REGULATORY COMPLIANCE

Lead Free COMPLIANT | EU RoHS 2011/65 + 2015/863 COMPLIANT | China RoHS COMPLIANT | REACH SVHC COMPLIANT | DRC CONFLICT FREE

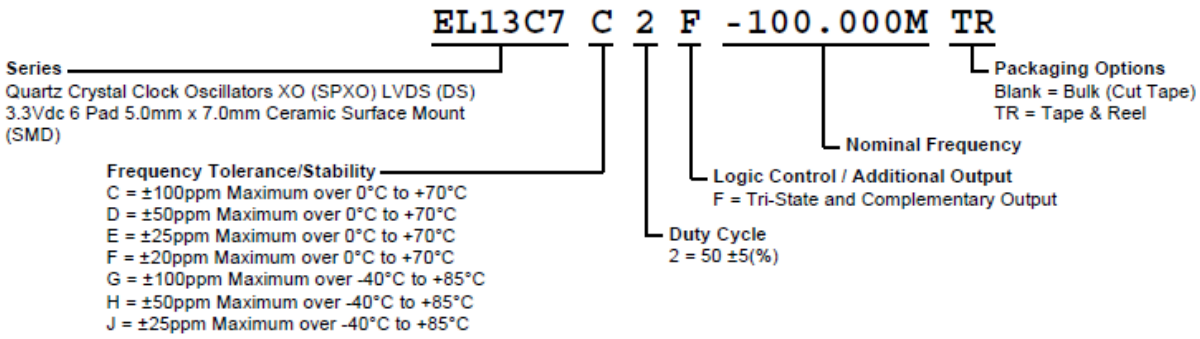
ITEM DESCRIPTION

Quartz Crystal Clock Oscillators XO (SPXO) LVDS (DS) 3.3Vdc 6 Pad 3.2mm x 5.0mm Ceramic Surface Mount (SMD)

