3V Series 3.2 x 2.5 mm SMD Crystal Oscillator

3 : 3.2×2.5×0.95 mm | SMD3225-4P V : VCXO Crystal Oscillator

Feature

- Ceramic surface mount with Metal Lid
- Wide Absolute pulling range:±50ppm min.
- CMOS compatible logic levels
- RoHS Compliant / Pb Free



Applications

- Networking, SONET/SDH
- Direct Digital Synthesis (DDS)
- DSL/ADSL
- Base Terminal Stations

Electrical Specifications

Item	Symb.	Min.	Typ.	Max.	Unit	Notes
Frequency Range	Freq.	2.048		54.000	MHz	
Operating Temperature	T_use	-20		+70	°C	
		-40		+85	°C	
StorageTemperature Range	T_stg	-55		+125	°C	
Supply Voltage	Vdd	2.97	3.3	3.63	V	
Output Load	L_CMOS		15		pF	
Current Consumption	Icc			10	mA	2.4MHz ⩽ Freq. ＜ 36MHz
				15		36MHz ⩽ Freq. ＜ 54MHz
Absolute Pull Range	APR	±50			ppm	
Center Voltage	Vcont		1.65		V	
Control Voltage Range	Vc	0.3		3.0	V	
Linearity	L			10	%	
Modulation Band Width	MBW	15			KHz	
VC Input Impedance	Rin	5			MΩ	
Duty Cycle	SYM	45		55	%	50 % Vdd level, L_CMOS ⩽ 15 pF
High output voltage	V_{OH}	0.9Vdd			V	
Low output voltage	V_{OL}			0.1Vdd	V	
Rise / Fall Time	T_R / T_F			5	nS	10% Vdd to 90% Level
Start-up Time	T_str			2	mS	To 90% of Final Amplitude
Aging	f_age			3	ppm	1st. Year at 25°C

Frequency Stability & Operating Temperature Range

Temp. \ FT	±25ppm	±50ppm
-20°C to +70°C	★	★
-40°C to +85°C	△	★

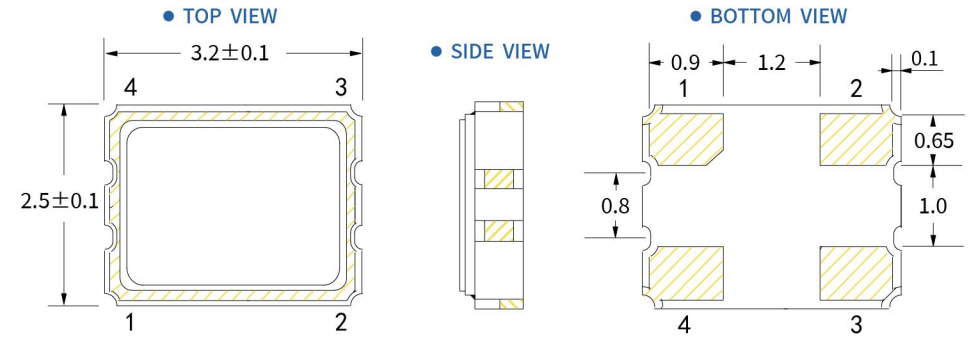
★: Available △: Conditional

All condition: Include 25°C tolerance, operating temperature range , input voltage change, aging, load change.

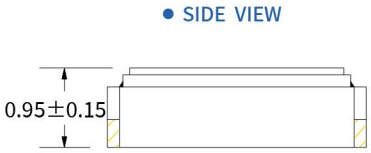
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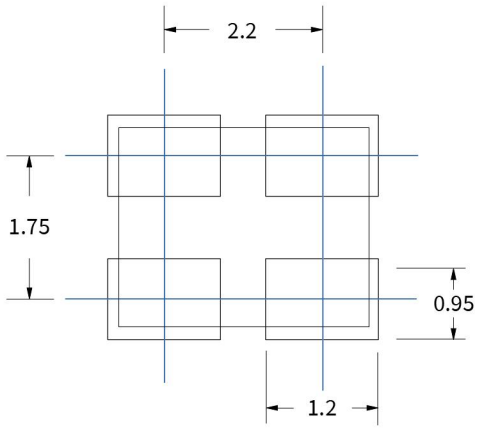
Dimensions (UNIT:mm)



