

# UM-4, UM-5, UM-1 MJ

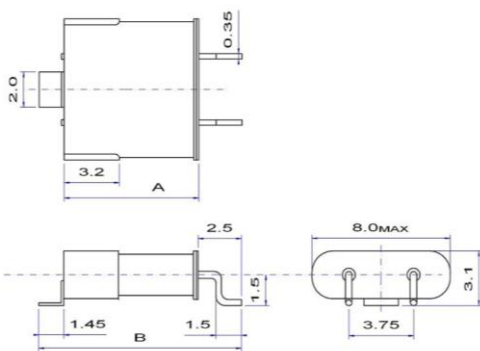


## Metal packaged SMD Crystal

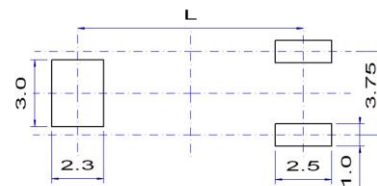
### Features

- Applications: telecommunications, audio, navigation, instruments
- High frequency accuracy in stability and aging
- Wide frequency range: 8 to 250 MHz
- Reflow solder able

Parameter	Specification	
Frequency range	8 ~ 80 MHz 30 ~ 180 MHz 80 ~ 250 MHz	fundamental 3 <sup>rd</sup> overtone 5 <sup>th</sup> overtone
Mode of oscillation	AT cut	3 <sup>rd</sup> & 5 <sup>th</sup> overtone
Standard frequencies	10.00, 10.368, 15.36, 20.48, 20.945, 80.00, 100.00 125.00, 155.52 & 180.00 MHz	
Frequency tolerance	±5 ~ ±20 ppm	@ +25 °C
Frequency stability	±5 ~ ±20 ppm	vs. operating temperature range
Aging	< ±1 ppm	1 <sup>st</sup> year
Load capacitance	series or parallel resonance (CL = 8 ~ 32 pF)	
Equivalent series resistance (ESR)	< 20 Ω < 12 Ω	@ 10 MHz @ 32 MHz
Drive level	10 ~ 100 μW	
Operating temperature range	-20 ~ +70 °C -40 ~ +85 °C -40 ~ +125 °C	commercial application industrial application automotive & avionic application
Storage temperature range	-55 ~ +125 °C	
Packaging unit	tape & reel	500 or 1'000 pieces
Customer specifications on request		

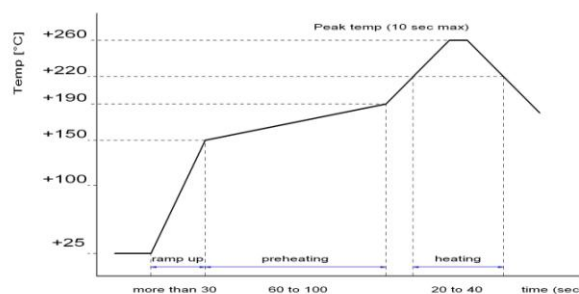


Example for soldering pattern



**Do not design any conductive path between the pattern**

Example for IR reflow soldering temperature



Type	A	B	L
UM-1 MJ	8.0	12.0	10.8
UM-5 MJ	6.0	10.0	8.8
UM-4 MJ	4.4	8.4	7.2

[mm]



2002/95/EC RoHS compliant

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