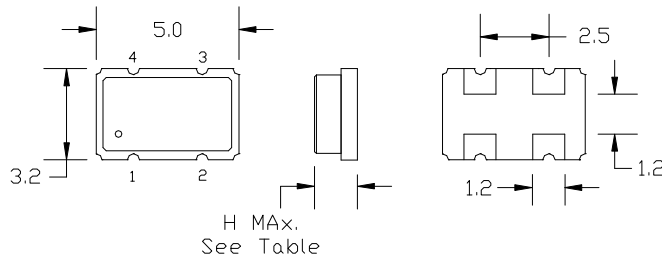




SMD Oscillator, TTL / HC-MOS  
Ceramic Package, 3.2 mm x 5 mm

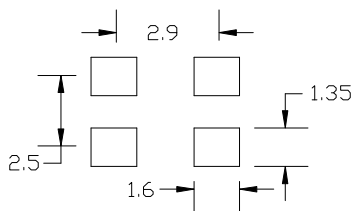
ISM92 / ISM93 Series

<b>Frequency</b>	1.500 MHz to 80.000 MHz	
<b>Output Level</b>	TTL	HC-MOS
<b>Level</b>	'0' = 0.4 VDC Max., '1' = 2.4 VDC Min.	'0' = 0.1 Vcc Max., '1' = 0.9 Vcc Min.
<b>Duty Cycle</b>	Specify 50% ± 10% or ± 5% See Table	
<b>Rise / Fall Time</b>	5 nS Max. @ Vcc = +3.3 VDC, 10 nS Max. @ Vcc = +5 VDC **	
<b>Output Load</b>	Fo < 50 MHz = 10 TTL, Fo > 50 MHz = 5 LSTTL	See Table
<b>Frequency Stability</b>	See Frequency Stability Table (Includes room temperature tolerance and stability over operating temperature)	
<b>Start-up Time</b>	10 mS Max.	
<b>Enable / Disable Time</b>	100 nS Max.	
<b>Jitter</b>	1 MHz to 75 MHz - 5 pS RMS (1 sigma) Max. accumulated jitter (20K adjacent periods), 1.5 pS RMS (1 sigma) Max. integrated jitter (12KHz to 20MHz), 50 pS p-p Max. total jitter (100K adjacent periods) 76 MHz to 150 MHz - 3 pS RMS (1 sigma) Max. accumulated jitter (20K adjacent periods), 1 pS RMS (1 sigma) Max. integrated jitter (12KHz to 20MHz), 30 pS p-p Max. total jitter (100K adjacent periods)	
<b>Supply Voltage</b>	See Input Voltage Table, tolerance ±5 %	
<b>Current</b>	40 mA Max. ***	
<b>Temperature</b>		
<b>Operating</b>	See Operating Temperature Table	
<b>Storage</b>	-55° C to +125° C	
<b>Environmental / Tape and Reel</b>	See Appendix B for Environmental information, Appendix C for Tape and Reel information	
<b>Package Information</b>	MSL = N.A., Termination = e4	



Tri-State Function	
Pin 1 Open	Enable
Pin 1 ≥ 70% Vdd	Enable
Pin 1 ≤ 30% Vdd	Disable

H = Height	
ISM92	1.6 mm Max.
ISM93 *	1.1 mm Max.
* Not available at all frequencies	



- Pin Connection
- 1 Enable
  - 2 GND
  - 3 Output
  - 4 Vcc

Dimension Units: mm

Part Number Guide		Sample Part Number: ISM92 - 3251BH - 20.000					
Package	Input Voltage	Operating Temperature	Symmetry (Duty Cycle)	Output	Stability (in ppm)	Enable / Disable	Frequency
ISM92 - (1.6 mm H)	5 = 5.0 V	1 = 0° C to +70° C	5 = 45 / 55 Max.	1 = 10TTL / 15 pF HC-MOS	**D = ±15	H = Enable	- 20.000 MHz
	3 = 3.3 V	6 = -10° C to +70° C	6 = 40 / 60 Max.	3 = 15 pF HC-MOS	**F = ±20		
	7 = 3.0 V	3 = -20° C to +70° C		6 = 30 pF	A = ±25		
ISM93 - (1.1 mm H)	2 = 2.7 V	4 = -30° C to +75° C		5 = 50 pF HC-MOS (<40 MHz)	B = ±50		
	6 = 2.5 V	2 = -40° C to +85° C		4 = AC-MOS	C = ±100		
	1 = 1.8 V*						

NOTE: A 0.01 µF bypass capacitor is recommended between Vcc (pin 4) and Gnd (pin 2) to minimize power supply noise.

\*\* Not available for all temperature ranges. \*\* Frequency, supply, and load related parameters.