Approved by: 黄灏东
Checked by: 杨霞
Issued by: 玉静霞

SPECIFICATION

SJKPN: 7T0320000333

深圳市晶科鑫实业有限公司
SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

Add: RM#1805, East Wing,TianAn Hi-tech Plaza Phase2,TianAn Cyber Park Shenzhen, China
Tel: (86) 755 88352809 88352810 Fax: (86) 755 88353718 88352499
E-mail: sjk@q-crystal.com HTTP://www.q-crystal.com

Crystal Oscillators

SMD TCXO Module 3.2×2.5×1.0 7T Series

FEATURE

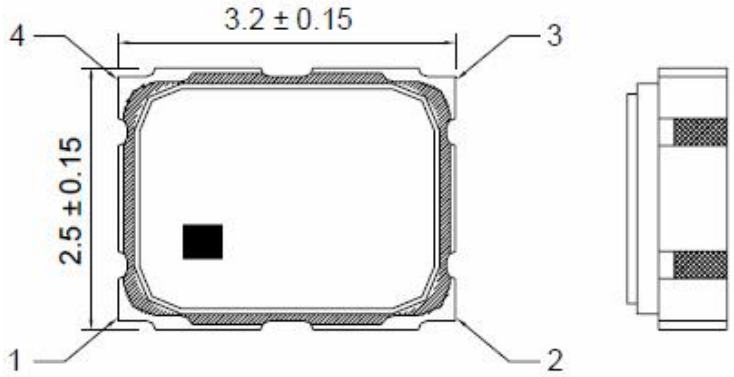
- Temperature Stability:± 0.5 ppm ~ ± 2.0 ppm.
- Operating Temperature Range: - 20 ~ 70 ℃.- 30 ~ 85 ℃.
- Supply Voltage: 1.8 V ~ 3.3 V.
- Voltage Control Function Available.
- Frequencies: 16.367667 MHz, 16.368 MHz, 16.369 MHz, 16.8 MHz, 19.2 MHz,20 MHz, 26 MHz, 32MHz.33.6 MHz, 38.4 MHz, 40 MHz.
- Applications: GPS, WiMAX, Cellular and Wireless Communications.
- RoHS Compliant / Pb Free.

ELECTRICAL SPECIFICATIONS

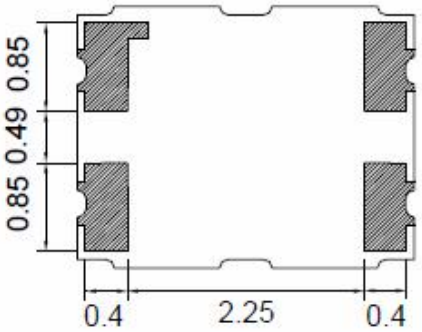
Item	Parameters		Condition	Electrical Specifications				Note
				MIN	TYP	MAX	UNITS	
1	Nominal Frequency				32.000		MHz	
2	Operating Temperature Range			-30		+85	℃	
3	Supply Voltage			3.15	3.3	3.45	V	
4	Current Drain					2.0	mA	
5	Output Level			0.8		2.0	Vp-p	
6	Output Type				Clipped sine wave			
7	Output Load		Resistance		10		kΩ	
8			Capacitance		10		pF	
9	Frequency Tolerance		After 2 times reflow			±2.0	ppm	
10	Frequenc y Stability	vs. Temperature	Temp: -30 ~ 85 ℃			±1.0	ppm	
11		vs. Load	Load: 10 kΩ // 10 pF ±10%			±0.2	ppm	
12		vs. Supply Voltage	Vcc:3.3V ±5%			±0.2	ppm	
13	Pulling range					±5	ppm	
14	Vcon input impedance		Measured between VCON and GND pin			500	kΩ	
15	Storage Temperature			-40		+85	℃	
16	Start-up Time	vs. Frequency	Within ± 2.5 ppm			2.0	ms	
17		vs. Output Level	To 90% of Vp-p			2.0	ms	
18	Linearity					10	%	
19	Aging		1st year			±1.0	ppm/year	
20	Phase Noise	@ 10 Hz offset				-81	dBc/Hz	
21		@ 100 Hz offset				-108	dBc/Hz	
22		@ 1 kHz offset				-131	dBc/Hz	
23		@ 10 kHz offset				-145	dBc/Hz	
24		@ 100KHz offset				-149	dBc/Hz	