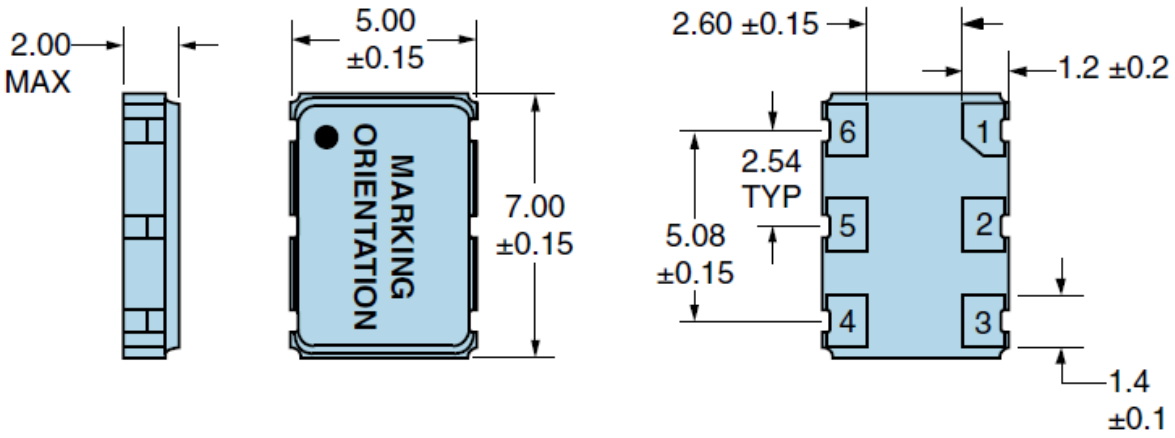
ELECTRICAL SPECIFICATIONS

Nominal Frequency	80MHz to 250MHz
Frequency Tolerance/Stability	Inclusive of all conditions: Calibration Tolerance (at 25°C), Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration ±100ppm Maximum over 0°C to +70°C ±50ppm Maximum over 0°C to +70°C ±25ppm Maximum over 0°C to +70°C ±20ppm Maximum over 0°C to +70°C ±100ppm Maximum over -40°C to +85°C ±50ppm Maximum over -40°C to +85°C ±25ppm Maximum over -40°C to +85°C
Supply Voltage	+3.3Vdc ±5%
Input Current	66mA Maximum
Output Voltage Logic High (V_{Oh})	1.43Vdc Typical, 1.6Vdc Maximum
Output Voltage Logic Low (V_{Ol})	1.1Vdc Typical, 0.9Vdc Minimum
Differential Output Voltage (Vod)	247mV Minimum, 330mV Typical, 454mV Maximum
Offset Voltage (Vos)	1.125V Minimum, 1.250V Typical, 1.375V Maximum
Rise/Fall Time	Measured over 20% to 80% of waveform 300pSec Typical, 700pSec Maximum
Differential Output Error (dVod)	50mV Maximum
Duty Cycle	Measured at 50% of waveform or at the crossing point 50 ±5(%)
Offset Error (dVos)	150mV Maximum
Load Drive Capability	100 Ohms Between Output and Complementary Output
Output Logic Type	LVDS
Phase Noise	All Values are Typical -60dBc/Hz at 10Hz Offset, -95dBc/Hz at 100Hz Offset, -125dBc/Hz at 1kHz Offset, -143dBc/Hz at 10kHz Offset, -145dBc/Hz at 100kHz Offset, -145dBc/Hz at 1MHz Offset, -146dBc/Hz at 10MHz Offset
Logic Control / Additional Output	Tri-State and Complementary Output
Tri-State Input Voltage (Vih and Vil)	Vih of 70% of Vdd Minimum or No Connect to Enable Output and Complementary Output, Vil of 30% of Vdd Maximum to Disable High Impedance Output and Complementary Output
Standby Current	Without Load 10µA Maximum
Phase Jitter (RMS)	Fj=12kHz to 20MHz; Random 0.4pSec Typical, 1pSec Maximum
Start Up Time	10mSec Maximum
Storage Temperature Range	-55°C to +125°C

