

**SMD LVPECL Differential**  
5.0 x 3.2 x 1.2 mm

**0.6 pS phase jitter ( typical )**

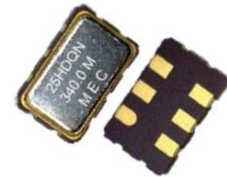
**10 ~ 1450 MHz**



RoHS Compliance

**Features**

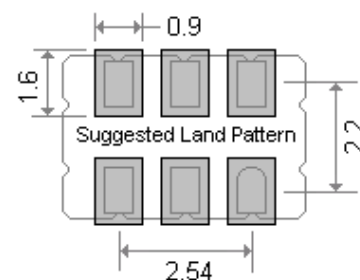
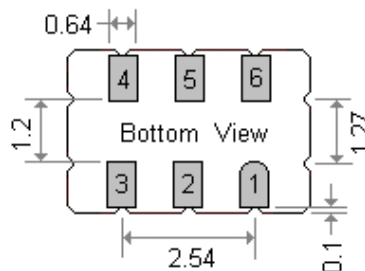
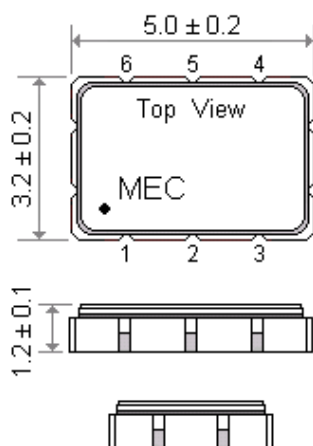
The GTQF, GPQF and GDQF Series are members of Mercury's Q-Family Quick-Turn crystal oscillators that can be delivered within days. With low current consumption ( 54 mA for LVPECL 622.080 MHz at 3.3V ) and an integrated phase jitter performance of 1.0 pS RMS, they have gained its precision frequency control 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 <sub>DD</sub> )		3.3 V ± 5 %									
Frequency Range		10 ~ 1450 MHz									
Output Wave Form		LVPECL output									
Output Logic High " 1 "		V <sub>DD</sub> - 1.03 ( min. ) , V <sub>DD</sub> - 0.6 ( max. )									
Output Logic Low " 0 "		V <sub>DD</sub> - 1.85 ( min. ) , V <sub>DD</sub> - 1.6 ( max. )									
Output Load		Differential									
Rise Time ( Tr ) / Fall Time ( Tf )		0.2 n sec. ( typical ) ; 0.5 n sec. ( max. ) [ 20% ↔ 80% 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 <sub>DD</sub> = + 2.5V )		100 MHz	250 MHz	500 MHz	750 MHz	1 GHz	1.35 GHz				
All values are typical and over the operating temperatures.		48 mA	50 mA	55 mA	59 mA	62 mA	68 mA				
Frequency Stability <sup>(1)</sup> 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	
Phase Jitter ( 12KHz ~ 20 MHz, RMS ) unit : pS.	10 MHz	-144	-140	-137	-139	-135	-126	-124	-116	-119	
	10 MHz	-152	-148	-146	-146	-143	-137	-133	-127	-129	
Phase Jitter		0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.7	0.6	
Control Voltage Function on Pad 1											
Supply Voltage ( V <sub>DD</sub> )	V <sub>DD</sub> = +3.3 V ; Vcon Center = +1.65V										
Vcontrol Range	+ 0.3V ~ +3.0V										
Frequency Pulling Range	± 100 ppm ( min. )										
Absolute Voltage	Up to ± 200 ppm ( min. ) is also available. Please contact Mercury. 2.8 V max. for 2.5V V <sub>DD</sub> ; 4.0 V max. for 3.3V V <sub>DD</sub>										
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	LVPECL Differential
Pad 2	OE: High Enable	Pad 5	Complimentary
Pad 3	Ground	Pad 6	Supply Voltage