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DIMENSIONS





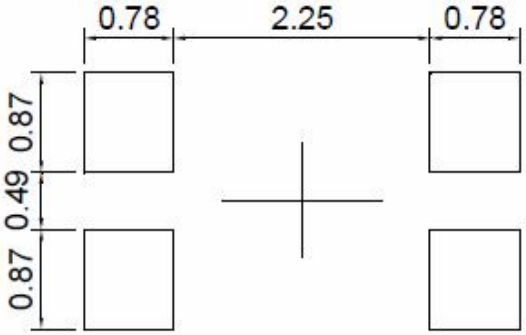


Unit : mm

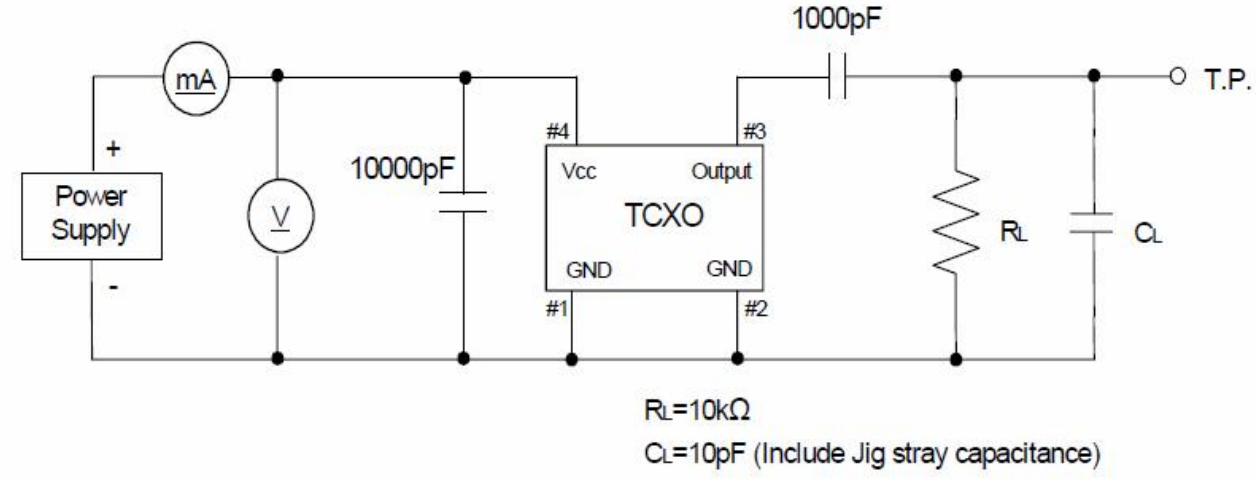
Pin Function

Name	Function
Pin 1	GND
Pin 2	GND
Pin 3	OUTPUT
Pin 4	VCC

Land Pattern



Measurement Circuit



RL=10kΩ

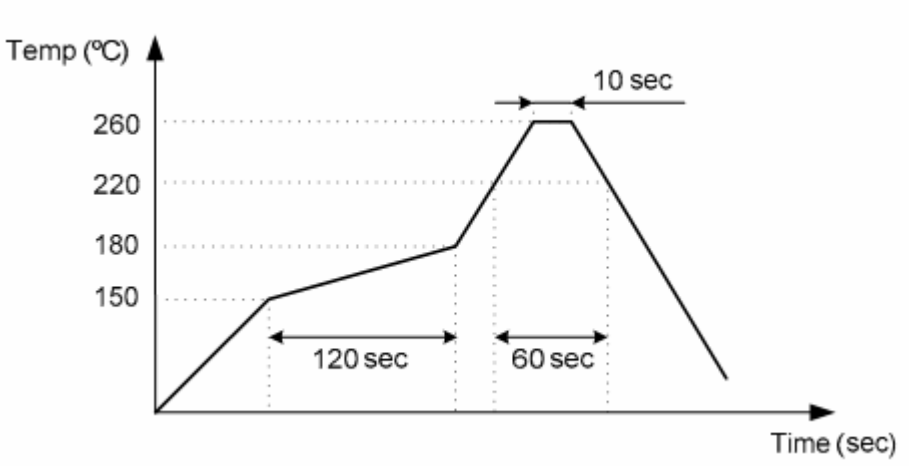
CL=10pF (Include Jig stray capacitance)

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Reflow Profile



Note : Total Time: 200 sec. Max., Solder Melting Point: 220°C

RELIABILITY TEST SPECIFICATION

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	SJK-REL001、RC-328A	1.solderabiliity:235±5℃, 5±0.5S 2.heat resistance:260±5℃,10±1S restoration of 1 hour	MIL-STD-883E Method 2003.7
2. HERMETICITY TEST	HELIOT-306S	FC-84 FLUOROCARBON,BUBBLE MACHINE	MIL-STD-883E Method 1014.10
3. VIBRATION TEST	HG-V4、S&A 250B	Enable Crystal(10g) from 0~500Hz,X 、 Y 、 Z horizontal,1 Minute vibration/time, 1time/ 2 hours.	MIL-STD-883E Method 2007.3
4. MECHANICAL SHOCK	HPC-200、S&A 250B	Enable Crystal 50G(490m/s^2) time=11 ms speed=3.4 m/s half sine wave oscillation	JIS C6701
5. DROP TEST	HARD BOARD.S&A250B	100CM HIGH,3 TIMES ON HARD BOARD	MIL-STD-202F Method 213B
6. SALT SPRAY	H-SST-60、RC-328A	5% NaCL,35℃±2℃ CHAMBER,48 hrs.，PH:6.5～7.2	JIS C6701
7. HIGH&LOW TEMP STORAGE TEST(Static test)	H-PTH-80CK & HM101-3ABN，S&A 350B/250B	High temperature: 125℃±2℃,96hr；Low temperature:-40℃±3℃,96hrs	MIL-STD-883C, METHOD 1011.8
8. TEMP &HUM CYCLING TEST	H-PTH-80CK CHAMBE， S&A 350B/250B	Temperature:-10℃±2℃ ～65℃±2℃,Humidity:93±3%,1 cycle need 24 hrs. 5cycles.	MIL-STD-883E Method 1005.8
9. HIGH TEM. & HUM. STORAGE TEST	H-PTH-80CK CHAMBE ，S&A350B/250B	temperature:40℃±2，Humidity:85+3,-2%,Store 96 hrs	JIS C6701
10.AGING TEST	H-PTH-80CK CHAMBE ，S&A350B/250	temperature: 85℃±2，720hrs	JIS C5023

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