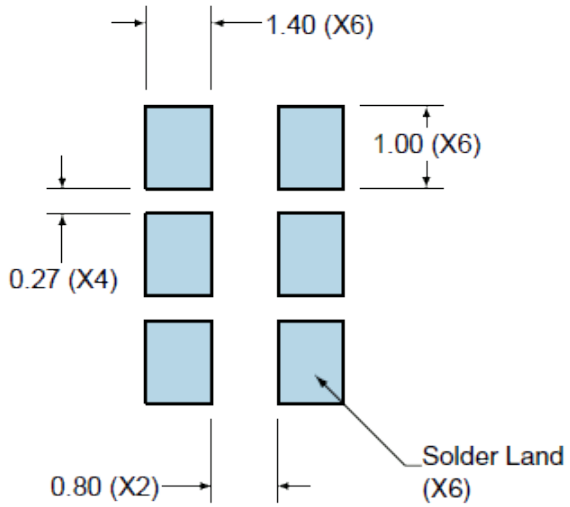
PART NUMBERING GUIDE



MECHANICAL DIMENSIONS



SUGGESTED SOLDER PAD LAYOUT

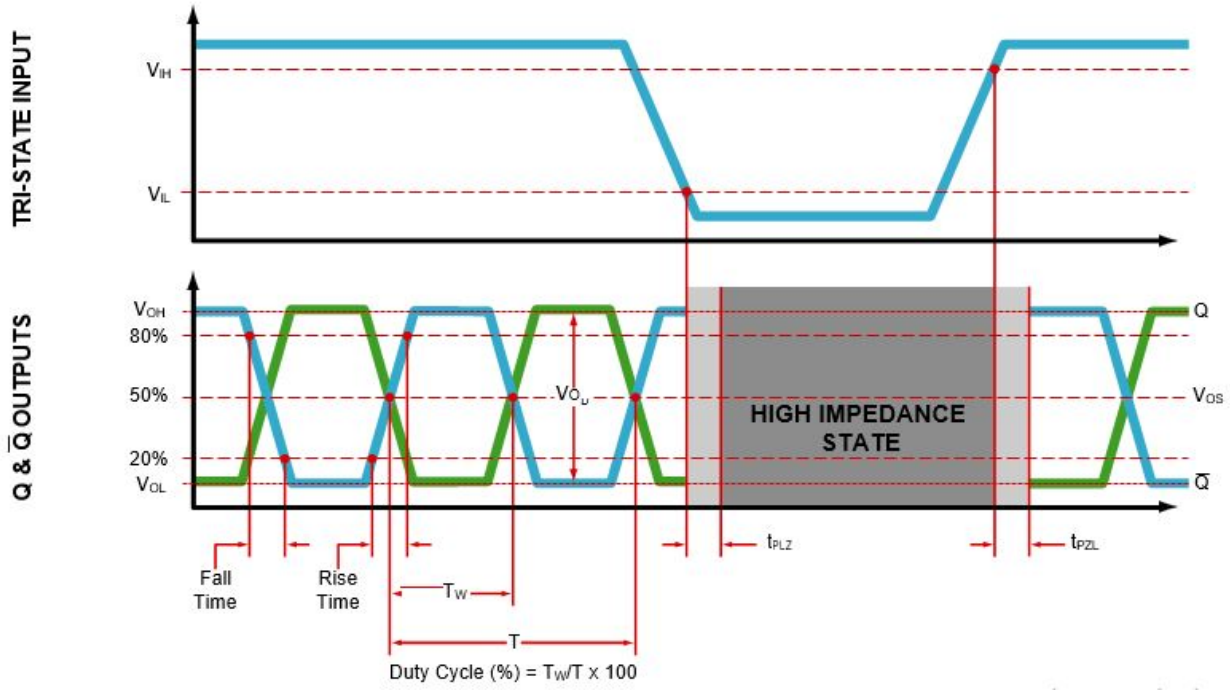


PIN	CONNECTION
1	Tri-State
2	No Connect
3	Case/Ground
4	Output
5	Complementary Output
6	Supply Voltage

