

SM13T075-25.0M

Miniature SMD Crystal

October 2012

- The Pletronics' SM13T Series is a miniature surface mount crystal.
- The package is ideal for automated surface mount assembly and reflow practices.
- Tape and Reel packaging
- 5 x 7 mm 4 pad
- AT Cut Crystals
- Ideal for use in hand held consumer products.

Pletronics Inc. certifies this device is in accordance with the RoHS 6/6 (2002/95/EC) and WEEE (2002/96/EC) directives.

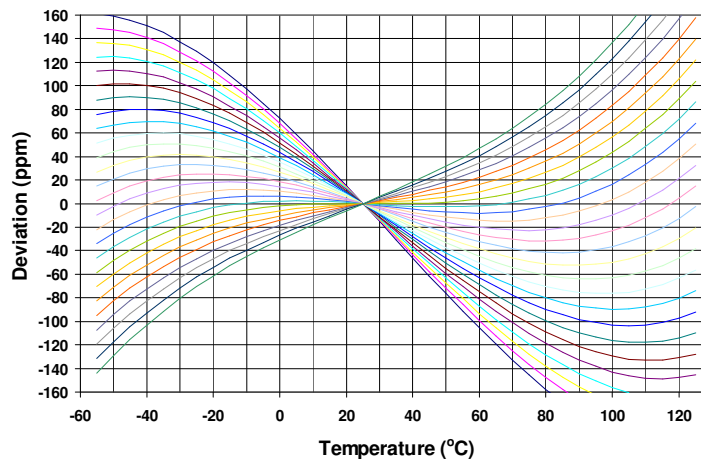
Pletronics Inc. guarantees the device does not contain the following:
Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's
Weight of the Device: 0.16 grams
Moisture Sensitivity Level: 1 As defined in J-STD-020C
Second Level Interconnect code: e4



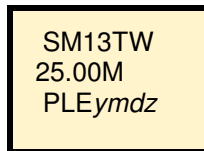
Electrical Specification:

Item	Min	Max	Unit	Condition
Nominal Frequency	25.000 MHz			
Frequency Tolerance/Stability	$\pm 10\text{ppm}$ at 25°C , $\pm 15\text{ppm}$ over -40°C to 85°C referenced to 25°C			
C_{LOAD}	16		pF	
Equivalent Series Resistance (ESR)	-	30	Ohms	
Drive Level	-	100	μW	use $10 \mu\text{W}$ for testing
Shunt Capacitance (C_0)	-	7	pF	Pad to Pad capacitance
Aging	-5	+5	ppm /Yr	for the first year at $+25^\circ\text{C} \pm 3^\circ\text{C}$
	-2	+2	ppm /Yr	after the first year at $+25^\circ\text{C} \pm 3^\circ\text{C}$
Operating Temperature Range	-40	+85	$^\circ\text{C}$	see part number for available options
Storage Temperature Range	-55	+125	$^\circ\text{C}$	

AT Cut Crystal Frequency versus Temperature Typical Performance:



Part Marking:



Where: *ymd* = Device Date code (Year Month Day)
z = internal codes

Codes for Date Code YMD

Code	9	0	1	2	3	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2009	2010	2011	2012	2013	Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Code	H	J	K	L	M	N	P	R	T	U	V	W	X	Y	Z	
Day	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

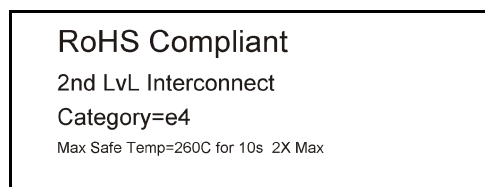
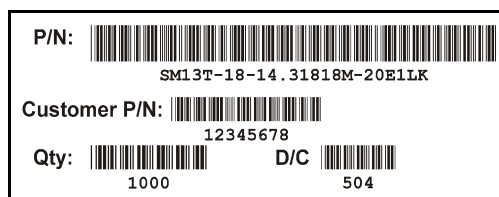
Reliability: Environmental Compliance

Parameter	Condition for SM13T	SM13TS
Mechanical Shock	MIL-STD-883 Method 2002, Condition B	Condition D
Vibration	MIL-STD-883 Method 2007, Condition A	Condition B
Solderability	MIL-STD-883 Method 2003	same
Thermal Shock	MIL-STD-883 Method 1011, Condition A	same

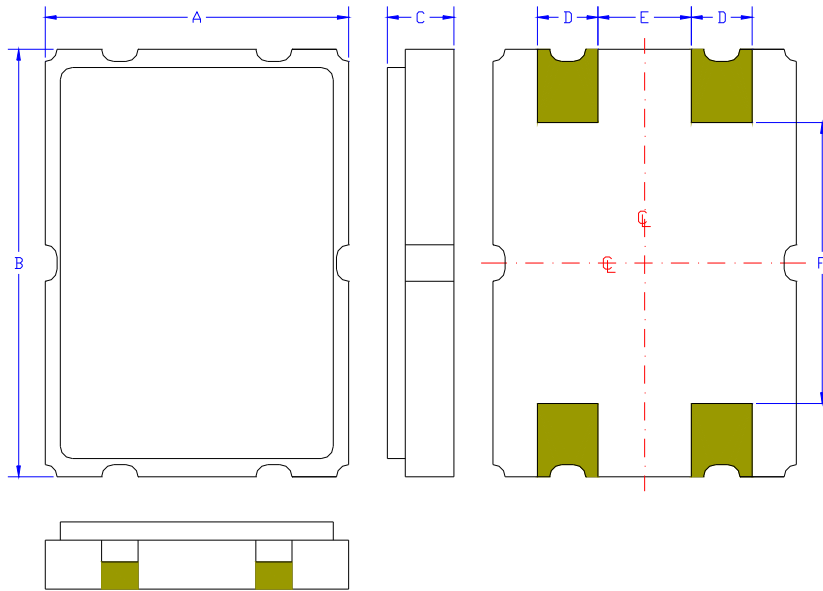
Package Labeling

Label is 1" x 2.6" (25.4mm x 66.7mm)
 Font is Courier New
 Bar code is 39-Full ASCII
 (Part number will show: SM13T075-25.0M)

Label is 1" x 2.6" (25.4mm x 66.7mm)
 Font is Arial



Mechanical:



	Inches	mm
A	0.197 ± 0.008	5.0 ± 0.2
B	0.276 ± 0.008	7.0 ± 0.2
C	0.044 max	1.1 max
D ¹	0.039	1.0
E ¹	0.061	1.54
F ¹	0.181	4.6

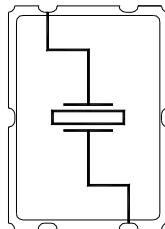
¹ Typical dimensions

Not to Scale

Contacts :

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

Connection (top view):



The pads shown not connected to the crystal are common and connected to the metal cover.

Layout and application information

- Trace lengths to the crystal should be kept as short as possible.
- The crystal connections are sensitive to noise.
- The package should be grounded for optimum performance.

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Contacting Pletronics Inc.

Pletronics Inc.
19013 36th Ave. West
Lynnwood, WA 98036-5761 USA

Tel: 425-776-1880
Fax: 425-776-2760
E-mail: ple-sales@pletronics.com
URL: www.pletronics.com

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