EUROQUARTZ

7 x 5mm SMD, 4 pad and 2 pad

MQ & MQ2 CRYSTALS

6.0MHz to 125MHz

FEATURES

- . Miniature size: 7.0mm x 5mm x 1.2mm height
- Gold-plated ceramic base with metal seam-welded lid
- To minimize EMI the whole crystal may be grounded .
- Tight tolerance of ±10pppm for telecommunications use •
- High shock and vibration resistance
- Ideal for PDAs, GPS, PCMCIA and hand-held equipment

DESCRIPTION

Miniature surface-mount MQ crystals are produced using a ceramic substrate and fitted with a hermetically-sealed metal lid. The crystals are competitively priced, well-suited to mass-market electronic applications and may also be produced to close tolerances making this crystal a good choice for applications requiring low mass and tight tolerances. There are two package variants, 4 pad and two pad.

SPECIFICATION

Frequency Range		
AT-Cut Fundamental:	6.0MHz to 45.0MHz	
AT-Cut 3rd Overtone: Calibration Tolerance at 25°C*:	30.0MHz to 125.0MHz	
Calibration Tolerance at 25°C°:	from ±5ppm (±10, ±20 or ±30ppm standard)	
Frequency stability		
-10° to +60°C	from ±5ppm	
-20° to +70°C	from ±10ppm	
-40° to +90°C	from ±15ppm	
-55 to +125°C	from ±20ppm	
Storage Temperature:	-55°~+105°C	
Effective Series Resistance:	See table	
Shunt Capacitance (C0):	2pF to 4pF typical, 7pF maximum	
Load Capacitance (CL):	Series or from 10pF to 32pF	
	(Customer specified CL)	
Ageing:	<±3ppm per year at +25°C	
Drive level:	100 μW maximum	
Reflow Soldering:	10s maximum, 260°C twice	
	or 180s at 230°C, once.	
Package:	Ceramic base, metal lid,	
	Hermetic seal	
Packaging:	16mm EIA tape and reel	
	1000 pieces per reel	

PART NUMBER GENERATION

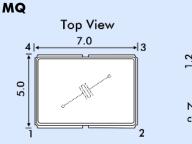
Example:	12.000MHz MQ/20/30/-10+60/18pF/60R			
Nominal Frequency 🖌				
Package MQ = 4 pad MQ2 = 2 pad				
Calibration tole at 25°C (±ppm)				
Temperature Sto over temp. rang				
Operating Temp Lower and uppe				
Load Capacitan <i>Either SR for ser</i>				
Equivalent Serie <i>Optional - use v</i> <i>value is require</i>	when special			



<u>∘</u> <u>†</u>



OUTLINE & DIMENSIONS

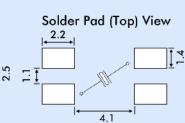




Note correct orientation of crystal connection as shown.

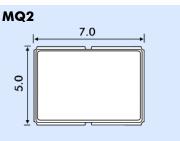


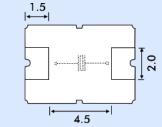
4.5

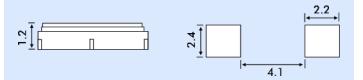


*Note: Pads 2 & 4 are connected to case (grounded).

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EFFECTIVE SERIES RESISTANCE

Frequency Range MHz	Crystal Cut/ Mode	ESR Ω Max.
6.0 ~ 11.0	AT Fund.	60
11.1 ~ 14.0	AT Fund.	50
14.1 ~ 45.0	AT Fund.	40
30.0 ~ 40.0	AT 3rd OT	100
40.1 ~ 50.0	AT 3rd OT	80
50.1 ~ 125	AT 3rd OT	90

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