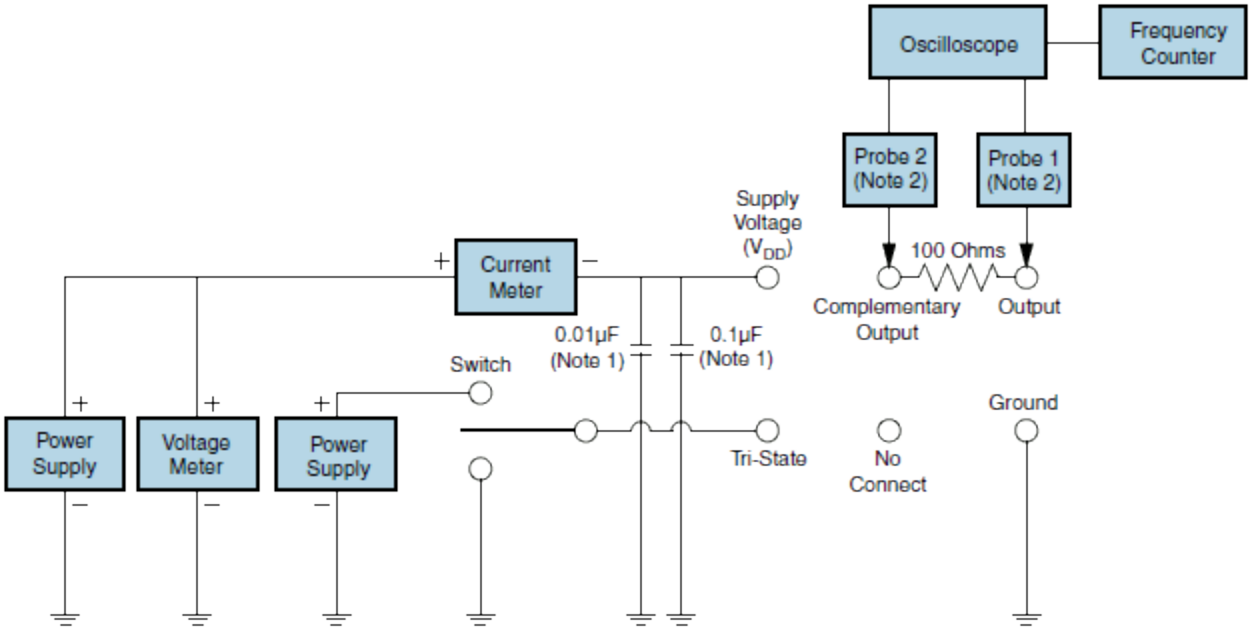
All Tolerances are ±0.1

All Dimensions in Millimeters

OUTPUT WAVEFORM & TIMING DIAGRAM



TEST CIRCUIT FOR TRI-STATE AND COMPLEMENTARY OUTPUT



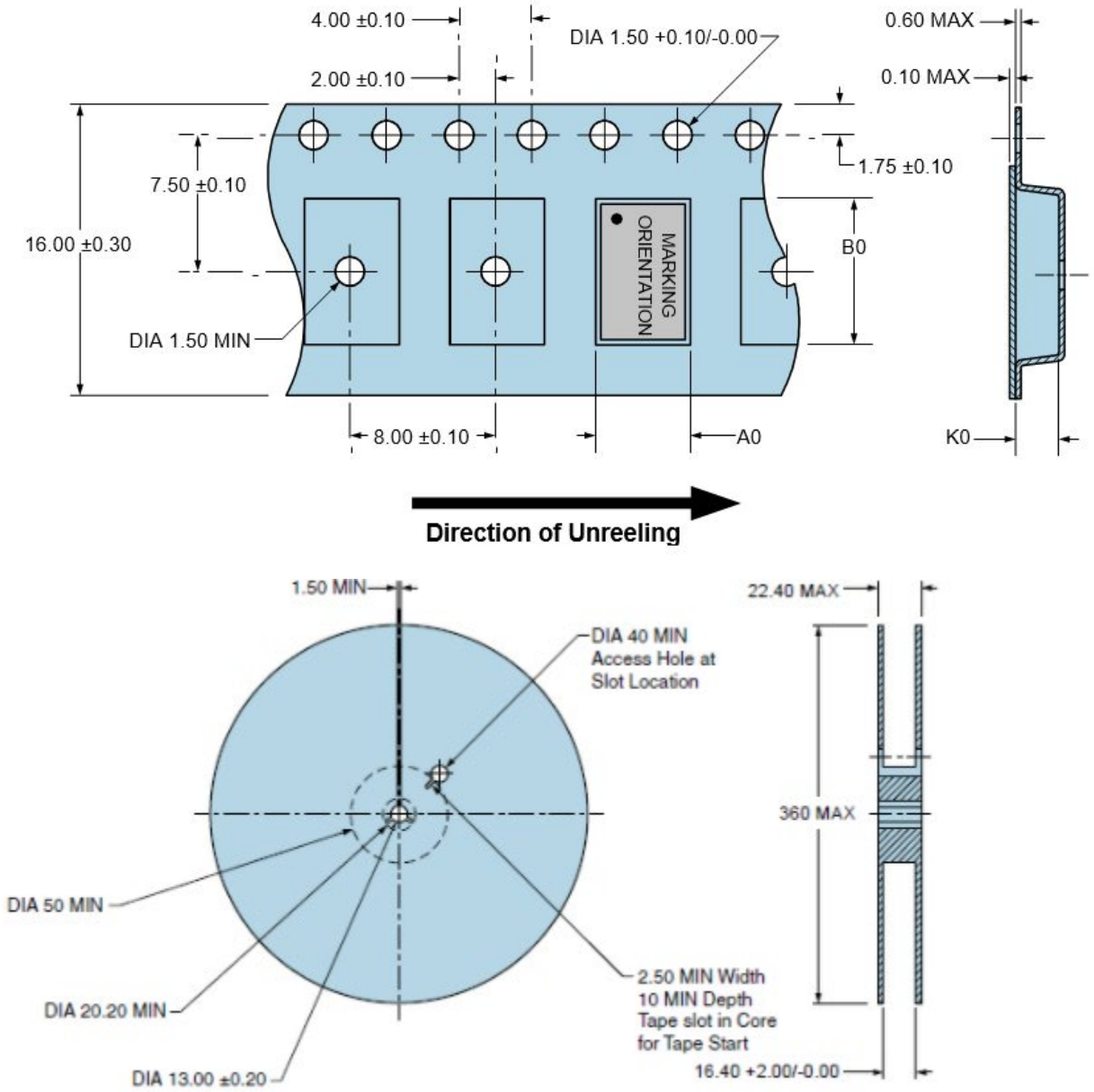
Note 1: An external 0.01µF ceramic bypass capacitor in parallel with a 0.1µF high frequency ceramic bypass capacitor close to (Less than 2mm) the package ground and supply voltage pin is required.
Note 2: A low capacitance (<12pF), 10X Attentuation Factor, High Impedance (>10Mohms), and High bandwidth (>500MHz) Passive probe is recommended.
Note 3: Test circuit PCB traces need to be designed for a characteristic line impedance of 50 ohms

