

MP4, MP5 CRYSTALS

12 x 4.5mm Compatible SMD Crystal

3.2MHz to 70MHz

Low frequencies from 3.5MHz to 70.0MHZ

- **Fully RoHS compliant**
- Two height profiles available, 4.8 or 3.8mm
- Standard EIA tape and reel supply





DESCRIPTION

MP4 and MP5 crystals provide clock signals (from 3.2MHz) in a lowprofile SMD package. The part is electrically and mechanically compatible with traditional industry SMD packages and may be used as a 'drop-in' replacement.

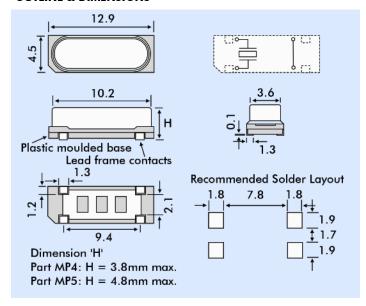
USE WITH DOUBLE-SIDED PCBs

MP4 and MP5 crystals are designed for top board assembly and one solder reflow process. Do not reflow this part with the can inverted.

SPECIFICATION

Frequency Range AT-Cut Fundamental: 3.2MHz to 48.0MHz AT-Cut 3rd Overtone: 27.0MHz to 70.0MHz BT-Cut Fundamental: 24.0MHz to 48.0MHz Calibration Tolerance at 25°C*: ± 5 , ± 10 , ± 20 or ± 30 ppm at 25°C from ±10ppm over-10° to +60°C Frequency stability: from ±15ppm over -40° to +85°C Storage Temperature: -50°~+105°C See table **Equivalent Series Resistance:** Shunt Capacitance (C0): 7pF maximum Series or from 8pF to 32pF Load Capacitance (CL): (Customer specified CL) Ageing: $< \pm 3$ ppm per year at +25°C 100µW maximum Drive level: Reflow Soldering: 10s maximum at 260°C twice or 180s at 230°C, once. Packaging: 24mm EIA tape and reel, 1k per.

OUTLINE & DIMENSIONS



EQUIVALENT SERIES RESISTANCE

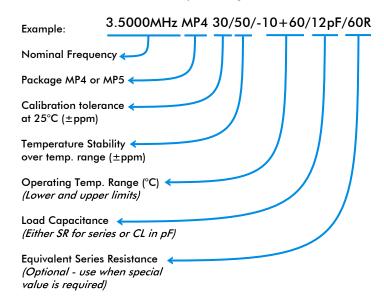
ESR Ω Max.	
AT-Cut Fundamental	
300	
120	
60	
40	

Range MHz	Ω Max.
AT-Cut 3rd Overtone	
27.0~30.0	150
30.1~50.0	100
50.1~70.0	80
Frequency	ESR
Range MHz	Ω Max.
BT-Cut Fundamental	
24.0~48.0	40

Frequency

PART NUMBER GENERATION

Part numbers for MP4 and MP5 crystals are generated as follows:

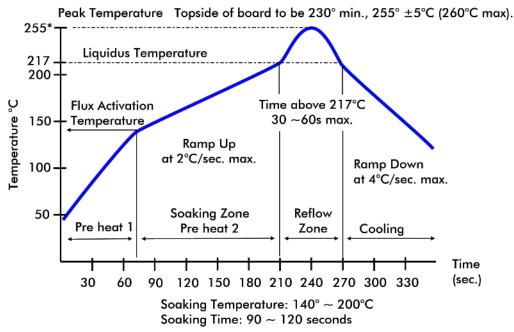


12 x 4.5mm Compatible SMD Crystal

3.2MHz to 70MHz

Page 2 of 2

HIGH TEMPERATURE SOLDER REFLOW - ROHS COMPLIANT (LEAD-FREE) SMD PRODUCTS



*Peak Temperature is 255° ±5°C (260°C max).

USE WITH DOUBLE-SIDED PCBs

MP4 and MP5 crystals are designed for top board assembly and one solder reflow process. Do not reflow this part with the can inverted.