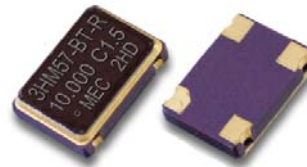


**SMD CMOS output**  
**7.0 x 5.0 x 1.4 mm**

**Y group**



RoHS Compliance

**Features**

- Ultra Small SMD seam sealed spread spectrum Low EMI clock crystal oscillator units.
- Tri-state function available.

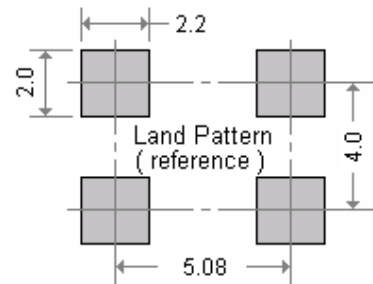
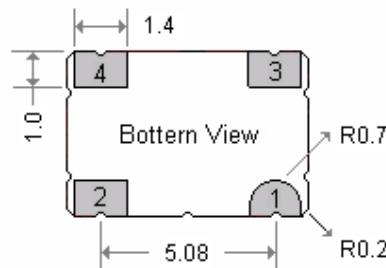
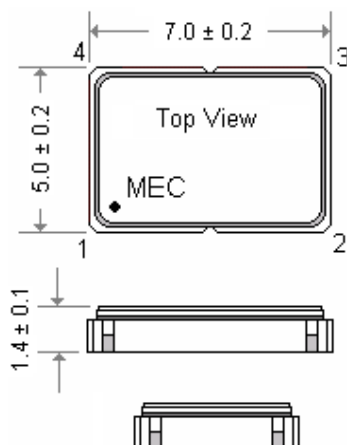
**Applications**

- Printers ; Multiple function printers (MPCs)
- Digital copiers; PDAs
- Networking; LAN / WAN; Routers
- Storage systems ( CD-ROM, VCD, DVD and HDD )
- Scanner; Modems; projectors
- Embedded systems; Electrical musical instrument
- Automotive; GPS car navigation systems
- LCD PC monitors / LCD TVs
- ADSL; PCMCIA
- Still Digital cameras (SDCs)

**General Specifications**

Parameters		Electrical Spec.		
Input Voltage ( V <sub>DD</sub> )		3.3 V D.C. ± 5 %		
Frequency Range		8.0 ~ 165.0 MHz		
Output Wave Form		CMOS output		
Characteristic Group		Mercury Group " Y "		
Spread Type / Total Spread Percentage		Down Spread / - 1.0 %		
EMI Reduction ( applies to the whole spectrum )		-9 dBc ( min. ) [ 100 MHz ]		
Output Logic High " 1 "		2.0V ( min. ) ; 3.2V ( typ. ) [ at 90% V <sub>DD</sub> ]		
Output Logic Low " 0 "		0.8V ( max. ) ; 0.2V ( typ. ) [ at 10% V <sub>DD</sub> ]		
Output Load		15 pF		
Rise Time ( Tr ) / Fall Time ( Tf )		4n sec. ( max. ) [ 10% V <sub>DD</sub> ↔ 90% V <sub>DD</sub> ]		
Modulation Carrier Frequency ( Dither rate )		12 KHz ( min. ) ; 42 KHz ( max. ) [ Freq. dependent . ]		
Duty Cycle		50% ± 5% [ CL=15pF;at 50%VDD ]		
Current Consumption		8.0 ~ 50.0 MHz	50.1 ~ 100.0 MHz	100.1 ~ 165.0 MHz
		10 mA typ.	18 mA typ.	35 mA typ.
Cycle - to - cycle Jitter		± 100 ps ( typical ) ; ± 150 ps ( max. )		
Start - Up Time (Ts)		2.0 m sec.( typical ) ; 5.0 m sec.( max. )		
Storage Temperature		- 65°C to 150°C		
Aging		± 5 ppm per year ( max. ) ; T = 25 °C		
Frequency Stability <sup>(1)</sup> Codes	Frequency Stability over Operating Temperature Range	± 25 ppm	± 50 ppm	± 100 ppm
	Commercial ( -10°C to +70°C )	A	B	C
	Industrial ( -40°C to +85°C )	D	E	F
If non-standard , please enter the desired stability after the " C " or " I " For example : " C20 " ±20 ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C				

**General Specifications ( Unit : mm )**



Package dimensions and suggested pad layout :

- Pad 1 : Tri-state ( Enable / Disable )
- Pad 2 : Ground
- Pad 3 : Spread Spectrum clock output
- Pad 4 : Supply Voltage

**Mercury** [www.mercury-crystal.com](http://www.mercury-crystal.com)