

TX235A-D3-0.28-20.000-3-TR



ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_0		20.000			MHz
Supply Voltage	V_{CC}	$T_a=25^{\circ}\text{C}$	-3.13	3.3	3.47	V
Supply Current	I	$T_a=25^{\circ}\text{C}$			6	mA
Initial Frequency Calibration	$\Delta f/f_0$	V_{CC} at 25°C	-1.0		+1.0	ppm
Frequency Stability vs. Temperature	$\Delta f/f_0 (T_a)$	Referenced at 25°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 Range	T_a		-40		+85	$^{\circ}\text{C}$
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55		+125	$^{\circ}\text{C}$

PHASE NOISE

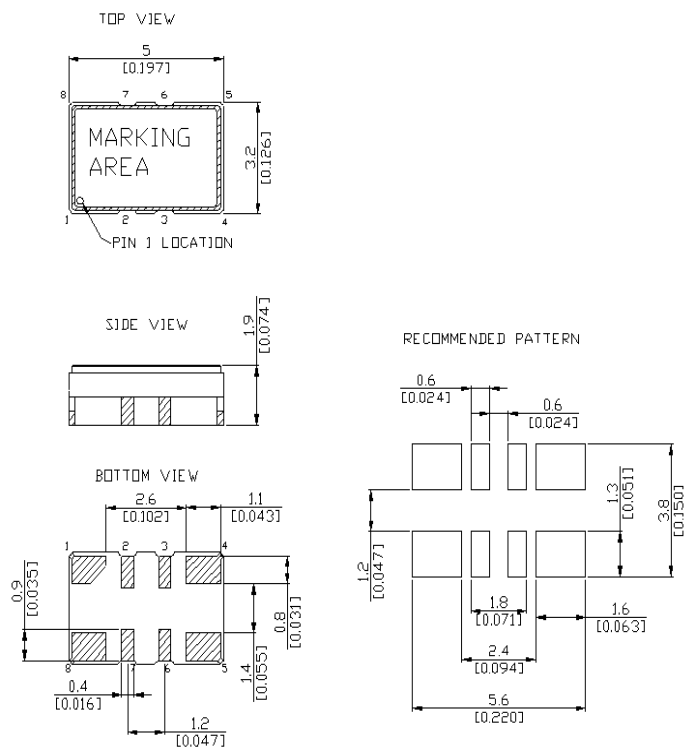
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@100 Hz Offset	$\mathcal{E} (\Delta f)$			-120		dBc/Hz
@1 kHz Offset	$\mathcal{E} (\Delta f)$			-140		dBc/Hz
@10 kHz Offset	$\mathcal{E} (\Delta f)$			-150		dBc/Hz

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OUTPUT CHARACTERISTICS

	PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
				Min.	Typ.	Max.	
HCMOS	Output Levels	VOH	V_{CC} , load = 15pF	0.9V _{CC}			V
		VOL	V_{CC} , load = 15pF			0.1V _{CC}	V
	Duty Cycle	DC	load = 15pF	45		55	%
	Rise/Fall Time	t _r /t _f	10% ~ 90% V _{out}			6	ns
	Enable / Disable	E/D	Pin 6 High or NC, Output Enabled	0.8V _{CC}			V
E/D		Pin 6 Low, Output Disabled			0.2V _{CC}	V	

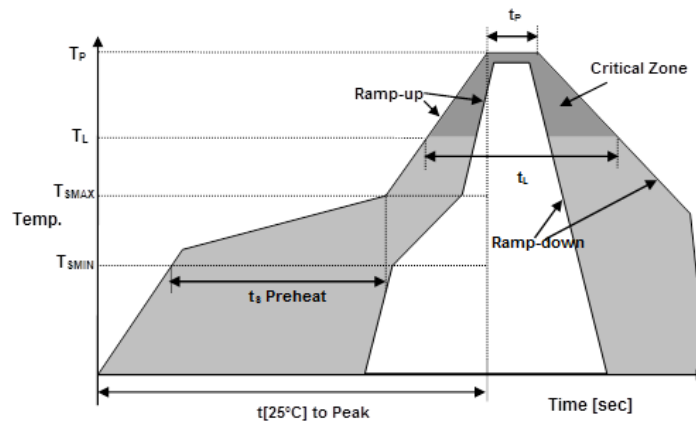
MECHANICAL DIMENSIONS AND PIN FUNCTIONING



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PIN	SYMBOL	FUNCTION
1	N/C	Not Connected
2	N/C	Do not connect; factory test only
3	N/C	Do not connect; factory test only
4	GND	Ground
5	OUT	Output
6	E/D	Enable / Disable
7	N/C	Do not connect; factory test only
8	V _{CC}	Supply Voltage

REFLOW PROFILE



Reflow profile IPC/JEDEC J-STD-020 REV. C

Temperature Min Preheat	T _{S MIN}	150°C
Temperature Max Preheat	T _{S MAX}	200°C
Time (T _{S MIN} to T _{S MAX})	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°C] to Peak Temperature	t[25°C] to Peak	480 sec.
Time	t _L	60-150 sec.

RALTRON	Signed	Date
Created	CP	August 04, 2015
Eng. approved	CP	August 04, 2015
REV A B	Initial Release CP, June 22, 2022 Corrected the Mechanical Dimensions	