

MINIATURE SMD PROGRAMMABLE OSCILLATOR (2.0 x 1.6 x 0.75mm)

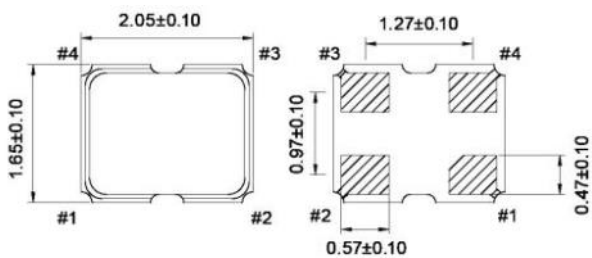
FEATURES:

- CMOS PROGRAMMABLE OSCILLATOR
- MINITURE SMD PACKAGE WITH CMOS OUTPUT



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.
	30MHz ≤ f < 75MHz	8mA max.	10mA max.
	75MHz ≤ f < 133MHz	12mA max.	15mA max.
	133MHz ≤ f < 166MHz	—	15mA max.
	166MHz ≤ f < 200MHz	—	—
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.
STAND-BY VOLTAGE	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

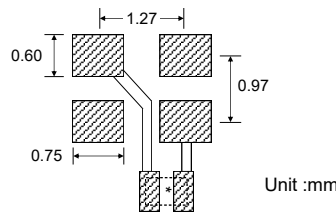


Pin Configuration

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

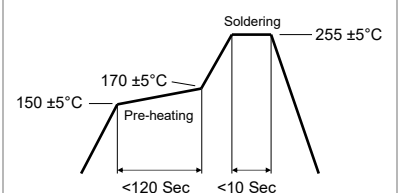
Unit:mm

SOLDER PATTERN



*0.01µF to 0.1µF bypass capacitor recommended

REFLOW PROFILE



Note: Consult factory for detail

PART NUMBERING GUIDE

TP21 - H 50 HM 33 S T - 12.000M - TR

Product series TP21	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: -50 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	Tristate T: En/Dis	Tape and Reel TR: 1000/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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