Pin	Function
1	Vcon
2	GND
3	Output
4	Vdd



Solder pad layout (UNIT:mm)



Options and Part Identification : Example SX3V10.000B20050F30TNN

Company	Ceramic Package	Frequency Code [MHz]	Supply Voltage	Frequency Tolerance	Pullability	Operating Temperature	Frequency Drift	Output Symetry	Output Level	Phase Noise	PAD
SX	3V	X.XXX	B	20	050	F	30	T	N	N	

Code	Company
SX	SCTF

Frequency
10.000

Code	Frequency Tolerance
10	±10ppm
20	±20ppm

Code	Pullability
050	±50ppm
070	±70ppm
085	±85ppm
100	±100ppm

Code	Operating Temperature
E	-20°C ~ +70°C
F	-40°C ~ +85°C

Code	Frequency Drift
15	±15ppm
20	±20ppm
30	±30ppm

Code	Output Symetry
T	Squarewave

Code	Output Level
N	CMOS

Code	Phase Noise
N	Standard

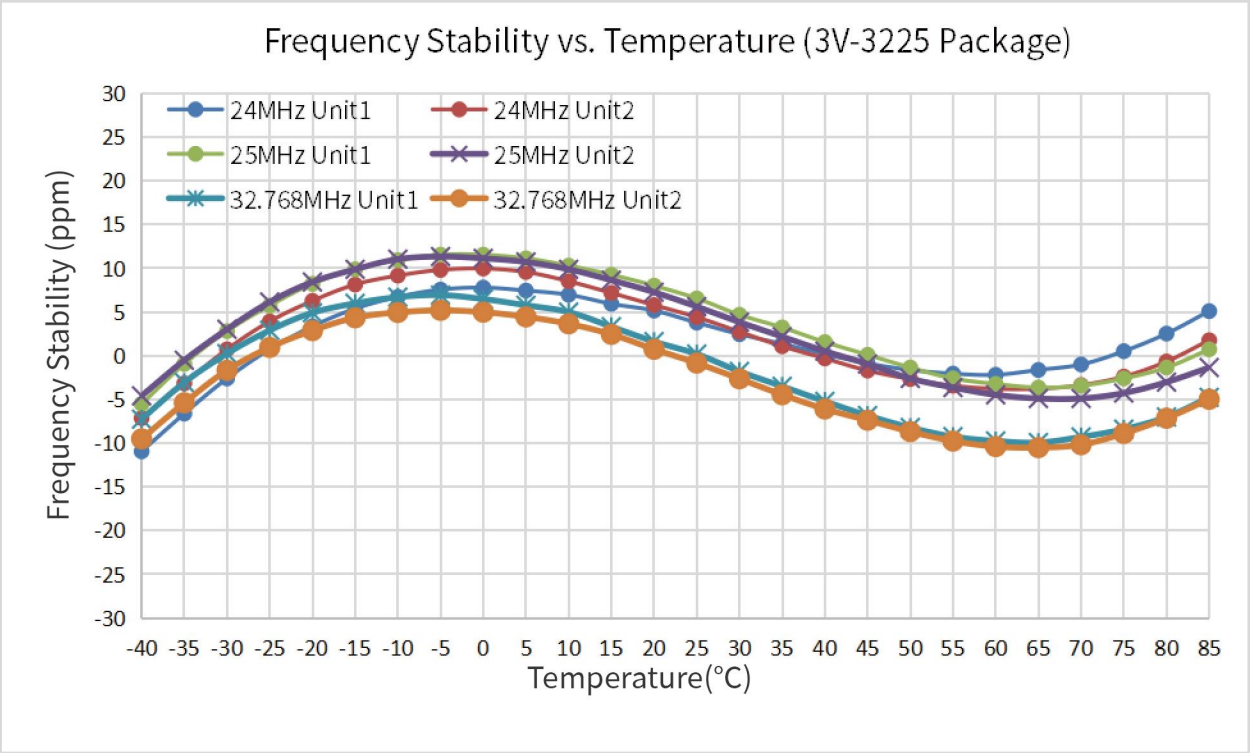
Code	PAD
Blank	4PAD
S	6PAD

Code	Ceramic Package
7V	7.0×5.0×1.3mm
5V	5.0×3.2×1.2mm
3V	3.2×2.5×0.95mm

Code	Voltage
B	3.3V

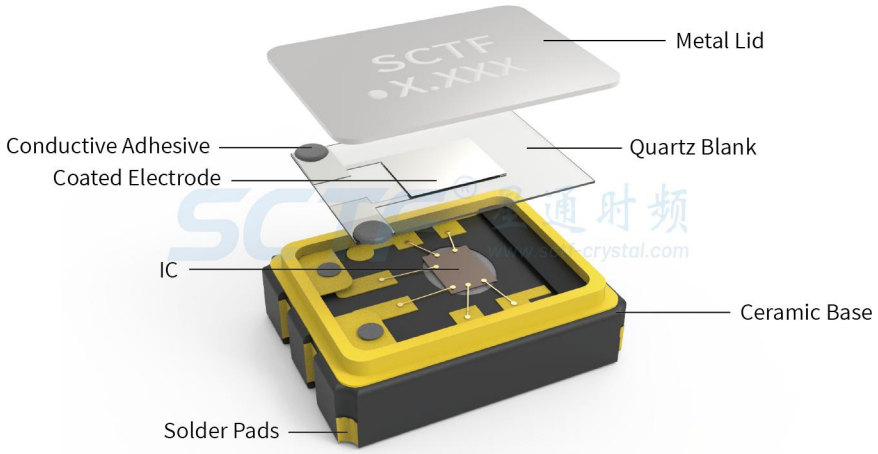
If you have other parameter requirements, you can contact **SCTF** at any time.

