

SM10T070-25.0M Miniature SMD Crystal

June 2015



- Pletronics' SM10T Series is a miniature surface mount crystal.
- Package is ideal for automated surface mount assembly and reflow practices.
- Tape and Reel packaging
- 25 MHz
- 2.5 x 3.2 mm 4 pad
- AT Cut Fundamental Crystals
- Ideal for use in hand held consumer products

Pletronics Inc. certifies this device is in accordance with the RoHS 6/6 (2011/65/EC) and WEEE (2002/96/EC) directives.

Pletronics Inc. guarantees the device does not contain the following:

Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's

Weight of the Device: 0.03 grams

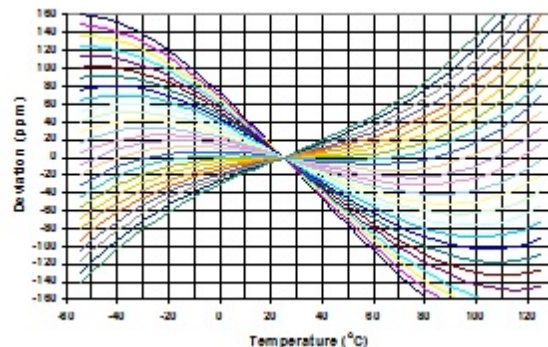
Moisture Sensitivity Level: 1 As defined in J-STD-020D.1

Second Level Interconnect code: e4

Electrical Specification: 25.0MHz at 20pF C_{LOAD}

Item	Min	Typ	Max	Unit	Condition
Frequency	-	25.0	-	MHz	
Calibration Frequency Tolerance	-20	-	+20	ppm	at +25°C ± 3°C
Frequency Stability	-20	-	+20	ppm	
C_{LOAD}	20.0			pF	
Equivalent Series Resistance (ESR)	-	-	30	Ohms	
Drive Level	-	-	300	μW	use 10 μW for testing
Shunt Capacitance (C_0)	-	-	5	pF	Pad to Pad capacitance
Aging at 25°C ± 3°C	-20	-	+20	ppm	over 10 years
Shunt Capacitance	-	-	7	pF	
Trim Sensitivity	-	-	10	ppm/pF	
Quality Factor	30k	-	-	-	
3rd Harmonic Motional Resistance	30	-	-	Ohms	
Operating Temperature Range	-40	-	+85	°C	
Storage Temperature Range	-55	-	+125	°C	

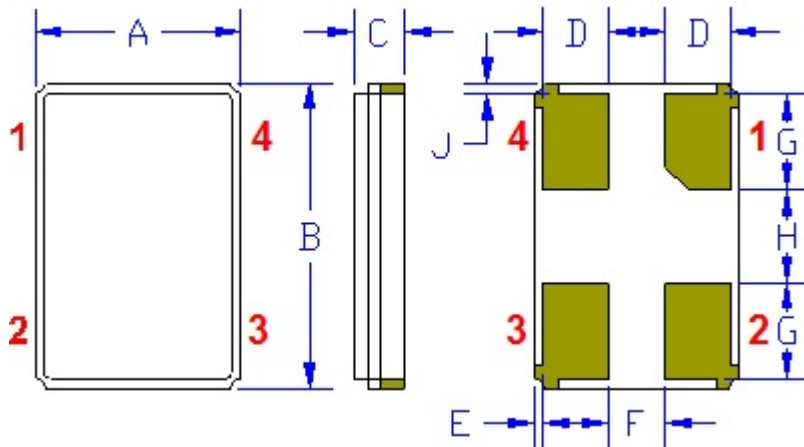
AT Cut Crystal Frequency versus Temperature Typical Performance:



Product information is current as of publication date. The product conforms to specifications per the terms of the Pletronics standard warranty. Production processing does not necessarily include testing of all parameters.

