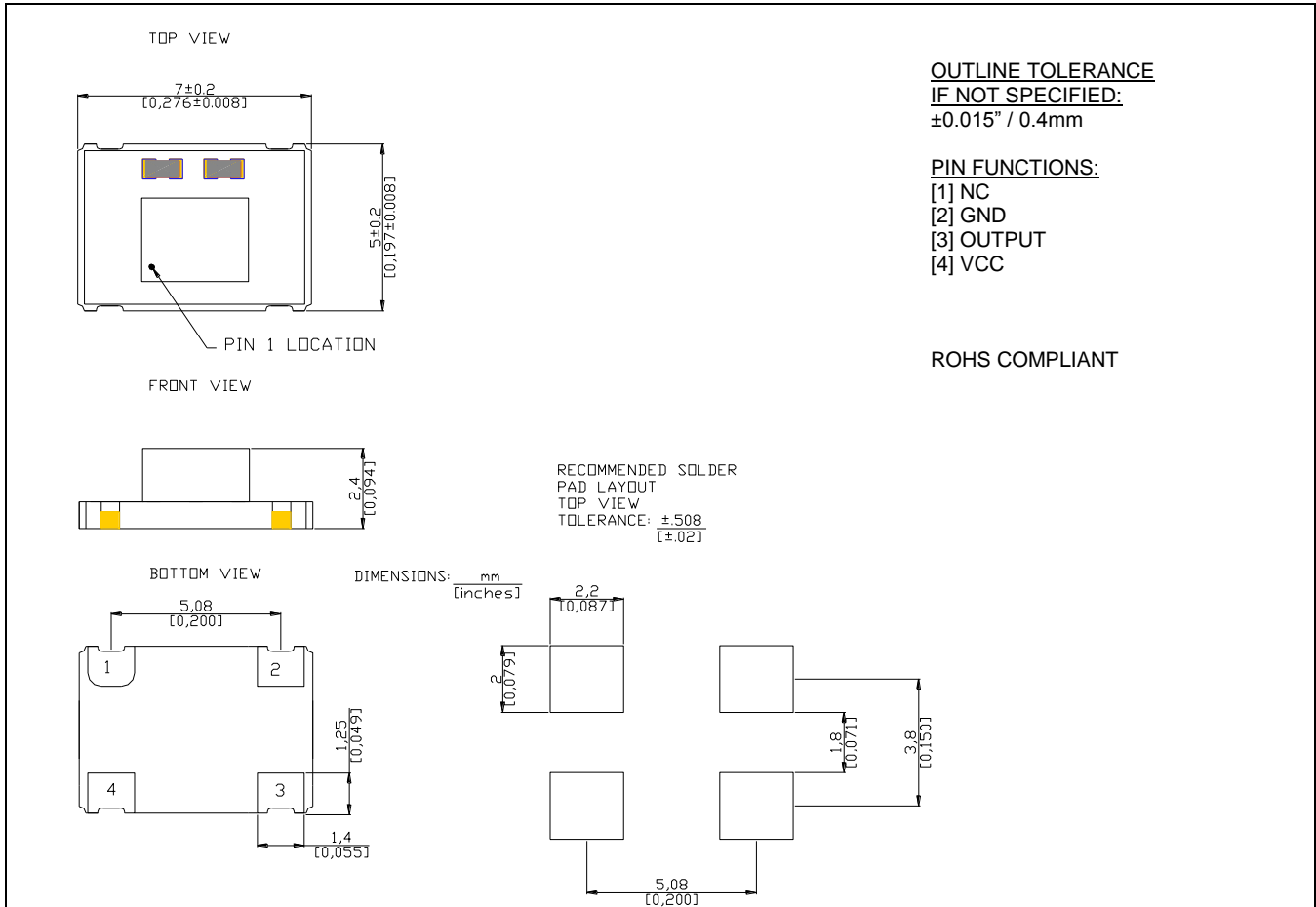


TX257A-D3-1-50.000-3-4

APPROVALS

RALTRON			CUSTOMER	
Eng. approval, date:	SP	6 / 13 /14	Name (please print):	
Sales approval, date:			Title (please print):	
Created by, date:	SP	6 / 13 /14	Signature, date:	

