



5 mm x 7 mm Ceramic Package SMD VCXO, LVCMOS / LVPECL / LVDS 1630 - Series

Product Features

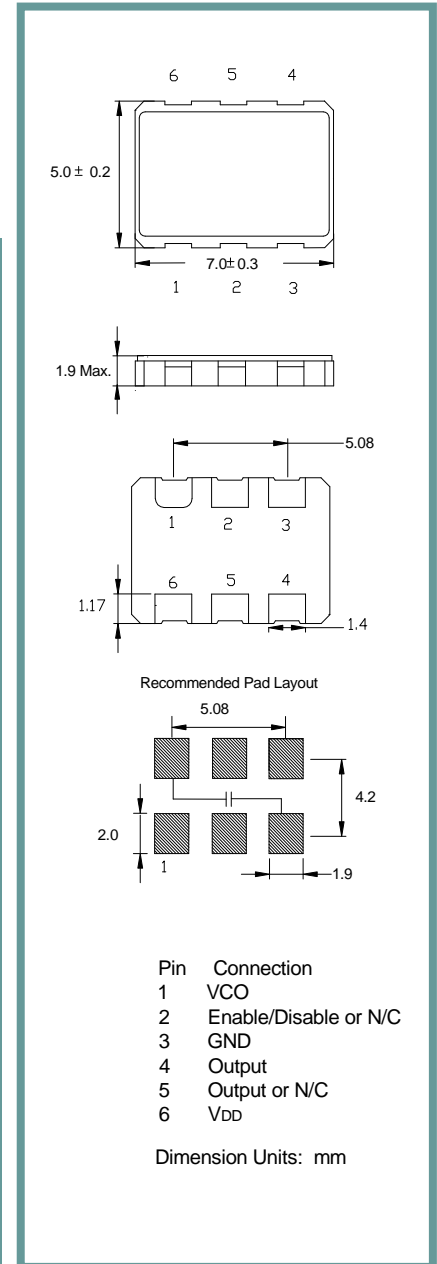
Small Surface Mount Package
 Fast Sample Delivery
 Frequencies to 1500 MHz
 Pb Free/ RoHS Compliant
 Leadfree Processing

Applications

xDSL
 Broadcast video
 Wireless Base Stations
 Sonet /SDH
 WiMAX/WLAN
 Server and Storage

Ethernet/LAN/WAN
 Optical modules
 Clock and data recovery
 FPGA/ASIC
 Backplanes
 GPON

| | |
|---|--|
| Frequency LVCMOS LVPECL LVDS | 10 MHz to 225 MHz 10 MHz to 1500 MHz 10 MHz to 1500 MHz |
| Output Level LVCMOS LVPECL LVDS | VOH=90% VDD min., VOL=10 % VDD max. VOH=VDD-1.03V max. (Nom. Load), VOL=VDD-1.6V max. (Nom. Load) VOD=(Diff. Output) 350mV |
| Duty Cycle LVCMOS LVPECL LVDS | 50% ±5% @50%VDD 50% ±5% @VDD-1.3V 50% ±5% @1.25V |
| Rise / Fall Time LVCMOS LVPECL LVDS | 3 ns max. (90%/10%) 0.6 ns max. (80%/20%) 0.6 ns max(Nom. Load) |
| Output Load LVCMOS LVPECL LVDS | 15pF 50 Ω to VDD - 2.0 VDC RL=100 Ω/CL=10pF |
| Frequency Stability | See Table Below |
| Supply Voltage | 3.3 VDC ± 10%, 2.5 VDC ± 5% |
| Current | LVCMOS = 25 mA max., LVPECL = 40 mA max. LVDS = 35 mA max. |
| Linearity | 10% max. |
| Pullability | See Table Below |
| Control Voltage | 1.65 VDC ± 1.55 VDC @ 3.3V 1.25 VDC ± 1.25 VDC @ 2.5V |
| Input Impedance | 50K Ω min. |
| Phase Jitter (RMS) At 12kHz to 20 MHz | < 1.0 ps typical |
| Operating Temp. Range | See Table Below |
| Storage | -40° C to +100° C |



| Part Number Guide | | Sample Part Number: 1630-31AB3H-155.520 | | | | | |
|-------------------|---------------|---|--------------------|-------------|------------|------------------|--------------|
| Package | Input Voltage | Operating Temperature | Stability (in ppm) | Pullability | Output | Enable / Disable | Frequency |
| 1630 | 3 = 3.3V | 1 = 0° C to +70° C | F = ±20 | B = ±50 ppm | 3 = LVCMOS | H = Enable | -155.520 MHz |
| | 6 = 2.5V | 3 = -20° C to +70° C | A = ±25 | | 8 = LVDS | | |
| | | 2 = -40° C to +85° C | B = ±50 | | 9 = LVPECL | | |

