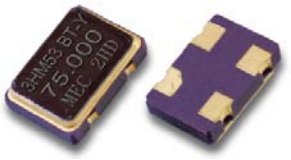
Spread Spectrum Low EMI Clock Oscillator *HM53 series* Down Spread - 3.0 %

SMD CMOS output 5.0 x 3.2 x 1.2 mm

R group



RoHS Compliance

Features

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

Applications

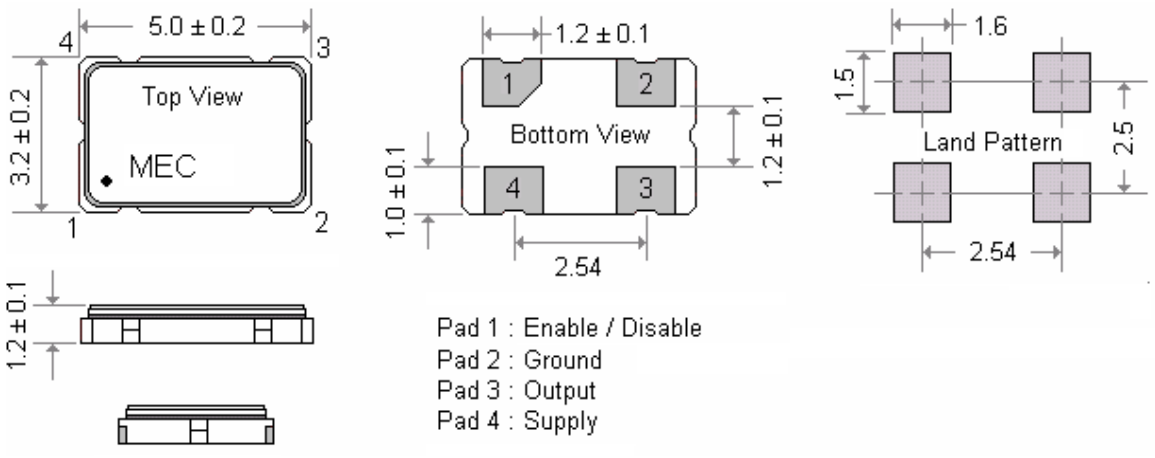
- Printers ; Multiple function printers (MPCs)
- Digital copiers; PDAs
- Networking; LAN / WAN; Routers
- Storage systems (CD-ROM, VCD, DVD and HDD)
- Scanner; Modems; projectors
- Embedded systems; Electrical musical instrument
- Automotive; GPS car navigation systems
- LCD PC monitors / LCD TVs
- ADSL;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

General Specifications

Paramenters		Electrical Spec.		
Input Voltage (V_{DD})		3.3 V D.C. ± 5 %		
Frequency Range		6.0 ~ 160.0 MHz		
Output Wave Form		CMOS output		
Characteristic Group		Mercury Group " R "		
Spread Type / Total Spread Percentage		Down Spread / - 3.0 %		
EMI Reduction (applys to the whole spectrum)		-15 dBc (min.) [100 MHz]		
Output Logic High " 1 "		2.4V (min.) ; 3.2V (typ.) [at 90% V_{DD}]		
Output Logic Low " 0 "		0.5V (max.) ; 0.2V (typ.) [at 10% V_{DD}]		
Output Load		15 pF		
Rise Time (Tr) / Fall Time (Tf)		4n sec. (max.) [10% V_{DD} ↔ 90% V_{DD}]		
Modulation Carrier Frequency (Dither rate)		6.9 KHz (min.) ; 55.5 KHz (max.) [Freq. dependent .]		
Duty Cycle		50% ± 5% [CL=15pF;at 50%VDD]		
Current Consumption		6.0 ~ 50.0 MHz	50.1 ~ 100.0 MHz	100.1 ~ 160.0 MHz
		10 mA typ.	18 mA typ.	35 mA typ.
Cycle - to - cycle Jitter		± 250 ps (typical) ; ± 300 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 ℃		
Frequency Stability (1) 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

Outline Dimensions (Unit : mm)



Mercury www .mercury-crystal.com

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