

- Frequency range 3.20MHz to 70.0MHz
- Fully RoHS compliant
- Two height profiles available, 4.8 or 3.8mm
- Standard EIA tape and reel supply

DESCRIPTION

MP24 and MP25 crystals provide an ideal source of low frequency clock signals (from 3.5MHz) in a low-profile SMD package. The part is electrically and mechanically compatible with traditional industry SMD packages and may be used as a 'drop-in' replacement.

Note: MP24 and MP25 crystals are designed for top board assembly and one solder reflow process. Do not mount this part with the can mounted downwards.

SPECIFICATION

Frequency Range	
AT-Cut Fundamental:	3.20MHz 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*:	from ± 10 ppm at 25°C (± 30 ppm standard)
Frequency stability	
AT-Cut from:	± 10 ppm over -10° to +60°C
BT-Cut from:	± 50 ppm over -10° to +60°C
Storage Temperature:	-40°~+85°C
Equivalent Series Resistance:	See table
Shunt Capacitance (C0):	7pF maximum
Load Capacitance (CL):	Series or from 8pF to 32pF (Customer specified CL)
Ageing:	< ± 3 ppm per year at +25°C
Drive level:	100 μ W typical, 500 μ W maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	24mm EIA tape and reel, 1k per.

EQUIVALENT SERIES RESISTANCE

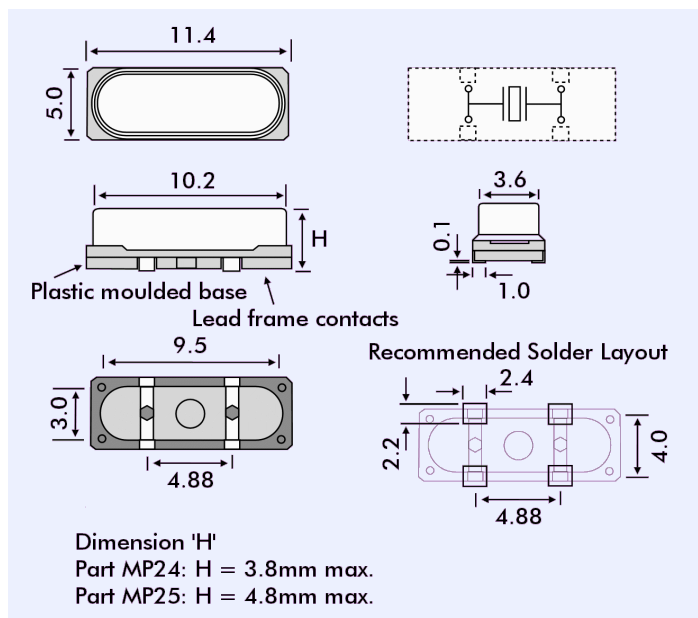
AT-Cut Fundamental		AT-Cut 3rd Overtone	
Frequency Range MHz	ESR Ohms Max.	Frequency Range MHz	ESR Ohms Max.
3.2~3.4	300	27.0~30.0	150
3.5~6.0	120	30.1~50.0	100
6.1~10.0	60	50.1~70.0	80
10.1~48.0	40		

AT-Cut 3rd Overtone	
Frequency Range MHz	ESR Ohms Max.
24.0~48.0	40



11.4 x 5.0mm SMD Crystal

OUTLINE & DIMENSIONS



PART NUMBER FORMAT

Example:	MP24 - 16.000 - 12 - 30/50/-20+70/100R
Package	MP24 or MP25
Frequency in MHz	16.000
Load Capacitance (Either SR for series or CL in pF)	12
Calibration tolerance at 25°C (\pm ppm)	30/50
Temperature Stability over temp. range (\pm ppm)	-20+70
Operating Temp. Range (°C) (Lower and upper limits)	100R
Equivalent Series Resistance (Optional - use when special value is required)	