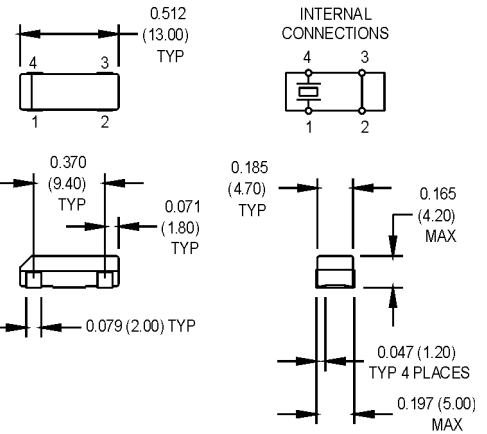


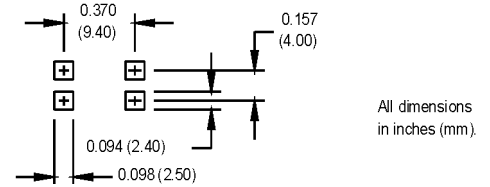
ATSM-49 and SX2050 Surface Mount Crystals



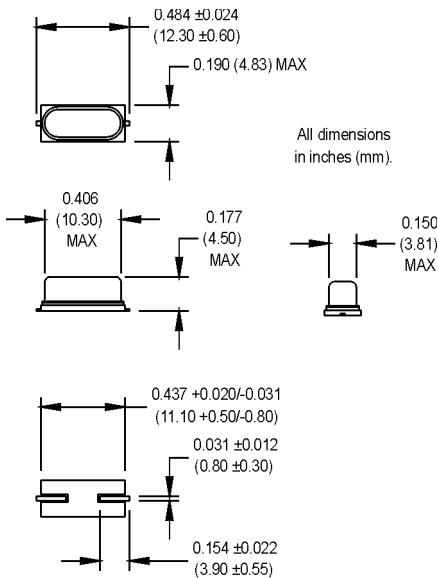
***SX2050-R 00.0000 MHz** (customer specified)
(-R signifies RoHS compliant part)



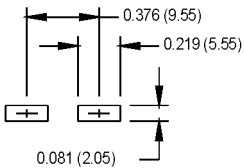
SUGGESTED SOLDER PAD LAYOUT



***ATSM-49-R 00.0000 MHz** (customer specified)
(-R signifies RoHS compliant part)



SUGGESTED SOLDER PAD LAYOUT



Equivalent Series Resistance (ESR), Max.

Frequency Range	ESR (Ω)
Fundamental (AT-cut)	
3.579 to 3.999 MHz	200 Ω
4.000 to 4.999 MHz	150 Ω
5.000 to 5.999 MHz	120 Ω
6.000 to 9.999 MHz	100 Ω
10.000 to 13.999 MHz	80 Ω
14.000 to 40.000 MHz	50 Ω
Fundamental (BT-cut)	
24.000 to 50.000 MHz	100 Ω
Third Overtones (AT-cut)	
25.000 to 39.999 MHz	100 Ω
40.000 to 72.000 MHz	80 Ω

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes	
							Frequency Range
		3.579545		60	MHz	SX2050	
Frequency Tolerance	F/F			±30	ppm	ATSM-49	
				±50	ppm	SX2050	
Frequency Stability	ΔF/F			±50	ppm	ATSM-49 (See Note 1)	
				±100	ppm	SX2050 (See Note 1)	
Operating Temperature	T _A	-10		+70	°C	ATSM-49	
		-20		+70	°C	SX2050	
Storage Temperature	T _s	-55		+125	°C		
Aging							
1st Year							
Thereafter (per year)							
Load Capacitance	C _L		18		pF	See Note 2	
Shunt Capacitance	C ₀			7	pF	ATSM-49	
				5	pF	SX2050	
ESR		See ESR Tables					
Drive Level	D _L			500	μW	ATSM-49	
				100	μW	SX2050	
Insulation Resistance	I _r	500			MΩ		

