

### TX257A-D3-0.28-12.800-3-TR



#### ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	$f_0$		12.800			MHz
Supply Voltage	$V_{CC}$	$T_a=25^{\circ}\text{C}$	-5%	3.3	+5%	V
Supply Current	$I$	$T_a=25^{\circ}\text{C}$			6	mA
Initial Frequency Calibration	$\Delta f/f_0$	$V_{CC}$ at $25^{\circ}\text{C}$	-1.0		+1.0	ppm
Frequency Stability vs. Temperature	$\Delta f/f_0 (T_a)$	Referenced at $25^{\circ}\text{C}$	-0.28		+0.28	ppm
Frequency Stability vs. Supply Voltage	$\Delta f/f_0 (\Delta V_{CC})$	$V_{CC} \pm 5\%$	-0.2		+0.2	ppm
Frequency Stability vs. Load Change	$\Delta f/f_0 (\Delta I)$	$V_{CC} \pm 10\%$	-0.2		+0.2	ppm
Overall Stability		All conditions including 20 years aging	-4.6		+4.6	ppm
Aging, after 30 days of operation	$\Delta f/\Delta t_y$	1 day 1 year	-0.01 -1.00		+0.01 +1.00	ppm
Operating Temperature	$T_a$		-40		+85	$^{\circ}\text{C}$
Storage Temperature	$T_{(stg)}$	Absolute max	-55		+125	$^{\circ}\text{C}$

#### PHASE NOISE

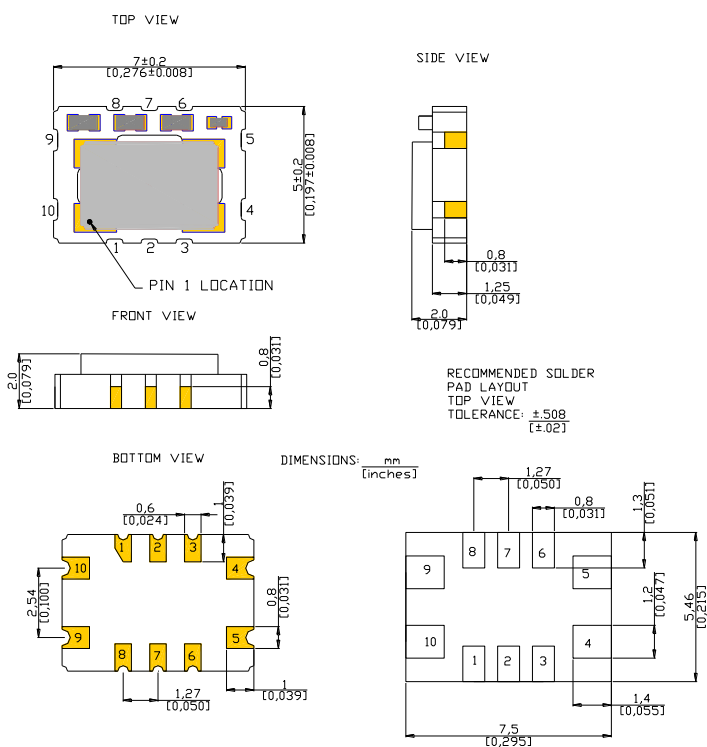
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@100 Hz Offset	$\mathcal{L} (\Delta f)$			-120		dBc/Hz
@1 kHz Offset	$\mathcal{L} (\Delta f)$			-142		dBc/Hz
@10 kHz Offset	$\mathcal{L} (\Delta f)$			-152		dBc/Hz

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#### OUTPUT CHARACTERISTICS

HCMOS	PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
				Min.	Typ.	Max.	
	Output Levels	VOH/VOL	$V_{CC}$ , load = 15pF		$0.9V_{CC}/0.1V_{CC}$		V
	Duty Cycle	DC	load = 15pF	48		52	%
	Rise/Fall Time	$t_r/t_f$	10% ~ 90% $V_{out}$			5	ns
	Enable / Disable	E/D		$0.8V_{CC}$		$0.2V_{CC}$	V

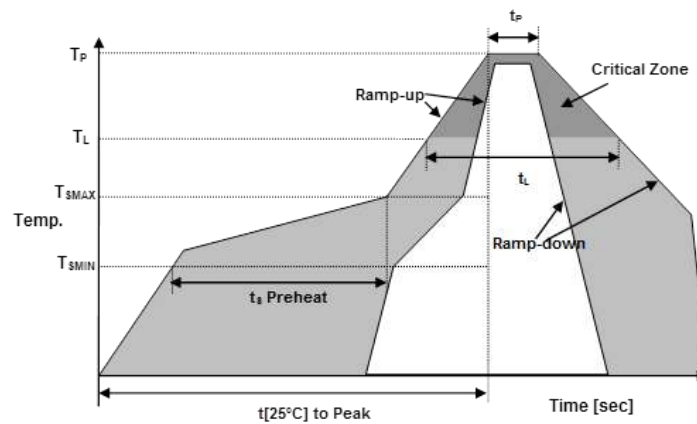
#### MECHANICAL DIMENSIONS AND PIN FUNCTIONING



### TX257A-D3-0.28-12.800-3-TR

PIN	SYMBOL	FUNCTION
1	N/C	No connect
2	N/C	No connect
3	N/C	No connect
4	GND	Ground
5	OUTPUT	Output
6	N/C	No connect
7	N/C	No connect
8	E/D	Enable/Disable
9	V <sub>CC</sub>	Supply Voltage
10	N/C or GND	No connect or Ground

### REFLOW PROFILE



**TX257A-D3-0.28-12.800-3-TR**

Reflow profile IPC/JEDEC J-STD-020 REV. C		
Temperature Min Preheat	T <sub>SMIN</sub>	150°C
Temperature Max Preheat	T <sub>SMAX</sub>	200°C
Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> )	t <sub>s</sub>	60-180 sec.
Temperature	T <sub>L</sub>	217°C
Peak Temperature	T <sub>P</sub>	260°C
Ramp-up rate	R <sub>UP</sub>	3°C/sec max.
Ramp-down rate	R <sub>DOWN</sub>	6°C/sec max.
Time within 5°C of Peak Temperature	t <sub>p</sub>	20-40 sec.
Time t[25°C] to Peak Temperature	t[25°C] to Peak	480 sec.
Time	t <sub>L</sub>	60-150 sec.

RALTRON	Signed	Date
Created	CP	August 04, 2015
Eng. approved	CP	August 04, 2015
REV A		