MECHANICAL SPECIFICATION

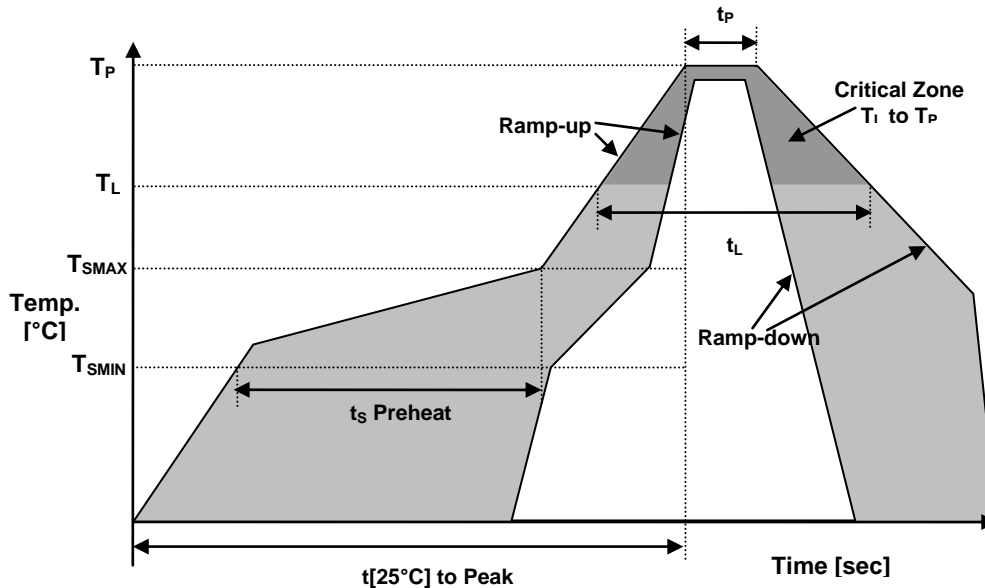


ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Frequency nominal	f_o		50.00	MHz
Supply voltage, nom.	V_{CC}		3.3	V
Supply current	I_s	Typical	10	mA
HCMOS Output Levels	V_{OH} / V_{OL}	min/max, 10pF load	2.4 / 0.4	V
Duty cycle	DC	50% V_{CC}	48 to 52	%

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Rise / fall time, max.	t_r / t_f	10pF load	5	ns
Start up time	t_s	Typical	3	ms
Enable / Disable	E/D	Min / Max	0.8 (Vcc) / 0.2(Vcc)	Vdc
Initial Frequency Calibration	f_c	Measures at 25°C	±1.0	ppm
Stability vs. Supply Voltage change	f_v	Vcc ±5%	±0.20	ppm
Stability vs. Load change	f_L	Vcc ±10%	±0.20	ppm
Stability over operating temperature	$\Delta f/f_c(T)$	Referenced at 25°C	±1.0	ppm
Overall freq. stability, max.	$\Delta f/f_c$	Including 20 years of aging	±4.60	ppm
Long term stability, ageing after 30 days of operation, max	$\Delta f/f_c (\Delta t)$	$\Delta t = 1$ day $\Delta t = 1$ year	±0.010 ±1.00	ppm ppm
Operating temperature	T_a		-40 ~ +85	°C
Phase jitter, RMS, max	Pj	1 σ at BW = 12KHz...20MHz	1	ps
Storage temperature	T(stg)	Absolute max	-55°C~ +125°C	°C
Phase noise @ freq. offset, typical.	$\mathcal{E} (\Delta f)$	$\Delta f=100\text{Hz}$ $\Delta f=1\text{kHz}$ $\Delta f=10\text{kHz}$	-105 -130 -145	dBc/Hz dBc/Hz dBc/Hz

REFLOW PROFILE



Reflow profile IPC/JEDEC J-STD-020 REV. C		
Temperature Min Preheat	T_{SMIN}	150°C
Temperature Max Preheat	T_{SMAX}	200°C
Time (T_{SMIN} to T_{SMAX})	t_s	60-180 sec.
Temperature	T_L	217°C
Peak Temperature	T_P	260°C
Ramp-up rate	R_{UP}	3°C/sec max.
Ramp-down rate	R_{DOWN}	6°C/sec max.
Time within 5°C of Peak Temperature	t_p	20-40 sec.
Time $t_{[25^\circ\text{C}]}$ to Peak Temperature	$t_{[25^\circ\text{C}]}$ to Peak	480 sec.
Time	t_L	60-150 sec.