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Mechanical:



	Inches	mm
A	0.098 ± 0.004	2.5 ± 0.15
B	0.126 ± 0.004	3.2 ± 0.15
C	0.028 max	0.7 max
D ¹	0.028 to 0.031	0.7 to 0.8
E ¹	0.004	0.1
F ¹	A - (2 * (D + E))	
G ¹	0.035	0.9
H ¹	0.047	1.2
J ¹	0.004	0.1

The chamfered pad may or may not be present and may be on any pad

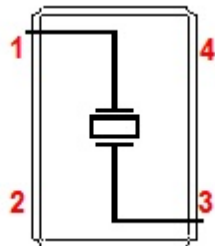
Contacts :

Gold 11.8 μinches 0.3 μm minimum over
 Nickel 50 to 350 μinches 1.27 to 8.89 μm

Not to Scale

¹ Typical dimensions

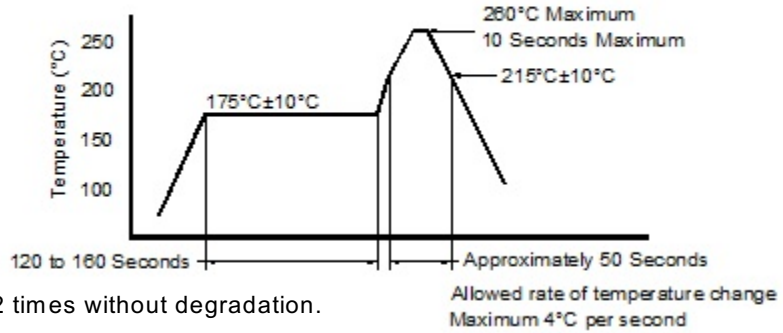
Connection (top view):



Pad 2 and Pad 4 are common and connected to the metal cover. They are not connected to the crystal. Connected to ground is recommended

The crystal is symmetrical, there is no Pad 1 preference. The part can be rotated 180° when being assembled on the PCB and will still perform correctly.

Reflow Cycle (typical for lead free processing)



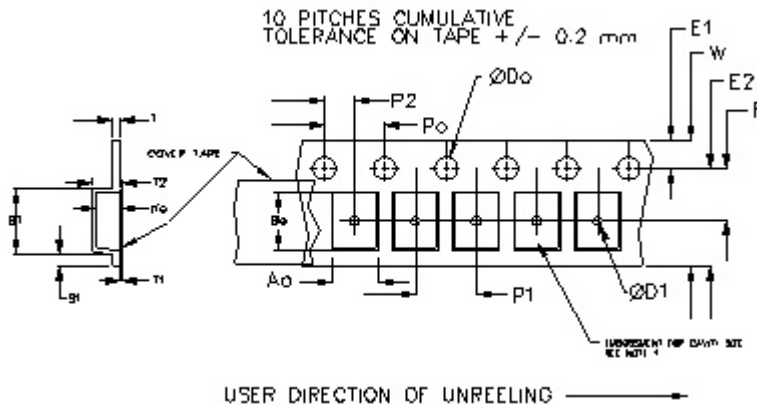
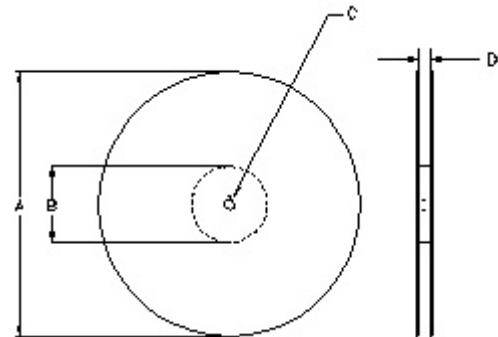
The part may be reflowed 2 times without degradation.

Tape and Reel: available for quantities of 250 to 3000 per reel (<1000 will be cut tape)

Constant Dimensions Table 1								
Tape Size	D0	D1 Min	E1	P0	P2	S1 Min	T Max	T1 Max
8mm	1.5	1.0	1.75	4.0	2.0 ±0.05	0.6	0.25	0.1
12mm		1.5			2.0 ±0.1			
16mm		1.5			±0.1			
24mm		1.5			±0.1			

Variable Dimensions Table 2							
Tape Size	B1 Max	E2 Min	F	P1	T2 Max	W Max	Ao, Bo & Ko
8 mm	3.5	6.4	1.7 ± 0.1	4.0 ± 0.1	1.0	8.9	Note 1

Note 1: Embossed cavity to conform to EIA-481-B Dimensions in mm Not to scale



		REEL DIMENSIONS			Tape Width
A	inches	7.0	10.0	13.0	
	mm	177.8	254.0	330.2	
B	inches	2.50	4.00	3.75	
	mm	63.5	101.6	95.3	
C	mm	13.0 +0.5 / -0.2			
D	mm	8.4 +2.0 -0.0	8.4 +2.0 -0.0	8.4 +2.0 -0.0	8.0

Reel dimensions may vary from the above



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