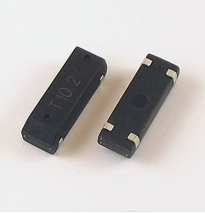


MOLDED SMD PLASTIC PACKAGE CRYSTAL (12.5 x 4.6 x 3.7mm)

FEATURES:

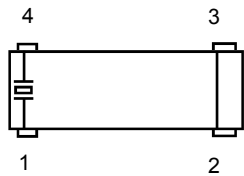
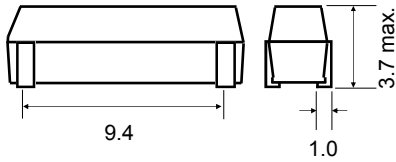
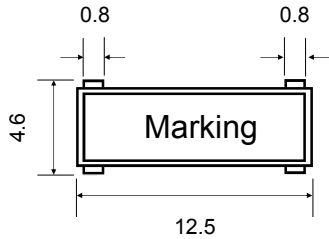
- HIGH FREQUENCY RANGE
- LOW COST
- LOW PROFILE



■ SPECIFICATION

FREQUENCY RANGE	3.579MHz ~ 70.000MHz	
FREQUENCY TOLERANCE @ 25°C	±15ppm ~ ±50ppm (See P/N guide for other options)	
FREQUENCY STABILITY	±20ppm ~ ±50ppm (See P/N guide for other options)	
OPERATING TEMPERATURE RANGE	STD: 0°C to 70°C, Option: -40°C to 85°C (See P/N guide for other options)	
STORAGE TEMPERATURE RANGE	-55°C to 125°C	
LOAD CAPACITANCE	STD: 18pF (See P/N guide for other options)	
SHUNT CAPACITANCE	7.0pF max.	
INSULATION RESISTANCE	500MΩ min. at 100V _{DC} ± 15V _{DC}	
DRIVE LEVEL	100uW max.	
AGING	±5.0ppm / 1 st year max.	
EQUIVALENT SERIES RESISTANCE	Fundamental:	3.579MHz ~ 4.500MHz: 150Ω max. 4.501MHz ~ 5.000MHz: 130Ω max. 5.001MHz ~ 7.000MHz: 120Ω max. 7.001MHz ~ 10.000MHz: 100Ω max. 10.001MHz ~ 12.000MHz: 80Ω max. 12.001MHz ~ 14.000MHz: 70Ω max. 14.001MHz ~ 16.000MHz: 50Ω max. 16.001MHz ~ 27.000MHz: 30Ω max.
	3rd overtone:	27.001MHz ~ 70.000MHz: 100Ω max.
OPERATION MODE	Fundamental or 3 rd overtone	

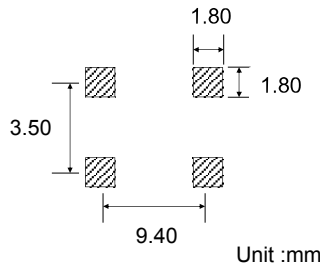
■ PACKAGE DIMENSIONS



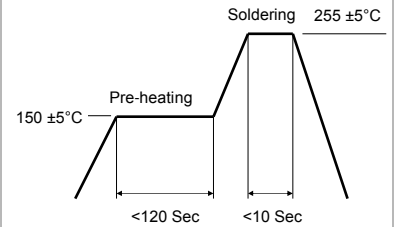
Unit : mm

Pin Configuration	
1	Xtal
2	GND
3	GND
4	Xtal

■ SOLDER PATTERN



■ REFLOW PROFILE



Note: Consult factory for detail

■ PART NUMBERING GUIDE

TS-SMD - F - 00 - 00 - HM - 08 - 20.000M - TR

<p>Mode</p> <p>F: Fundamental T: 3rd overtone</p>	<p>Stability</p> <p>00: ± 100ppm 50: ± 50ppm 25: ± 25ppm 15: ± 15ppm 10: ± 10ppm XX: Two digit for Stability</p>	<p>Load Capacitance</p> <p>08: 8pF 20: 20pF 10: 10pF 22: 22pF 12: 12pF 24: 24pF 16: 16pF 28: 28pF 18: 18pF 32: 32pF S: Series</p>	<p>Other Options</p> <p>TR: Tape and reel</p>																				
<p>Tolerance @ 25°C</p> <p>00: ± 100ppm 50: ± 50ppm 30: ± 30ppm 25: ± 25ppm 10: ± 10ppm XX: Two digit for Tolerance</p>	<p>Operating Temperature</p> <table> <tr> <td>A: -55</td> <td>F: -20</td> <td>M: 70</td> <td>S: 100</td> </tr> <tr> <td>B: -50</td> <td>G: -10</td> <td>N: 75</td> <td>T: 105</td> </tr> <tr> <td>C: -40</td> <td>H: 0</td> <td>P: 80</td> <td>U: 125</td> </tr> <tr> <td>D: -35</td> <td>J: 50</td> <td>Q: 85</td> <td>X: custom</td> </tr> <tr> <td>E: -30</td> <td>K: 60</td> <td>R: 90</td> <td></td> </tr> </table>			A: -55	F: -20	M: 70	S: 100	B: -50	G: -10	N: 75	T: 105	C: -40	H: 0	P: 80	U: 125	D: -35	J: 50	Q: 85	X: custom	E: -30	K: 60	R: 90	
A: -55	F: -20	M: 70	S: 100																				
B: -50	G: -10	N: 75	T: 105																				
C: -40	H: 0	P: 80	U: 125																				
D: -35	J: 50	Q: 85	X: custom																				
E: -30	K: 60	R: 90																					
<p>Frequency</p> <p>M: MHz</p>																							

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