General Specification and Ordering Guide

LM11TC Series Oscillators

TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

- **Frequency from 10 to 125 MHz**
- **Over temperature stability down to ±0.5 PPM***
- **Wide temperature range up-to -40°C to +85°C***
- **5.0V or 3.3V Supply Voltage**
- **HCMOS/TTL or Sine-Wave output**
- **Quick turnaround for custom frequencies**

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	CONDITION
Frequency Range*	**Fn**	10		125	**MHz**	
Supply Voltage*	**Vdd**	+3.0 +4.5	+3.3 +5.0	+3.6 +5.5	**Vdc**	3.3V Option 5.0V Option
Supply Current	**Idd**		<20 <30 <40		**mA** **mA** **mA**	3.3Vdd, 25MHz 5.0Vdd, 25MHz 5.0Vdd,100MHz
Output Symmetry	**DUTY**	45		55	**%**	CL = 15pF HCMOS/TTL Option
Rise/Fall time	**Tr/Tf**		<2.0		**nS**	HCMOS/TTL Option
"H" Output Level	**VOH**		>2.4		**V**	HCMOS/TTL Option Ioh = 8mA
"L" Output Level	**VOL**		>0.3		**V**	HCMOS/TTL Option IOL= -8mA
Phase Noise	**?J**	-120	-115	-110	**dBc**	@ 20MHz Fnom 100Hz Offset
Load	**CL**		15		**pF**	
Frequency vs Supply for 5% change of 3.3Vdd (±0.2 PPM for 5.0Vdd Option)			<±0.5 <±0.2		**PPM** **PPM**	Option-.3 Option- "R"

ENVIRONMENTAL SPECIFICATIONS

Max. Operating temperatures	-40℃ to +85C
Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2002, Condition A

*Due to physical limitation not all the combination of frequencies, supply voltages and output waveforms are available. Contact the factory for more information

PIN-1 EFC / ENH Specification

ORDERING CODE	DESCRIPTION
Vxx	Pin-1 connected to electronic frequency control. Next two digits after ordering code "V" indicate Electronic Trim Range /10 in PPM. For example: "V15" = PIN-1 providing access to Electronic Frequency Control with ±1.5 PPM adjustment range. Typical Voltage range = GND + 0.5V to Vdd – 0.5V
H	Pin-1 Providing access to Enable/Disable Function. Internal Pull-up 2.0 MOhms typ. for "High" = Enable. "Low" = Tri-state. HCMOS option
G	Pin-1 connected to GND
N	Pin-1 Not Connected

Frequency vs Temperature

ORDERING CODE*	DESCRIPTION
Axx	0°C to +50°C
Bxx	-10°C to +60°C
Cxx	-20°C to +70°C
Dxx	-35°C to +80°C
Exx	-40°C to +85°C
Following two digits will indicate frequency deviation in PPM/10 over indicated code of temperature range. For example: "C15" = ±1.5 PPM over -20°C to +70°C	

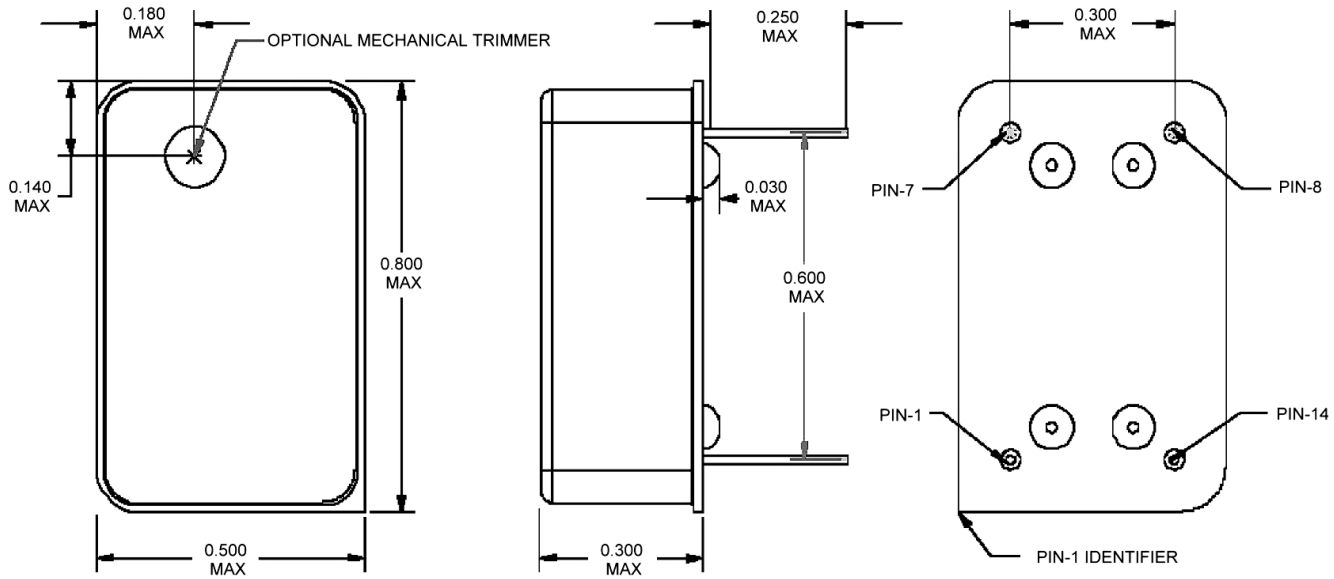
Mechanical Trimmer

ORDERING CODE	DESCRIPTION
Mxx	If mechanical trimmer code "M" is presented then next two digits will indicate mechanical trim range in PPM. For example "M05" will indicate mechanical trimmer option with ±5.0 PPM adjustment range. (Typical value)

*Due to physical limitation not all the combination of frequencies, supply voltages and output waveforms are available. Contact the factory for more information

LM11TC General Specification and Ordering Guide

Drawing Outline



Pin-Out Configuration

PIN-1	Optional PIN-1 Configuration	**PIN-8**	OUTPUT
PIN-7	GND	**PIN-14**	SUPPLY POWER

Ordering Information

LM | 11 | TC | S | .3 | - | 25.000MHZ | C15 | V15 | M05

Product Category
LM = Crystal Oscillator

Package
11 = 14 pin-DIP

Product Family
TC = TCXO

Output Configuration
Blank = HCMOS
S = Sine-Wave

Supply Voltage
Blank = 5.0Vdd ±5% / ±0.2PPM
.3 = 3.3Vdd ±5% / ±0.5PPM
R = 3.3Vdd ±5% / ±0.2PPM

Nominal Frequency

Frequency vs Temperature code

PIN-1 option

Mechanical trimmer option

*Due to physical limitation not all the combination of frequencies, supply voltages and output waveforms are available. Contact the factory for more information