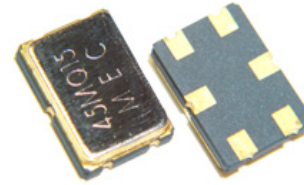


Monolithic Crystal Filters – Surface Mount
Model “45MQ30A”, 2 pole, 45 MHz, 5x7x1.3 mm



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.



SPECIFICATIONS

| | |
|-------------------------------|---|
| Model | 45MQ30A |
| Package ⑤ | “Q” package, 5x7x1.3 mm Ceramic SMD |
| Number of Poles ⑤ | 2 Poles |
| Center Frequency ①: | 45 MHz |
| Pass Bandwidth④ | ± 15 kHz min. at 3 dB |
| Stop Bandwidth | ±60 KHz max. at 15 dB |
| Guaranteed Attenuation | 70 dB min. at -910 KHz ± 10 KHz |
| Ripple | 1.0 dB max. |
| Insertion Loss | 2.0 dB max. |
| Spurious | 15 dB min. |
| Terminating Impedance | 1.2 KΩ // 1.8 pF |
| Operating Temperature | -20°C to +70°C |
| Aging | ± 2 ppm / year max. |
| Storage Temperature | -40°C to +85°C |
| Packaging | 180 mm reel; 16 mm tape; 8 mm pitch; 1000 pcs per reel. |

HOW TO ORDER:

| | | | | |
|--|---|---|----|---|
| Part Number: Please specify 45MQ30A | | | | |
| 45 | M | Q | 30 | A |
| ① | ② | ③ | ④ | ⑤ |
| ①: Center Frequency Code “45” for 45 MHz ②: MCF Series ③: Package code “Q” for 5x7x1.3 mm ④: 3dB bandwidth: “30” for ± 25 kHz (total 30 KHz). ⑤: “A” for 2 poles | | | | |

MERCURY www.mercury-crystal.com

Taiwan: TEL (886)-2-2406-2779, FAX (886)-2-2496-0769, e-mail: 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

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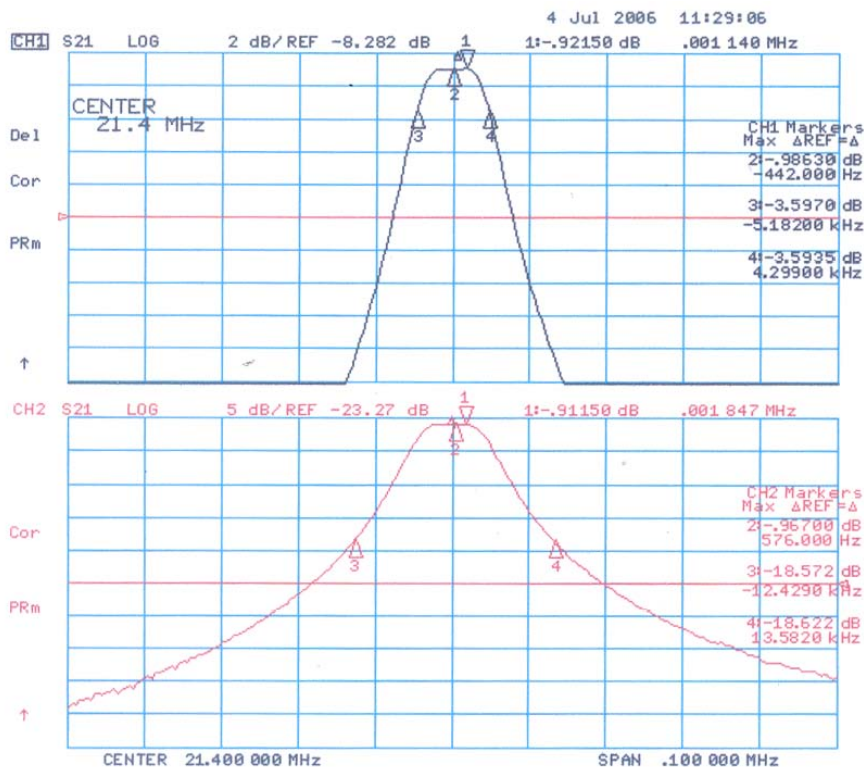


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ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS

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

Typical Frequency Response

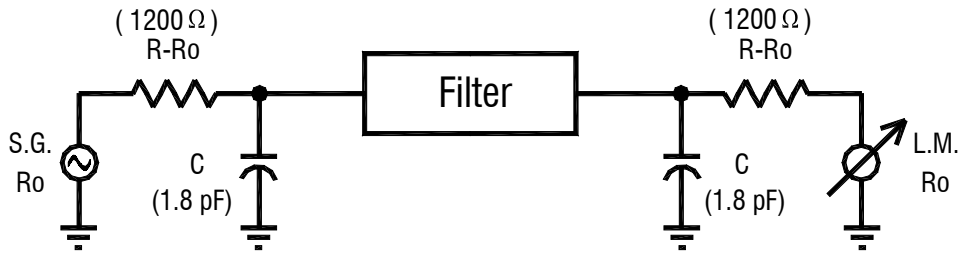


Monolithic Crystal Filter – Surface Mount
Model “45MQ30A”, 2 pole, 45 MHz, 5x7x1.3 mm



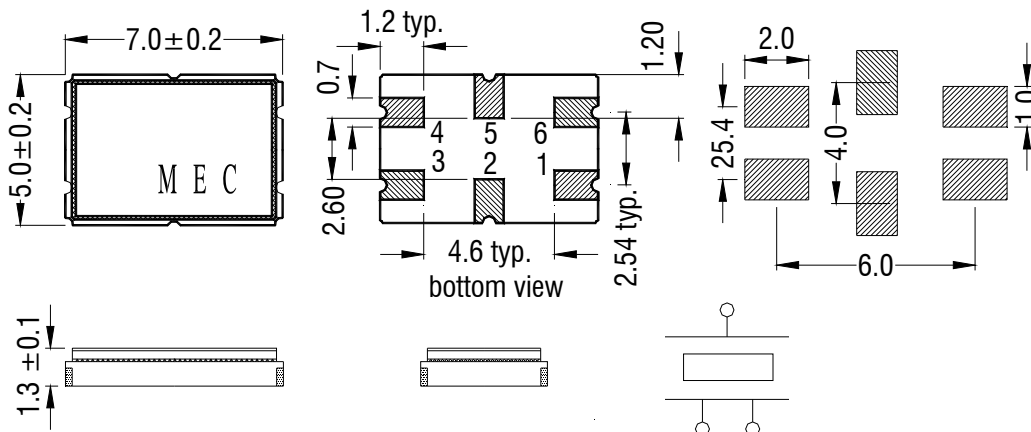
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45MQ30A TEST CIRCUIT:



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.

