



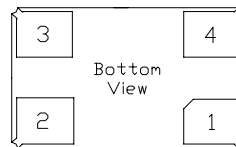
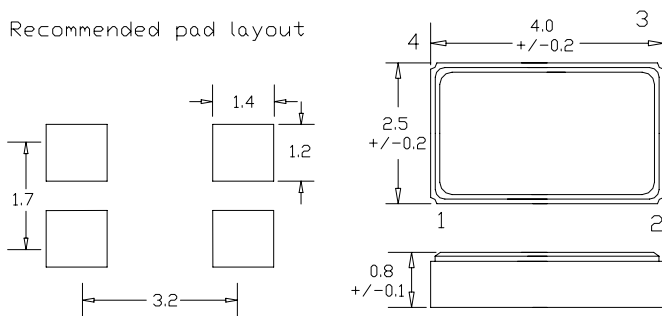
SMD Oscillator, Low Power C-MOS
Ceramic, 2.5 mm x 4 mm

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 | X cut (see Appendix D, page 6 for information) |
| Frequency / Temperature Coefficients | -0.034 ppm / ° C Typical. Inflection point approx. 27° C |
| Start-up Time | 3 S Max. |
| Enable / Disable Time | 100 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



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

Dimension Units: mm

| 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.