SiT8002

Programmable Oscillator

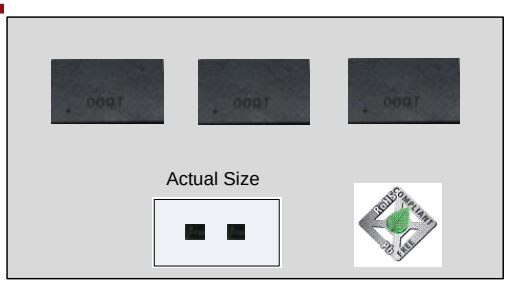
2.5V CMOS 2.5 x 2.0 x 0.85

SiTime™ It's About Time

Features

- 1 MHz to 125 MHz Frequency range
- Meets or Exceeds performance of Epson SG-8002 family
- Consumer electronics, Automation
- Greater immunity from interference and ultra-reliable start up
- Output driver strength reduces EMI
- RoHs compliant and lead-free
- Ultra short lead time

  These highly reliable oscillators are completely quartz free

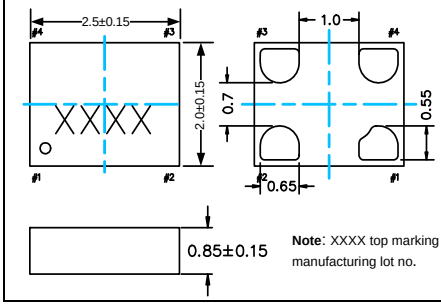


Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Output Frequency Range	f	1	–	125	MHz	
Frequency Tolerance	F_tol	-50	–	+50	ppm	Inclusive of: Initial tolerance, operating temperature, rated power supply voltage change, load change, aging, shock and vibration
		-100	–	+100	ppm	
Storage Temperature Range		-55	–	+125	°C	
Operating Temperature Range	T_use	-20	–	+70	°C	Extended Commercial
		-40	–	+85	°C	Industrial
Supply Voltage	Vdd	2.25	–	2.75	V	
Current Consumption	Idd	–	–	22	mA	15pf load, f = 65 MHz
Standby Current	I_std	–	–	50	µA	output is Weakly Pulled Down, $\overline{ST}$ = GND
Symmetry	SYM	45	–	55	%	f = 1 MHz - 125 MHz, 15pf load
Rise/Fall Time	Tr, Tf	–	1.0	2	ns	20% - 80% Vdd level
Output Voltage High	VOH	90	–	–	%Vdd	IOH = -7mA
Output Voltage Low	VOL	–	–	10	%Vdd	IOL = 7mA
Input Voltage High	VIH	70	–	–	%vdd	Pin 1, OE or $\overline{ST}$
Input Voltage Low	VIL	–	–	30	%vdd	Pin 1, OE or $\overline{ST}$
Output Load	L_cmos	–	–	15	pF	
Start up Time	T_osc	–	12	50	ms	Time from minimum Vdd
Peak-peak Period Jitter	T_pk	–	–	±130	ps	f = 24 MHz
		–	–	±60	ps	f = 100 MHz

Dimensions and Land Pattern

Dimensions (Unit: mm)

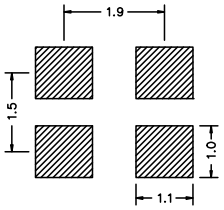


Note: XXXX top marking denotes manufacturing lot no.

Pin Map	
Pin	Connection
1	OE/$\overline{ST}$
2	GND
3	Output
4	Vdd

Pin #1 Functionality
OE
H or Open; specified frequency output
L: output is high impedance
$\overline{ST}$
H or Open; specified frequency output
L: output is low level (weak pull down)

Recommended Land Pattern (Unit: mm)



Note: A capacitor of value 0.1µF between Vdd and GND is recommended

Part No. Guide- How to Order