

SMD CMOS output
7.0 x 5.0 x 1.8 mm

1.0 pS phase jitter (typical)

10 ~ 245 MHz



RoHS Compliance

Features

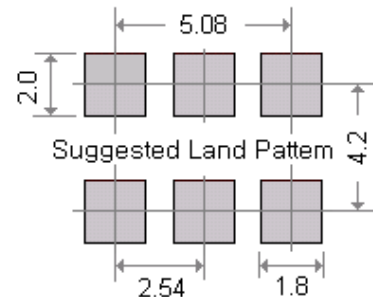
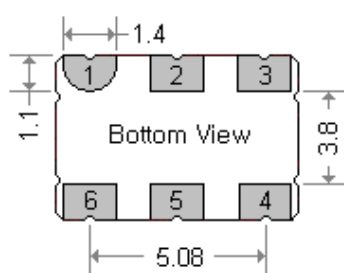
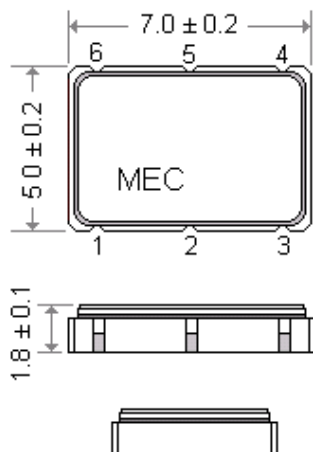
The GTQF, GPQF and GDQF Series are members of Mercury's Q-Family Quick-Turn crystal oscillators that can be delivered within days. With low current consumption (54 mA for LVPECL 622.080 MHz at 3.3V) and an integrated phase jitter performance of 1.0 pS RMS, they have gained its precision frequency control market position by providing engineers with next-day samples for prototypes and low cost, fast delivery for volume production. The perfect solution to replace traditional XO's & VCXO's that use a more expensive, high-frequency, fundamental crystal and a noisy PLL multiplier circuit



General Specifications

Parameters		Electrical Spec.									
Input Voltage (V _{DD})		2.5 V ± 5 %									
Frequency Range		10 ~ 245 MHz									
Output Wave Form		CMOS output									
Output Logic High " 1 "		90 % V _{DD}									
Output Logic Low " 0 "		10 % V _{DD}									
Output Load		15 pF typical									
Rise Time (Tr) / Fall Time (Tf)		1.5 n sec. (typical) ; 3.0 n sec. (max.) [10% ↔ 90% waveform]									
Duty Cycle		50% ± 5%									
Start - Up Time (Ts)		10 m sec. (typical)									
Storage Temperature		- 50°C to 100°C									
Aging		± 2 ppm per year (max.)									
Current with Output		16 mA									
Current Consumption (V _{DD} = + 2.5V)		10 MHz	50 MHz	100 MHz	150 MHz	200 MHz	250 MHz				
All values are typical and over the operating temperatures.		15 mA	18 mA	22 mA	24 mA	28 mA	31 mA				
Frequency Stability ⁽¹⁾ Codes	Frequency Stability over Operating Temperature Range	± 25 ppm	± 50 ppm	± 100 ppm	If non-standard , please enter the desired stability after the " C " or " I " represents . For example : " C20 " ± 20 ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C						
	Commercial (-10°C to +70°C)	A	B	C							
	Industrial (-40°C to +85°C)	D	E	F							
SSB Phase Noise [dBc / Hz (typical)]	Offset	77.76 MHz	122.88 MHz	125 MHz	156.25 MHz	212.5 MHz	491.52 MHz	622.08 MHz	1 GHz	1.25 GHz	
	10 Hz	-57	-68	-63	-55	-62	-61	-48	-52	-42	
	100 Hz	-94	-99	-94	-85	-93	-86	-85	-82	-81	
	1 KHz	-114	-113	-113	-109	-105	-100	-101	-93	-93	
	10 KHz	-123	-119	-118	-116	-113	-105	-102	-97	-96	
	100 KHz	-124	-120	-119	-118	-115	-105	-103	-97	-97	
	1 MHz	-144	-140	-137	-139	-135	-126	-124	-116	-119	
10 MHz	-152	-148	-146	-146	-143	-137	-133	-127	-129		
Phase Jitter (12KHz ~ 20 MHz, RMS) unit : pS.		0.9	0.8	1.1	0.9	1.0	1.1	1.2	1.5	1.1	
Control Voltage Function on Pad 1											
Supply Voltage (V _{DD})	V _{DD} = +2.5 V ; Vcon Center = +1.25V										
Vcontrol Range	+ 0.2V ~ +2.3V										
Frequency Pulling Range	± 90 ppm (min.) Up to ± 200 ppm (min.) is also available. Please contact Mercury.										
Absolute Voltage	2.8 V max. for 2.5V V _{DD} ; 4.0 V max. for 3.3V V _{DD}										
Linearity	± 5% typical. ±10% (max.)				Input Impedance			1 MΩ typical			
Transfer Function	Positive Transfer				Bandwidth			10 KHz min. Measured at -3 dB			

General Specifications (Unit : mm)



Pad 1	Control Voltage	Pad 4	Output
Pad 2	OE: High Enable	Pad 5	No Connection
Pad 3	Ground	Pad 6	Supply Voltage