

MINIATURE SMD PROGRAMMABLE OSCILLATOR (3.2 x 2.5 x 1.0mm)

FEATURES:

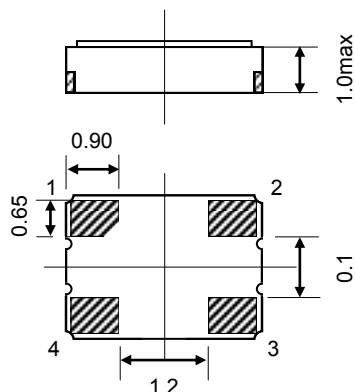
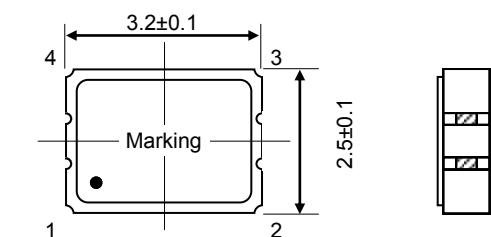
- CMOS PROGRAMMABLE OSCILLATOR
- ULTRA MINITURE SMD PACKAGE WITH CMOS OUTPUT
- LOW PEAK TO PEAK JITTER



■ SPECIFICATION

FREQUENCY RANGE		1MHz ~ 100.000MHz	1MHz ~ 166MHz	1MHz ~ 200MHz
FREQUENCY STABILITY		±10ppm ~ ±100ppm		
OPERATING TEMPERATURE RANGE		STD: 0°C ~ 70°C, Option: -40°C ~ 85°C (See P/N guide for other options)		
STORAGE TEMPERATURE RANGE		-55°C ~ 125°C		
SUPPLY VOLTAGE ± 10%		1.8V _{DC}	2.5V _{DC}	3.3V _{DC}
SUPPLY CURRENT	1MHz ≤ f < 30MHz	6mA max.	8mA max.	10mA max.
	30MHz ≤ f < 75MHz	8mA max.	10mA max.	15mA max.
	75MHz ≤ f < 133MHz	12mA max.	15mA max.	20mA max.
	133MHz ≤ f < 166MHz	—	15mA max.	22mA max.
	166MHz ≤ f < 200MHz	—	—	25mA max.
OUTPUT	LOGIC FAMILY	HCMOS		
	LOAD	15pF		
	LEVEL LOGIC '1' (V _{OH})	0.9 x V _{DD} min.		
	LEVEL LOGIC '0' (V _{OL})	0.1 x V _{DD} max.		
	SYMMETRY(DUTY CYCLE)	STD: 40% / 60%, Option: 45% / 55%		
	RISE AND FALL TIME (Tr/Tf): 1MHz ≤ f < 10MHz f ≥ 10MHz	5.0nS max. 4.0nS max.	4.0nS max. 3.0nS max.	3.0nS max. 2.0nS max.
STAND-BY VOLTAGE	START-UP TIME	2.0mS max.		
	ENABLE (V _{IH})	0.7 x V _{DD} ≤ V _{IH} ≤ V _{DD} or N/C		
	DISABLE (V _{IL})	V _{IL} ≤ 0.3 x V _{DD}		
STAND-BY CURRENT		15μA max.		
AGING @ 25°C ± 3°C		±3.0ppm / 1 st year max.		
PHASE JITTER RMS (12kHz ~ 20MHz)		20pS max.		

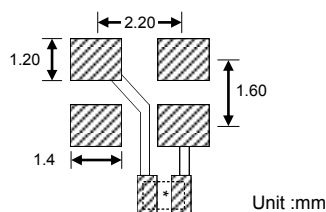
■ PACKAGE DIMENSIONS



Unit:mm

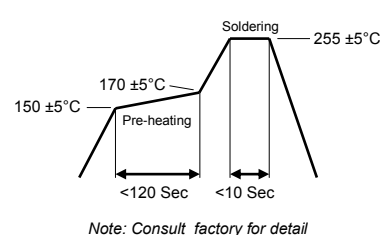
Pin Configuration	
1	En/Dis
2	GND
3	Output
4	V _{DD}

■ SOLDER PATTERN



*0.01μF to 0.1μF bypass capacitor recommended

■ REFLOW PROFILE



■ PART NUMBERING GUIDE

TP32		-	H	50	HM	33	S	T	-	12.000M	-	TR
Product series												
Output H: HCMOS												
Stability 00: ± 100ppm 50: ± 50ppm 25: ± 25ppm 15: ± 15ppm 10: ± 10ppm XX: Two digit for Stability												
Operating Temperature A: -55 F: -20 M: 70 S: 100 B: -60 G: -10 N: 75 T: 105 C: -40 H: 0 P: 80 U: 125 D: -35 J: 50 Q: 85 X: custom E: -30 K: 60 R: 90												
Tape and Reel TR: 3000/reel Blank: Cut tape												
Frequency M: MHz												
Symmetry R: 40/60% S: 45/55%												
Supply Voltage 18: 1.8 Volt 25: 2.5 Volt 33: 3.3 Volt												

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