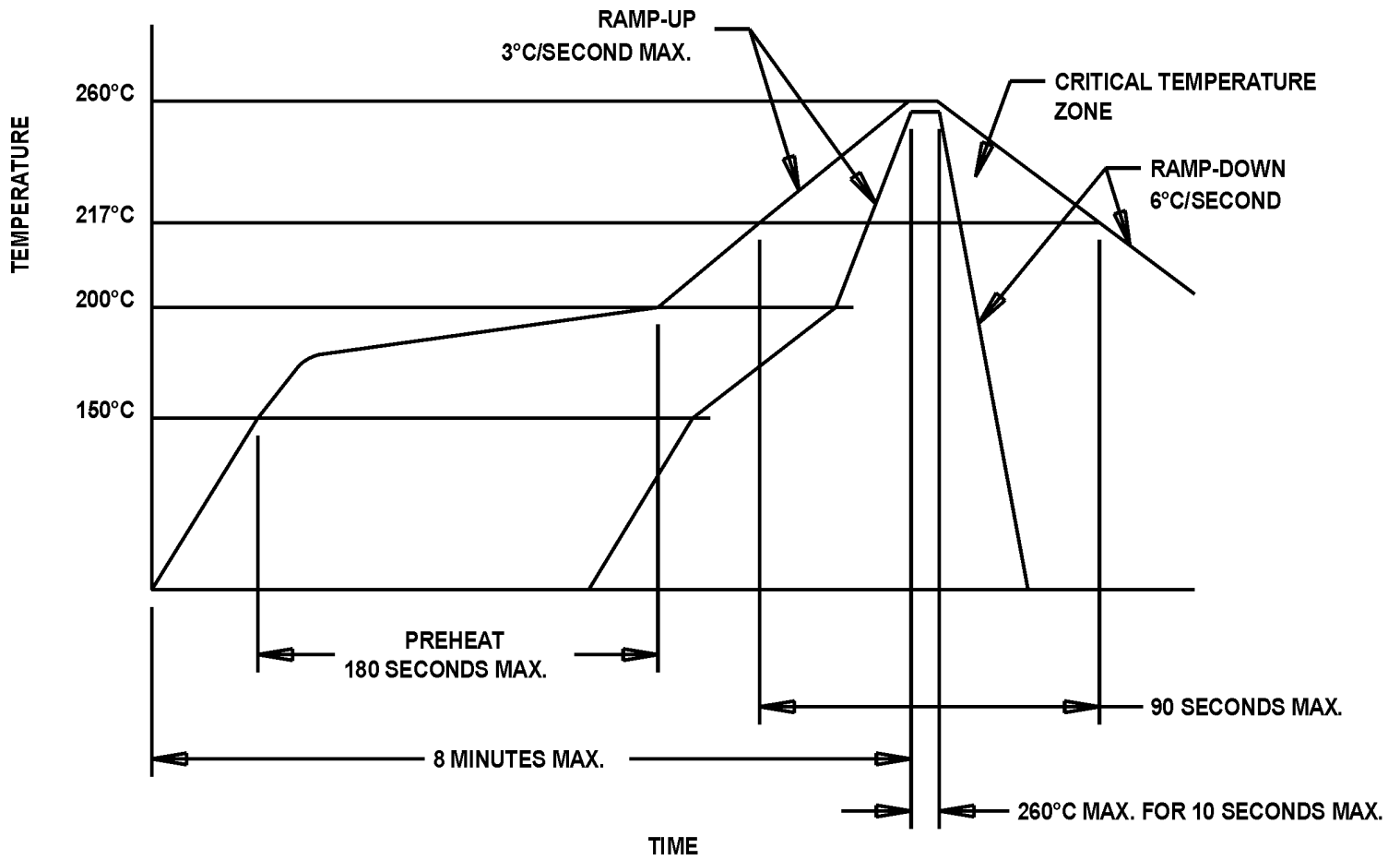
Note 1: BT Cut fundamentals from 24.000 to 40.000 MHz have a stability of ±100 ppm

Note 2: Series resonant designated by "SR" prefix (i.e., SRATSM-49 or SRSX2050)

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MtronPTI Lead Free Solder Profile



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