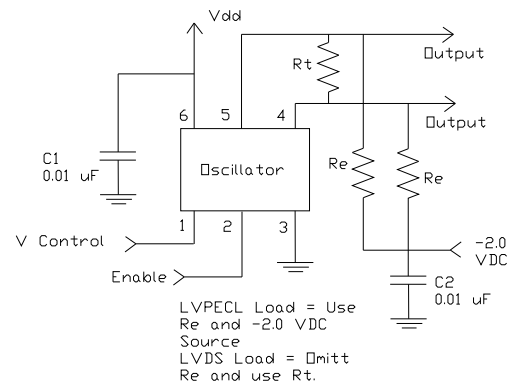
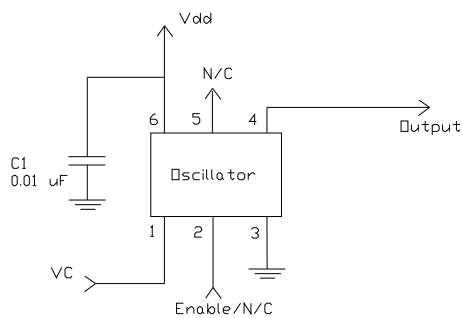
NOTE: A 0.01 µF bypass capacitor is recommended between V_{DD} (pin 6) and GND (pin 3) to minimize power supply noise.



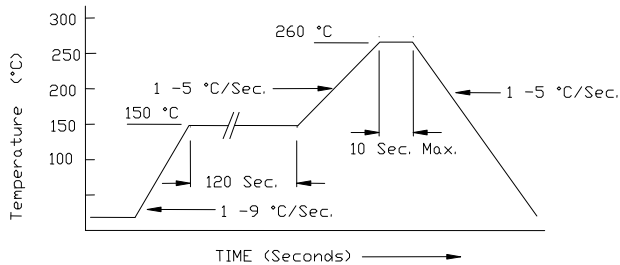
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SSB Phase Noise (typ.)

| Offset | 77.76 MHz | 155.52 MHz | 622.08 MHz |
|---------------|-------------|-------------|-------------|
| 10Hz | -75 dBc/Hz | -62 dBc/Hz | -47 dBc/Hz |
| 100Hz | -105 dBc/Hz | -101 dBc/Hz | -79 dBc/Hz |
| 1kHz | -117 dBc/Hz | -112 dBc/Hz | -100 dBc/Hz |
| 10kHz | -123 dBc/Hz | -115 dBc/Hz | -104 dBc/Hz |
| 100kHz | -125 dBc/Hz | -118 dBc/Hz | -106 dBc/Hz |

Typical Application:



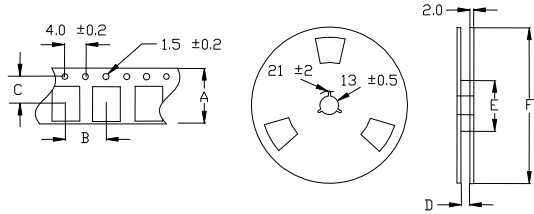
Pb Free Solder Reflow Profile:



*Units are backward compatible with 240C reflow processes

Package Information:

MSL = N.A. (package does not contain plastic, storage life is unlimited under normal room conditions).
 Termination = e4 (Au over Ni over W base metalization).



| Quantity per Reel | 1000 |
|-------------------|--------------|
| A | 16 +/- .3 |
| B | 8 +/- .2 |
| C | 7.5 +/- .2 |
| D | 17.5 +/- 1 |
| E | 50 / 60 / 80 |
| F | 180 / 250 |

Environmental Specifications

| | |
|------------------------------|--|
| Thermal Shock | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Mechanical Vibration | MIL-STD-883, Method 2007, Condition A |
| Resistance to Soldering Heat | J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max) |
| Hazardous Substance | Pb-Free / RoHS / Green Compliant |
| Solderability | JESD22-B102-D Method 2 (Preconditioning E) |
| Terminal Strength | MIL-STD-883, Method 2004, Test Condition D |
| Gross Leak | MIL-STD-883, Method 1014, Condition C |
| Fine Leak | MIL-STD-883, Method 1014, Condition A2, R1=2x10 ⁻⁸ atm cc/s |
| Solvent Resistance | MIL-STD-202, Method 215 |

Marking

Line 1: ILSI and Date Code (YWW)
 Line 2: Frequency