



7Q Series 2520 TCXO



Approved by:
Checked by:
Issued by:

SPECIFICATION

P/N: 7Q2400000C04GJM

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The design, manufacturing process, and specifications of this device are subject to change without notice.

Page 1 of 5

7Q Series 2520 TCXO

FEATURE

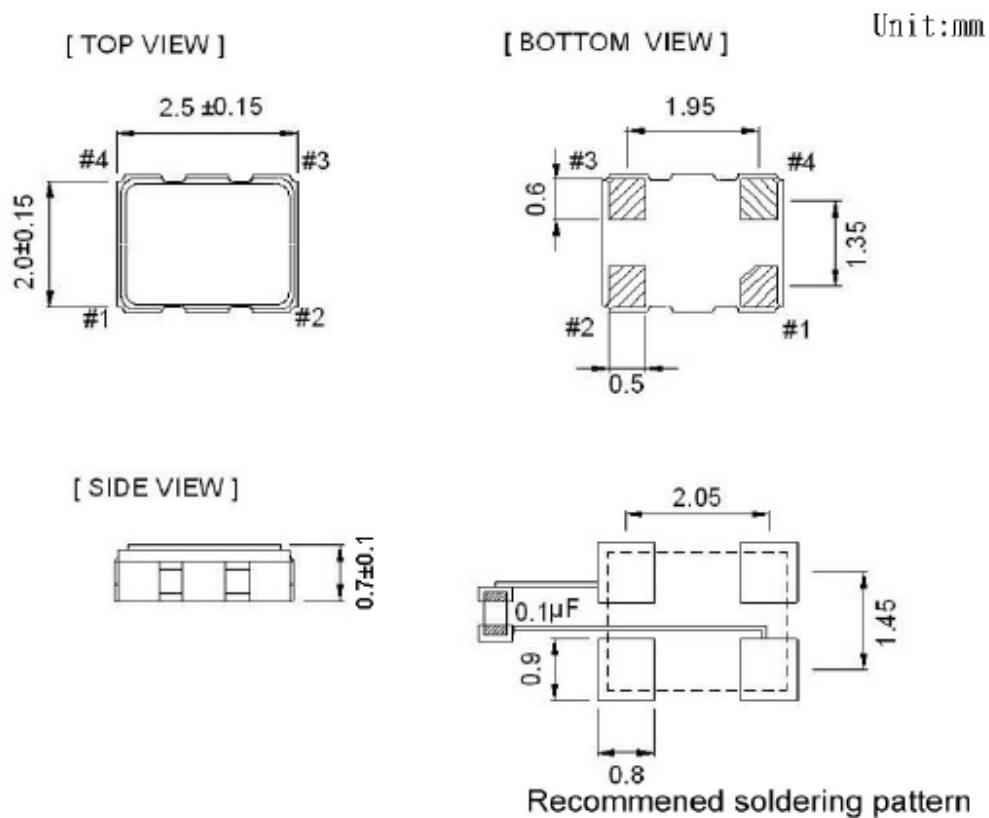
- I Temperature Stability: ± 0.5 ppm $\sim \pm 5$ ppm.
- I Operating Temperature Range: 20 $\sim$ 70 $^{\circ}$ C.- 30 $\sim$ 85 $^{\circ}$ C. - 40 $\sim$ 85 $^{\circ}$ C.
- I Supply Voltage: 1.8 V $\sim$ 3.3 V.
- I Voltage Control Function Available.
- I Applications: GPS, WiMAX, Cellular and Wireless Communications.
- I RoHS Compliant / Pb Free.

ELECTRICAL SPECIFICATIONS

Item	Parameters		Condition	Electrical Specifications				Note
				MIN	TYP	MAX	UNITS	
1	Nominal Frequency			24.000000				MHz
2	Operating Temperature Range			-40	-	+85	$^{\circ}$ C	
3	Supply Voltage			1.7	1.8	3.30	V	
4	Current Drain			-	-	1.5	mA	
5	Output Level			0.8		-	Vp-p	
6	Output Type			Clipped Sinewave				
7	Output Load		Resistance	9	10	11	k Ω	
8			Capacitance	9	10	11	pF	
9	Frequency Tolerance		After 2 times reflow	-	-	± 1.0	ppm	
10	Frequency Stability	vs. Temperature	Temp: -20 $\sim$ +70 $^{\circ}$ C	-	-	± 0.5	ppm	
11		vs. Load	Load: 10 k Ω // 10 pF $\pm 10\%$	-	-	± 0.2	ppm	
12		vs. Supply Voltage	Vcc: 3.3V $\pm 5\%$	-	-	± 0.1	ppm	
13	Storage Temperature			-40	-	+85	$^{\circ}$ C	
14	Start-up Time	vs. Frequency	Within ± 0.5 ppm	-	-	2.5	ms	
15		vs. Output Level	To 90% of Vp-p	-	-	2.5	ms	
16	Duty Cycle			40	50	60	%	
17	Aging		1 st year	-	-	± 1.0	ppm/year	
18	Phase Noise	@ 1 kHz offset		-	-	-50	dBc/Hz	

