

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V HCMOS TCXO with TRI-STATE OUTPUT



TFLB546E

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7	Vdc	
Enable / Disable Voltage		-0.5	-	7	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.60	-	50.00	MHz	
Frequency Tolerance		-4.6	-	4.6	ppm	1
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	8	20	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	
SSB Phase Noise at 10Hz offset		-	-70	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-145	-	dBc/Hz	

INPUT CHARACTERISTICS

TABLE 3.0

Enable Voltage (High)	(Vih)	= 70% Vdd	-	-	Vdc	2
Disable Voltage (Low)	(Vil)	-	-	= 30% Vdd	Vdc	

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage (High)	(Voh)	2.2	2.4	-	Vdc	
(Low)	(Vol)	-	0.3	0.4	Vdc	
Current (High)	(Ioh)	-4	-	-	mA	
(Low)	(Iol)	-	-	4	mA	
Duty Cycle at 50% of Vcc		40	50	60	%	
Rise / Fall Time 10% to 90%		-	3	5	nS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Non-hermetic package consisting of an FR4 substate with grounded metal cover.
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PROCESS RECOMMENDATIONS

TABLE 6.0

Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
Wash	Ultrasonic cleaning is not recommended.

Note:

- Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 15 years aging.
- Oscillator output is enabled with no connection on pad 6

DESCRIPTION

The Connor-Winfield TFLB546E is a Surface Mount Temperature Compensated Crystal Oscillator (TCXO). Operating at 3.3Vdc, the TFLB546E will maintain ± 4.6 ppm frequency tolerance over 15 years. The TFLB546E is offered in a surface mount package for automated assembly.

FEATURES

3.3V OPERATION

OVERALL FREQUENCY TOLERANCE:
 ± 4.6 ppm OVER 15 YEARS.

TEMPERATURE RANGE: 0 to 70°C

LOW JITTER <1ps RMS

TRI-STATE ENABLE/DISABLE

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

ORDERING INFORMATION

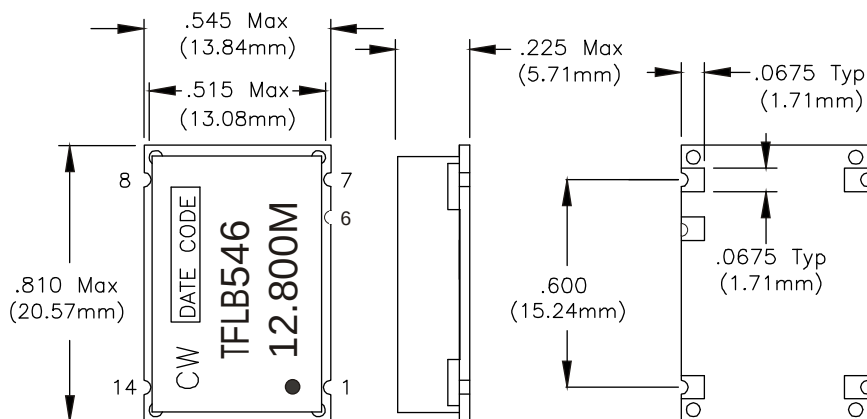
TFLB546E - 12.800MHZ

TCXO
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

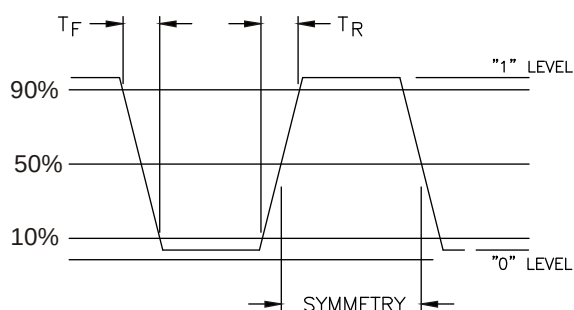
CRYSTAL CONTROLLED OSCILLATORS



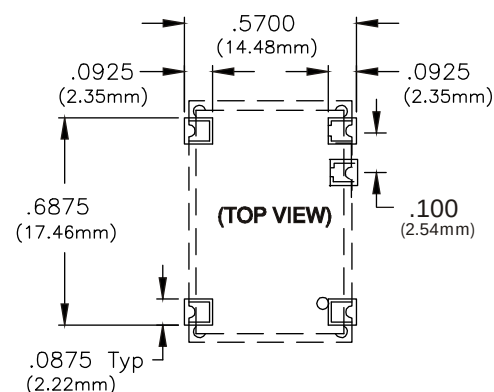
Pin	Connection
1	N/C
6	Enable / Disable
7	Ground
8	Output
14	Vcc

Dimensional Tolerance:
 $\pm .005$ (.127mm)

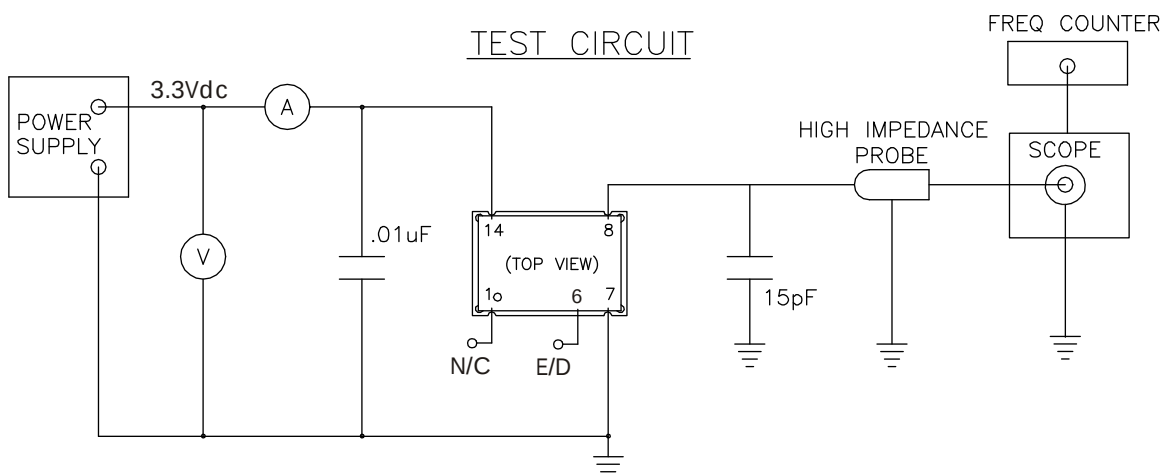
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



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