TAPE & REEL DIMENSIONS

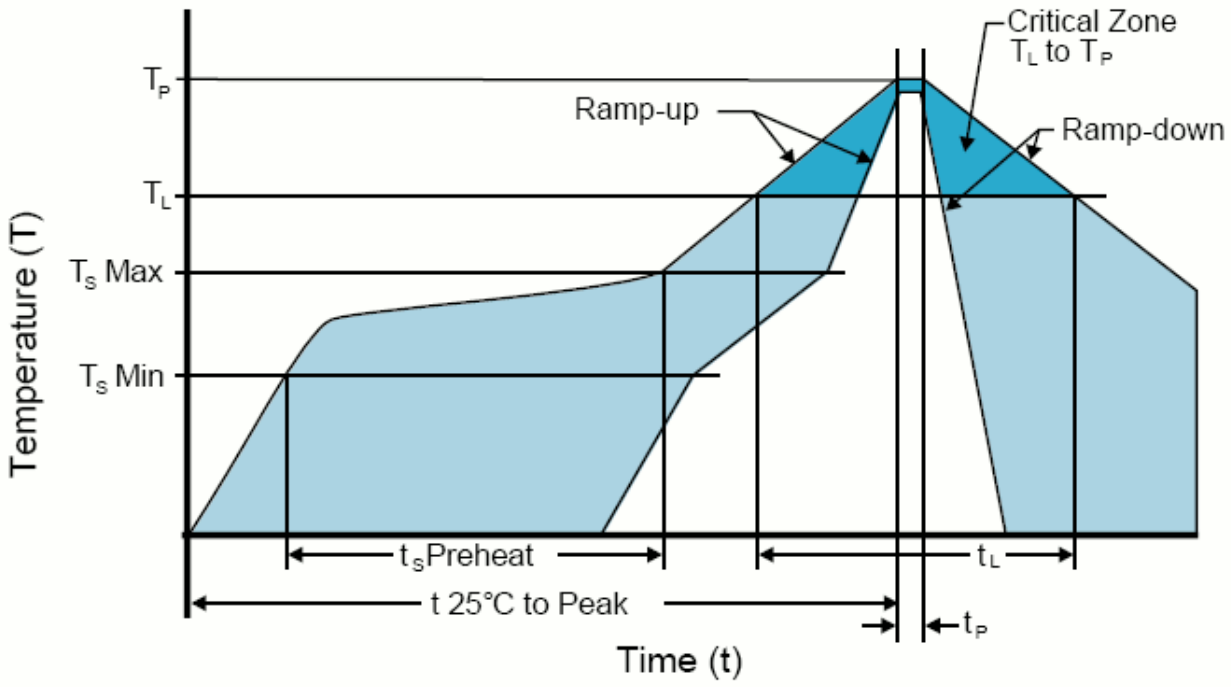
Quantity per Reel: 1,000 Units

All Dimensions in Millimeters

Compliant to EIA-481



RECOMMENDED SOLDER REFLOW METHOD

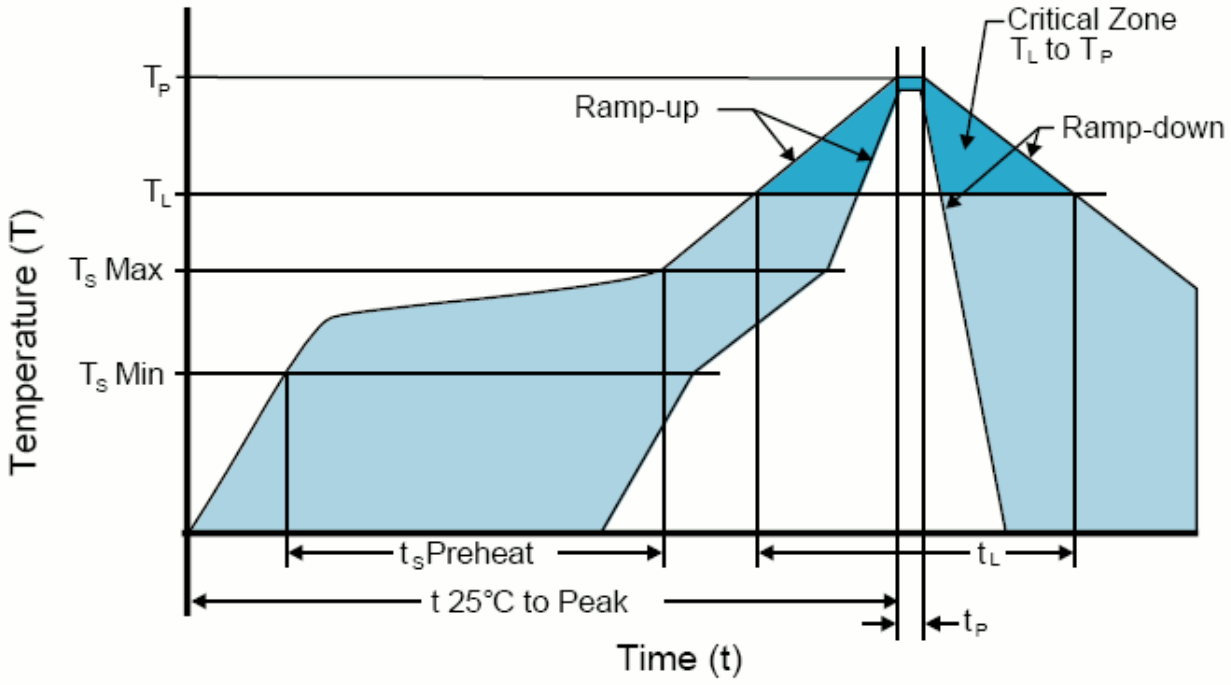


HIGH TEMPERATURE INFRARED/CONVECTION	
T_S MAX to T_L (Ramp-up Rate)	3°C/Second Maximum
Preheat **- Temperature Minimum (T_S MIN)** **- Temperature Typical (T_S TYP)** **- Temperature Maximum(T_S MAX)** **- Time (t_S)**	 150°C 175°C 200°C 60 - 180 Seconds
Ramp-up Rate (T_L to T_P)	3°C/Second Maximum
Time Maintained Above: **- Temperature (T_L)** **- Time (t_L)**	 217°C 60 - 150 Seconds
Peak Temperature (T_P)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature(T_P Target)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	20 - 40 Seconds
Ramp-down Rate	6°C/Second Maximum
Time 25°C to Peak Temperature (t)	8 Minutes Maximum
Moisture Sensitivity Level	Level 1
Additional Notes	Temperatures shown are applied to body of device.

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to body of device.)

RECOMMENDED SOLDER REFLOW METHOD



LOW TEMPERATURE INFRARED/CONVECTION	
T_S MAX to T_L (Ramp-up Rate)	5°C/Second Maximum
Preheat **- Temperature Minimum (T_s MIN)** **- Temperature Typical (T_s TYP)** **- Temperature Maximum(T_s MAX)** **- Time (t_s)**	 N/A 150°C N/A 60 - 120 Seconds
Ramp-up Rate (T_L to T_P)	5°C/Second Maximum
Time Maintained Above: **- Temperature (T_L)** **- Time (t_L)**	 150°C 200 Seconds Maximum
Peak Temperature (T_P)	240°C Maximum