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DIMENSIONS

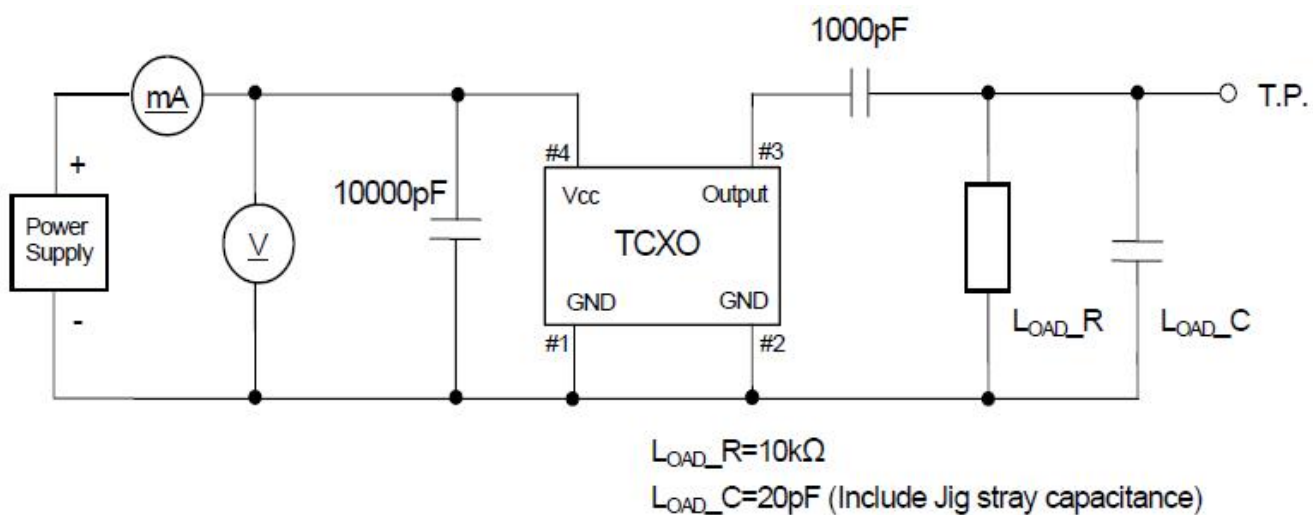


PIN FUNCTIONS

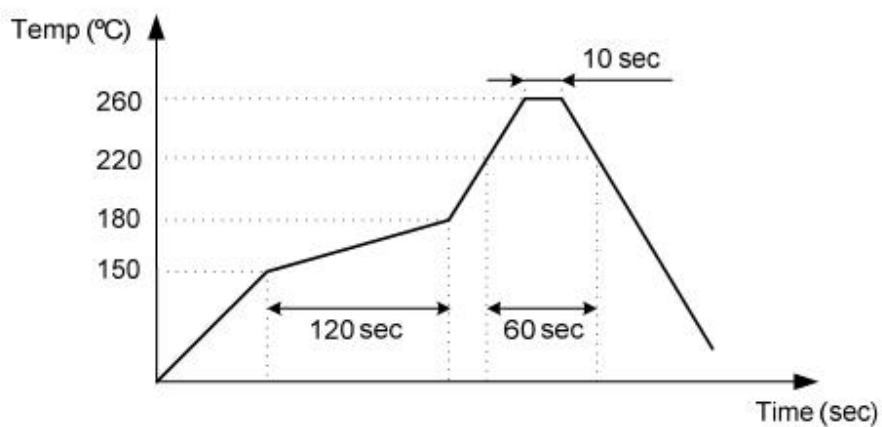
Pin	Function
#1	GND / NC
#2	GND
#3	Output
#4	V _{DD}

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Measurement Circuit



Reflow Profile



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



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RELIABILITY TEST SPECIFICATION

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	SJK-REL001、RC-328A	1.solderability: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