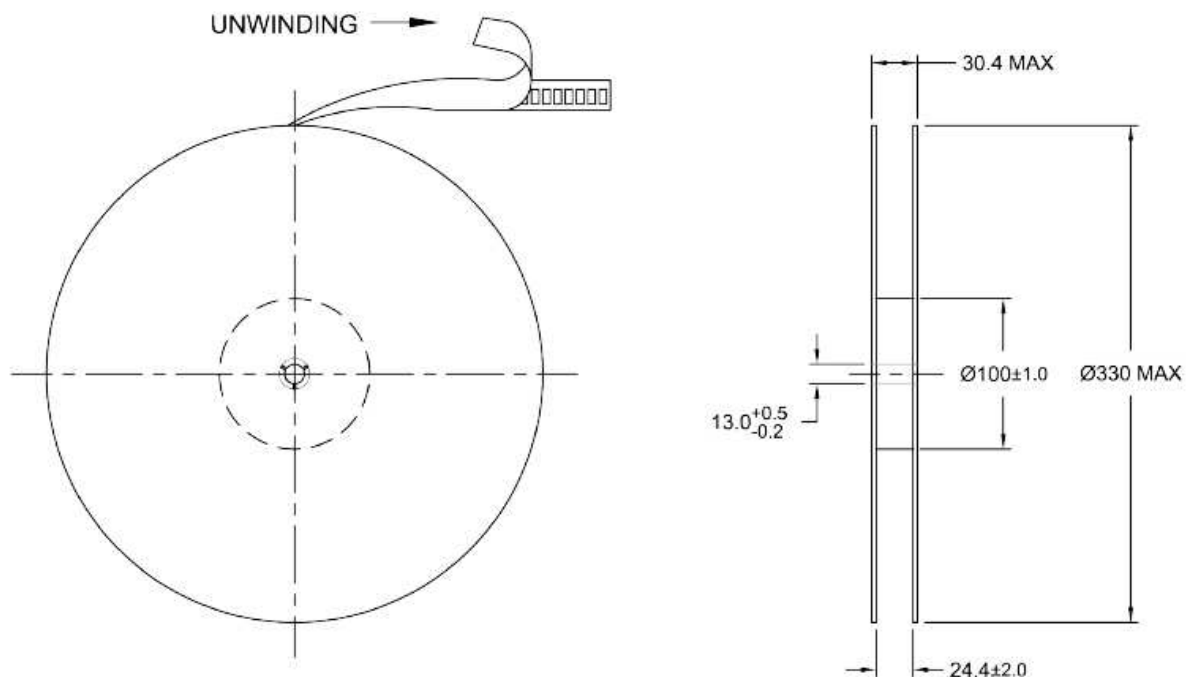


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Reel Drawing



Multiple :
1000pcs per reel