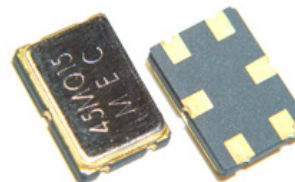


**Monolithic Crystal Filters – Surface Mount**  
**Model “21MQ7.5A”, 2 pole, 21.4 MHz, 5x7x1.3 mm**



**MERCURY**  
 Since 1973

- Thin and light weight; excellent shock and vibration resistance
- Suitable for automatic pick and place; Solder reflow capable
- Specifically designed for mobile, wireless communications, pagers, cellular and cordless phones.



RoHS Compliant Product  
 by Mercury

**SPECIFICATIONS**

<b>Model</b>	<b>21MQ7.5A</b>
<b>Package ⑤</b>	“Q” package, 5x7x1.3 mm Ceramic SMD
<b>Number of Poles ⑤</b>	2 Poles
<b>Center Frequency ①:</b>	21.4 MHz
<b>Pass Bandwidth④</b>	± 3.75 kHz min. at 3 dB
<b>Stop Bandwidth</b>	±20 KHz max. at 18 dB
<b>Guaranteed Attenuation</b>	70 dB min. at -910 KHz ± 10 KHz
<b>Ripple</b>	1.0 dB max.
<b>Insertion Loss</b>	2.0 dB max.
<b>Spurious</b>	15 dB min.
<b>Terminating Impedance</b>	850 Ω // 6.0 pF
<b>Operating Temperature</b>	-20°C to +70°C
<b>Aging</b>	± 2 ppm /year max.
<b>Storage Temperature</b>	-40°C to +85°C
<b>Packaging</b>	180 mm reel; 16 mm tape; 8 mm pitch; 1000 pcs per reel.

**HOW TO ORDER:**

<b>Part Number:</b> Please specify <b>21MQ7.5A</b>				
21	M	Q	7.5	A
①	②	③	④	⑤
①: Center Frequency Code “21” for 21.4 MHz      ②: MCF Series ③: Package code “Q” for 5x7x1.3 mm      ④: 3dB bandwidth: “7.5” for ± 3.75 kHz (total 7.5 KHz). ⑤: “A” for 2 poles				

**MERCURY**      [www.mercury-crystal.com](http://www.mercury-crystal.com)

Taiwan: TEL (886)-2-2406-2779, FAX (886)-2-2496-0769, e-mail: [sales-tw@mercury-crystal.com](mailto:sales-tw@mercury-crystal.com)

U.S.A.: TEL (1)-909-466-0427, FAX (1)-909-466-0762, e-mail: [sales-us@mercury-crystal.com](mailto:sales-us@mercury-crystal.com)

