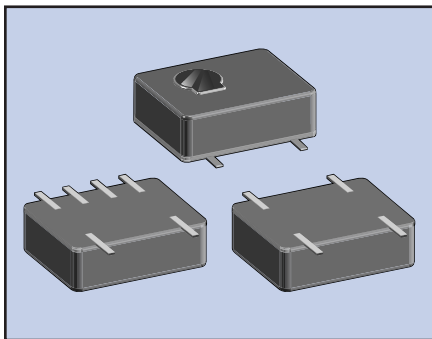




The TXO-29SM/59SM are surface mount TCXOs (Temperature Compensated Crystal Oscillator) that features very tight stability over a wide temperature range. An internal trimmer is a standard feature used to tune the TCXO to nominal frequency. With a total volume of 0.40cc this component is ideal for miniature wireless communication applications. 3 volt operation and a voltage control function are available.

FEATURES

- Highly stable output over wide temperature range
- 3.8 mm maximum height
- Industry standard foot print layout
- Voltage Control function (optional)
- Withstands reflow soldering
- Tape and Reel (1,000 pcs)

PART NUMBERING GUIDE "EXAMPLE"

PART NUMBER *	WAVEFORM	CONTROL OPTION	VOLTAGE
TXO-29SM or 59SM	CLIPPED SINE WAVE	NO VOLTAGE CONTROL	5 V
VTXO-29SM	"	VOLTAGE CONTROL	5 V
TXO-29SM-3	CLIPPED SINE WAVE	NO VOLTAGE CONTROL	3 V
VTXO-29SM-3	"	VOLTAGE CONTROL	3 V
TXO-29SM-3-T	2TTL/15pF CMOS	NO VOLTAGE CONTROL	3 V
VTXO-29SM-3-T	2TTL/15pF CMOS	VOLTAGE CONTROL	3 V

* Complete part number to include frequency. - i.e. TXO-29SM-100 or TXO-59SM-100 (100 = 10 MHz)

STANDARD FREQUENCIES

10.00, 12.80, 13.00, 14.40, 15.36, 16.00
18.54, 19.20, 19.68 AND 20.00 MHz

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
FREQUENCY RANGE	f_0	9.600		26.000	MHz
FREQUENCY TOLERANCE	@ +25°C	-0.5		+0.5	PPM
FREQUENCY STABILITY	-30~+75°C	-2.5		+2.5	PPM
STORAGE TEMPERATURE	T_{STG}	-40		+85	°C
SUPPLY VOLTAGE	5.0±0.5				V DC
	3.0±0.15				V DC
INPUT VOLTAGE STABILITY	5% of Voltage Fluctuation		±3		PPM
OUTPUT VOLTAGE	Peak to Peak	1.0			VOLTS
LOGIC "1"	Square Wave		$V_{DD}-0.5 V_{DC}$ min.		
LOGIC "0"	Square Wave		0.5 Vdc max.		
RISE/FALL TIME	Square Wave		5 nSec max. 20-80% Waveform		
DUTY CYCLE	Square Wave		50% ± 10% @50% of Waveform		
LOAD STABILITY	Square Wave		±3 PPM from No Load to 15 pF max.		
AGING	Per Year @ +25°C	-1.0		+1.0	PPM
INTERNAL TRIM RANGE		-3.0		+3.0	PPM
EXTERNAL TRIM RANGE		-25.0		+25.0	PPM
EXTERNAL CONTROL VOLTAGE			±2.5 Vdc ±2.0 Vdc		
INPUT CURRENT	Clipped Sine Wave			2.0	mA
INPUT CURRENT	Square Wave			25	mA
OUTPUT LOAD	Clipped Sine Wave		10k OHM/15pF		
OUTPUT LOAD	Square Wave		15pF HCMOS Load		
CONTROL VOLTAGE	5V Operation		2.5±2		V DC
	3V Operation		1.5±1		V DC

PACKAGE DIMENSIONS (mm)

