



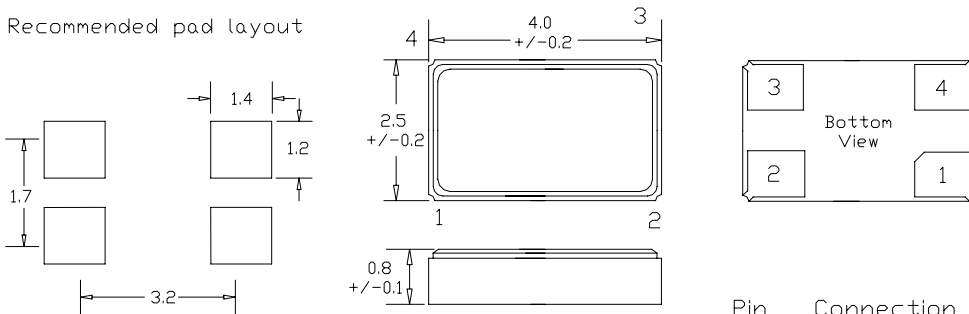
SMD Oscillator, Low Power C-MOS
Ceramic, 2.5 mm x 4 mm

ISM33

Frequency	32.768 KHz
Output Level	C-MOS
Level	'0' = 0.1 Vdd Max., '1' = 0.9 Vdd Min.
Duty Cycle	50% ±10%
Rise / Fall Time	200 nS Max.
Output Load	15 pF Max.
Frequency Stability	+30 ppm to -100 ppm @ -10° C to +60° C, +30 ppm to -110 ppm @ -20° C to +70° C X cut, see Appendix D, page 5 for information
Frequency / Temperature Coefficients	-0.034 ppm / ° C Typical. Inflection point approx. 27° C
Start-up Time	500 mS Max.
Enable / Disable Time	200 nS Max.
Supply Voltage	See Input Voltage Table, tolerance ±5 %
Current	1.5 uA Max. @ 3.3 VDC
Temperature	
Operating	See Operating Temperature Table
Storage	-40° C to +85° C
Environmental / Tape and Reel	See Appendix B for Environmental information, Appendix C for Tape and Reel information
Package Information	MSL = 2, Termination = e4

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

Recommended pad layout



Dimension Units: mm

Pin	Connection
1	Enable
2	GND
3	Output
4	Vcc

Part Number Guide		Sample Part Number: ISM33 – 313H - 32.768 KHz			
Package	Input Voltage	Operating Temperature	Output	Enable / Disable	Frequency
ISM33 -	5 = 5.0 V	1 = 0° C to +70° C	3 = 15 pF C-MOS	H = Enable	- 32.768 KHz
	3 = 3.3 V	6 = -10° C to +70° C			
	2 = 2.5 V	3 = -20° C to +70° C			
	1 = 1.8 V				
	0 = 1.5 V				

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