Target Peak Temperature (T_P Target)	240°C Maximum 2 Times / 230˚C Maximum 1 Time
Time within 5°C of actual peak (t_p)	10 Seconds Maximum 2 Times / 80 Seconds Maximum 1 Time
Ramp-down Rate	5°C/Second Maximum
Time 25°C to Peak Temperature (t)	N/A
Moisture Sensitivity Level	Level 1
Additional Notes	Temperatures shown are applied to body of device.

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to body of device.)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Standard Clock Oscillators ***category:***

Click to view products by Abracon ***manufacturer:***

Other Similar products are found below :

601252 F335-12 F335-25 F535L-33.333 F535L-50 ASV-20.000MHZ-LR-T ECS-2018-160-BN-TR MXO45HS-2C-66.6666MHZ SiT8209AI-32-33E-125.000000 SIT8918AA-11-33S-50.000000G SM4420TEV-40.0M-T1K F335-24 F335-40 F535L-10 F535L-12 F535L-16 F535L-24 F535L-27 F535L-48 PE7744DW-100.0M CSX-750FCC14745600T ASF1-3.686MHZ-N-K-S XO57CTECNA3M6864 ECS-2100A-147.4 601251 EP16E7E2H26.000MTR SIT8918AA-11-33S-16.000000G XO3003 9120AC-2D2-33E212.500000 9102AI-243N25E100.00000 8208AC-82-18E-25.00000 ASDK2-32.768KHZ-LR-T3 8008AI-72-XXE-24.545454E 8004AC-13-33E-133.33000X AS-4.9152-16-SMD-TR ASFL1-48.000MHZ-LC-T SIT8920AM-31-33E-25.0000 DSC1028DI2-019.2000 9121AC-2C3-25E100.00000 9102AI-233N33E100.00000X 9102AI-233N25E200.00000 9102AI-232H25S125.00000 9102AI-133N25E200.00000 9102AC-283N25E200.00000 9001AC-33-33E1-30.000 XLH536125.000JS4I 3921AI-2CF-33NZ125.000000 5730-1SF PXA000010 SIT1602BC-83-33E-10.000000Y