

- 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 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.

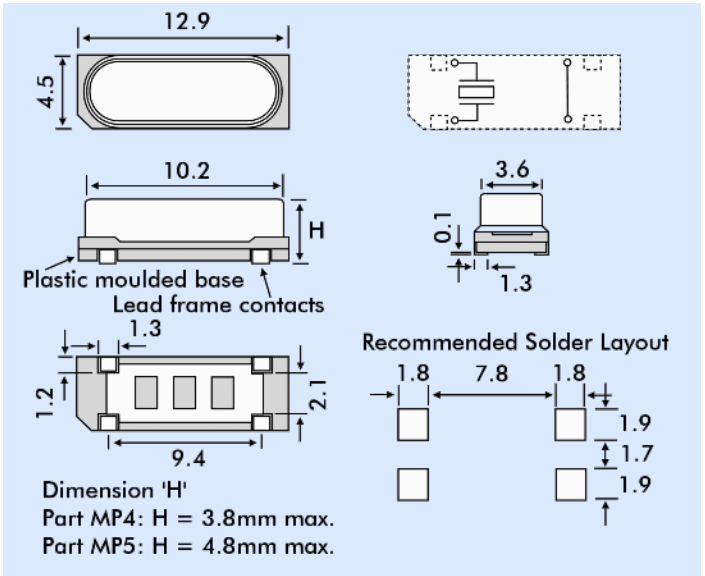
### USE WITH DOUBLE-SIDED PCBs

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 ±30ppm at 25°C
Frequency stability:	from ±10ppm over -10° to +60°C from ±15ppm over -40° to +85°C -50°~+105°C
Storage Temperature:	
Equivalent Series Resistance:	See table
Shunt Capacitance (C0):	7pF maximum
Load Capacitance (CL):	Series or from 8pF to 32pF (Customer specified CL)
Ageing:	< ±3ppm per year at +25°C
Drive level:	100µW maximum
Reflow Soldering:	10s maximum at 260°C twice or 180s at 230°C, once.
Packaging:	24mm EIA tape and reel, 1k per.

### OUTLINE & DIMENSIONS

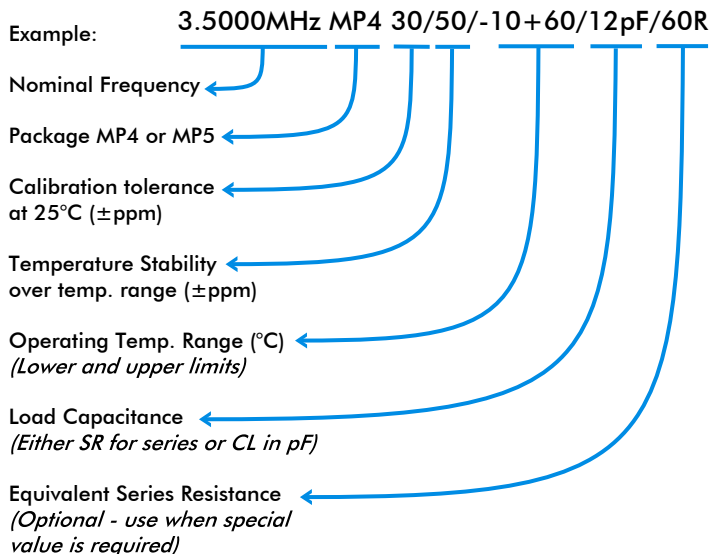


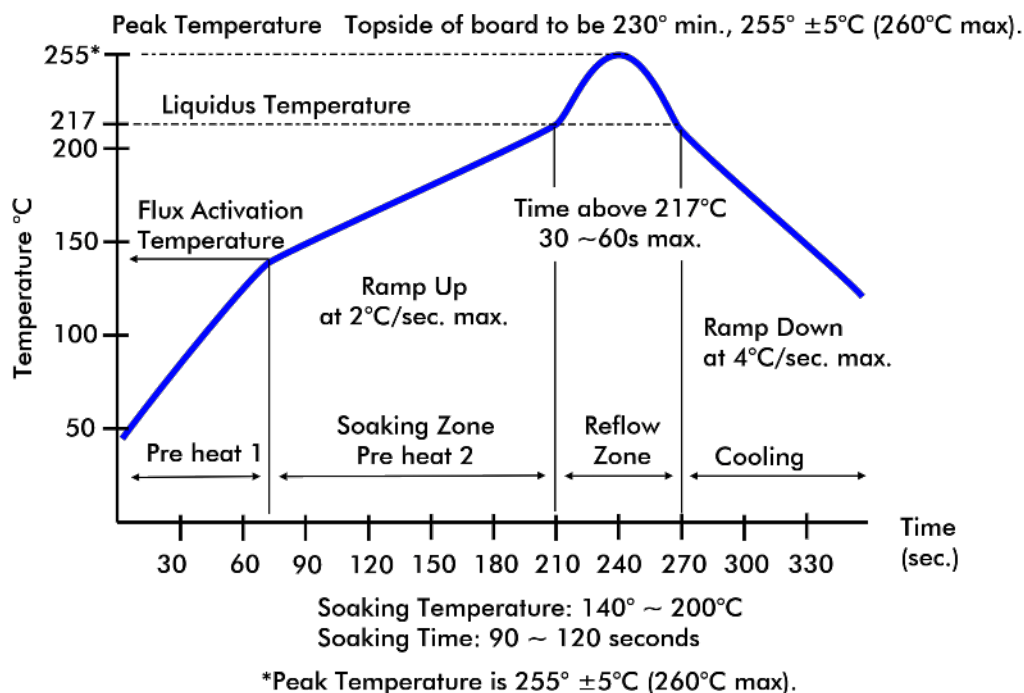
### EQUIVALENT SERIES RESISTANCE

Frequency Range MHz	ESR Ω Max.
<b>AT-Cut Fundamental</b>	
3.2~3.4	300
3.5~6.0	120
6.1~10.0	60
10.1~30.0	40
<b>AT-Cut 3rd Overtone</b>	
27.0~30.0	150
30.1~50.0	100
50.1~70.0	80
<b>BT-Cut Fundamental</b>	
24.0~48.0	40

### PART NUMBER GENERATION

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



**HIGH TEMPERATURE SOLDER REFLOW - RoHS COMPLIANT (LEAD-FREE) SMD PRODUCTS****USE WITH DOUBLE-SIDED PCBs**

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