**Monolithic Crystal Filter – Surface Mount**  
**Model “21MQ7.5A”, 2 pole, 21.4 MHz, 5x7x1.3 mm**

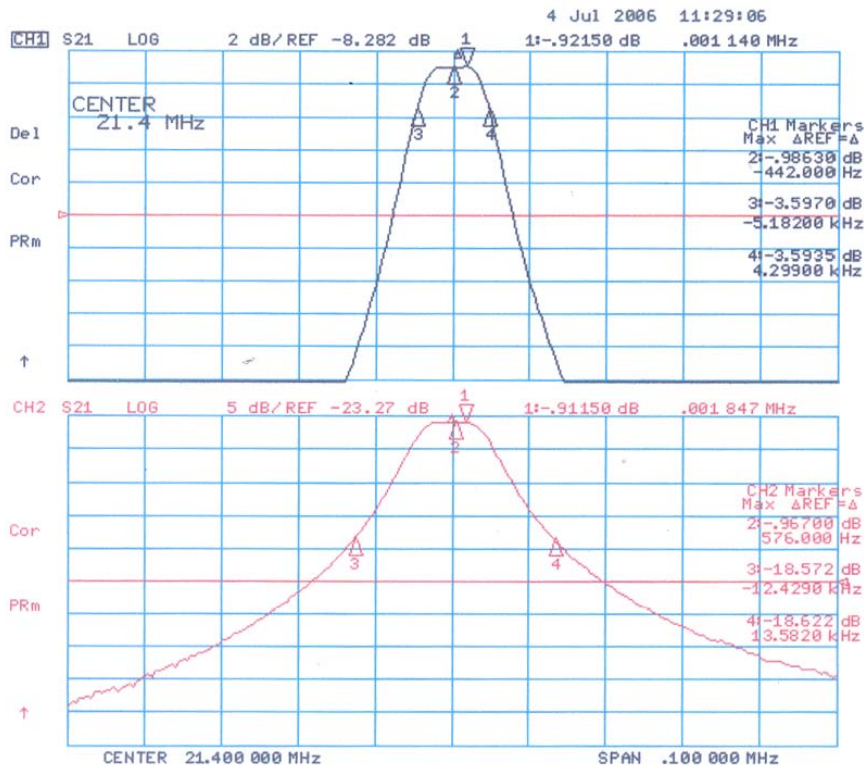


**MERCURY**  
 Since 1973

**ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS**

<b>Green Requirement</b>	RoHS compliant and Pb (lead free)
<b>Gross Leak</b>	60 sec min at +125°C in D.I. water or fluorocarbon fluid
<b>Fine Leak</b>	< 2 x10 <sup>-8</sup> atm cc /sec by helium leak check
<b>Shock</b>	Half sine wave acceleration of 100G peak amplitude for 11 m. sec. duration, 3 cycles each plane.
<b>Vibration</b>	±5 ppm max. Frequency:10 to 55 Hz, amplitude: 1.5 mm or 10 Gs rms. Duration: 6 hours.
<b>Drop Test</b>	Free drop onto hard wood board at 75 cm, 3 radon drops.
<b>Solderability</b>	MIL-STD-883, Method 2003
<b>Humidity</b>	After 48 hours at 85°C, 85% relative humidity non-condensing
<b>Thermal Shock</b>	Temperature cycling: Exposed at -40°C for 30 minutes then to +85°C for 30 minutes for duration of 5 days
<b>Marking Permanency</b>	MIL-STD-202, Method 215. Laser engraved.

**Typical Frequency Response**

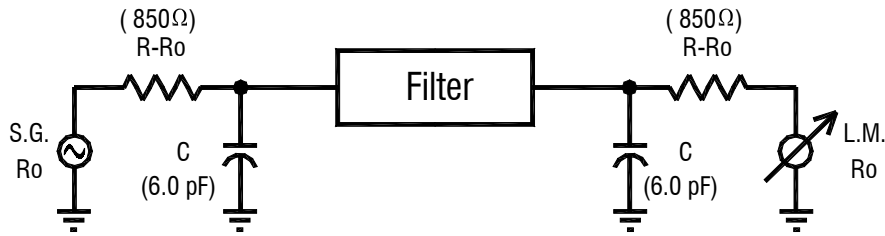


**Monolithic Crystal Filter – Surface Mount**  
**Model “21MQ7.5A”, 2 pole, 21.4 MHz, 5x7x1.3 mm**



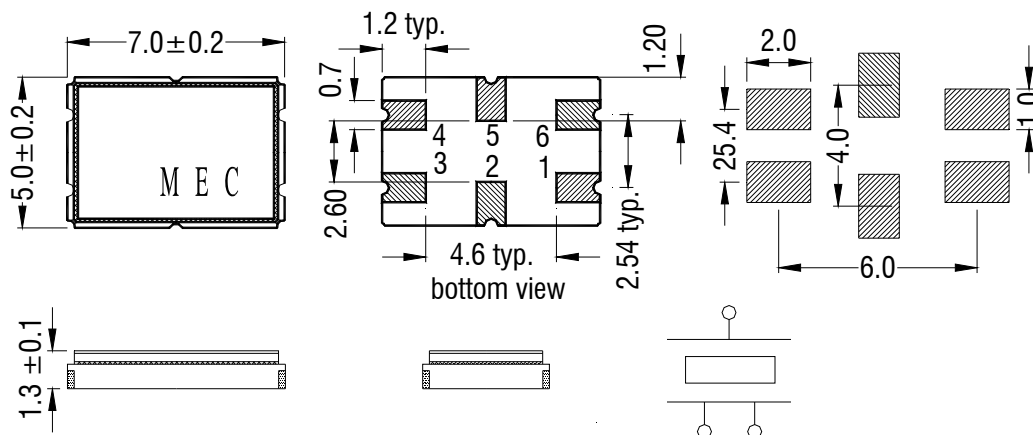
**MERCURY**  
 Since 1973

**21MQ7.5A TEST CIRCUIT:**



**PACKAGE DIMENSIONS AND SUGGESTED PAD LAYOUT**

Unit: mm



Pad 3 and 6: MCF in / out Pad 1,2,4,5 and metal lid: Ground

**RECOMMENDED SOLDER REFLOW PROFILE:**

Topside temperature of board to be 260°C min. and 270°C max.

Peak Temperature: 260°C max. and 10 sec. max.

Time within 5°C of actual peak: 20 to 40 sec. max.

