MtronPTI ...when timing matters

1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
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SPECIFICATION FOR RoHS 6 COMPLIANT HCMOS SMT TCXO
MtronPTI P/N M6053S015

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		20.000000		MHz	
Frequency Tolerance	$\Delta F/F$	-1.0		+1.0	ppm	@ +25°C
Frequency Stability						
vs Temperature	$\Delta F_T/F$	-0.5		+0.5	ppm	Over operating temperature range.
vs Supply	$\Delta F_{VDD}/F$	-0.2		+0.2	ppm	For ±10% voltage change
vs Output Load	$\Delta F_{LOAD}/F$	-0.2		+0.2	ppm	For ±10% load change
Output						
Output Type		HCMOS Compatible				
Output Load			15		pF	
Symmetry (duty cycle)	T_{DC}	45	50	55	%	@ 50% of V_{DD}
Logic "1" Level	V_{OH}	90			% V_{DD}	HCMOS load
Logic "0" Level	V_{OL}			10	% V_{DD}	HCMOS load
Rise/Fall Time	T_R/T_F			7	nS	From 10% to 90% V_{DD}
Startup Time	T_{SU}			10	mS	
Additional Specifications						
Phase Noise				-150	dBc/Hz	@ 10 kHz
Supply Voltage & Power Consumption						
Operating Voltage	V_{DD}	3.135	3.300	3.465	V	
Operating Current	I_{DD}			5.5	mA	

Environmental Conditions:

Operating Temperature	T_A	-30		+60	°C	
Storage Temperature	T_S	-40		+90	°C	
Mechanical Shock	Per MIL-STD-202, Method 213 (2000 g, 0.3 ms duration, ½ sine wave)					
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Hermeticity	Per MIL-STD-202, Method 112 (1x10-8 atm.cc/s of helium) (Crystal unit only)					
Solderability	Per EIAJ-STD-002					
Max. Soldering Conditions	See solder profile, Figure 1					
Package Type	4-pad 3.2 x 5.0 x 1.5 mm, Ceramic Leadless Chip Carrier (M6053 Series)					

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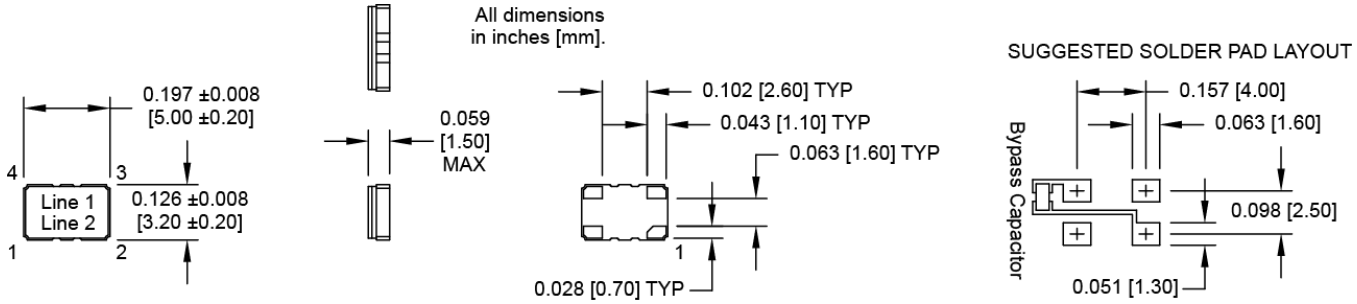
Mechanical, Marking and Layout Information:

Part Marking	
Line 1	xxMxxx
Line 2	M y w v

Legend	
xxMxxx	Frequency in MHz
y	Year
w	Work Week
v	Factory Code

Pad	Function
1	No Connection
2	GND
3	Output
4	$+V_{DD}$



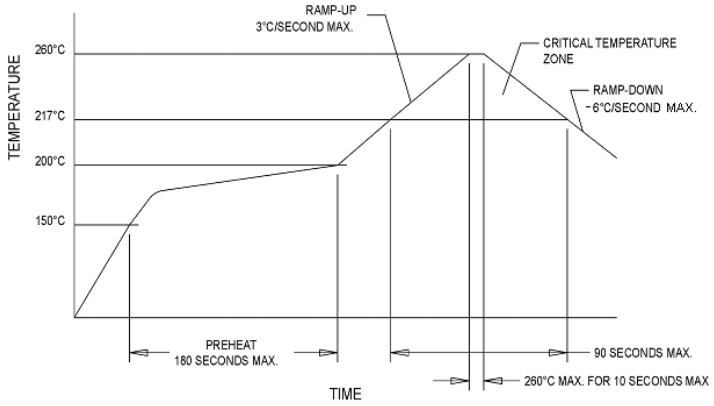


Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
08/11/15	0	MM	Original Release.
02/26/16	A	MM	Updated operating temperature range.