Frequency Temperature Characteristics

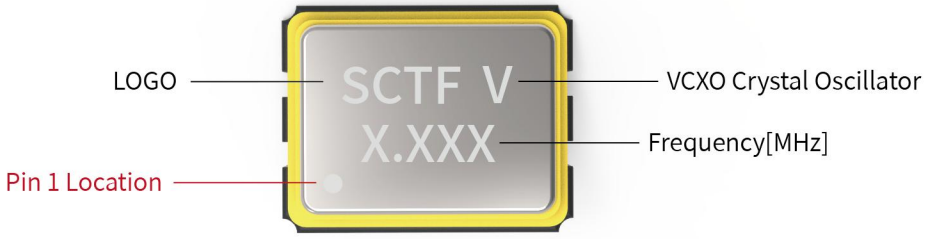


Product Structure&Marking Information

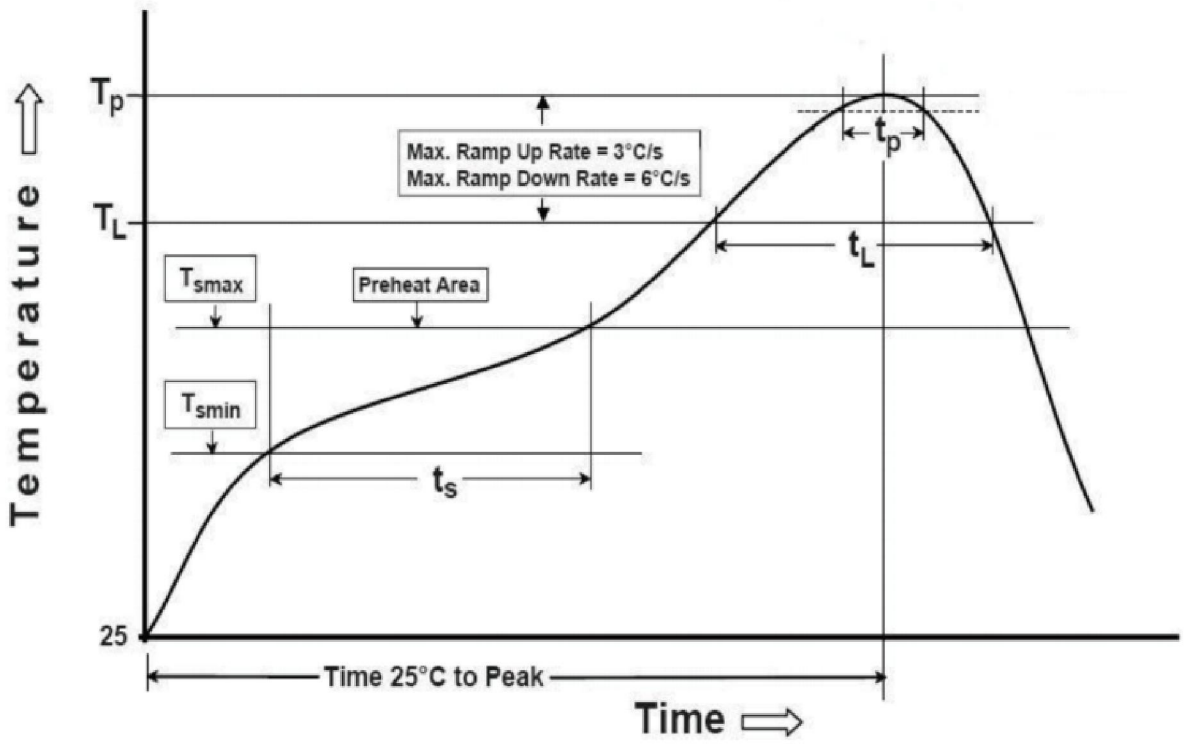
- Product Structure



- Marking Information

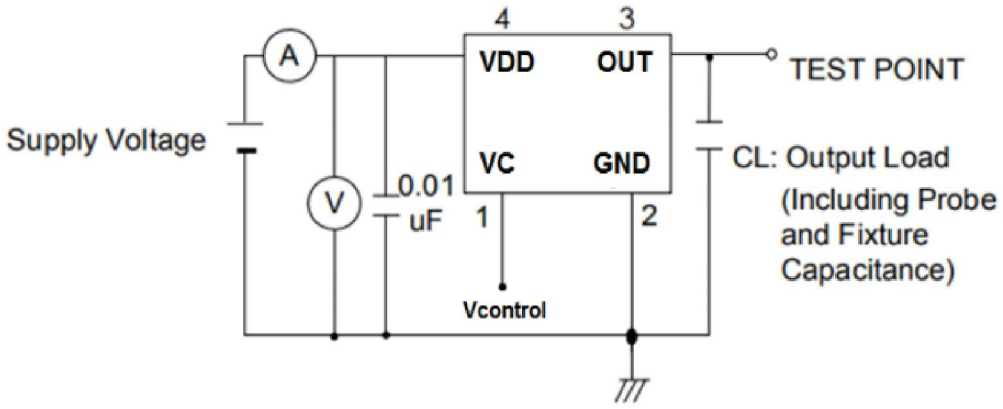


Suggested Reflow Profile



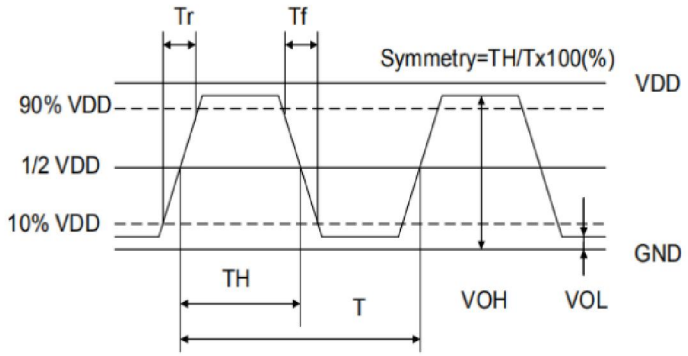
Profile Feature	Sn - Pb Eutectic Assembly	Preheat / Soak
Preheat / Soak ● Temperature Min (Ts min) ● Temperature Max (Ts max) ● Time (Ts min to Ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-120 seconds
Ramp - up rate (TL to Tp)	3°C/ second max.	3°C/ second max.
Time maintained above ● Liquidous temperature (TL) ● Time (tL) maintained above TL	183°C 60-150 seconds	217°C 60-150 seconds
Peak package body temperature (Tp)	235°C	260°C
Time within 5° C of the specified classification temperature (Tp)	20 seconds	30 seconds
Ramp - down rate (Tp to TL)	6°C/ second max.	6°C/ second max.
Time 25° C to peak temperature	6 minutes max.	8 minutes max.
Suggust reflow times	**2 Times max.**	

Testing Circuit



※ Notes: Test point load should include stray and probe capacitance.

Waveform Conditions

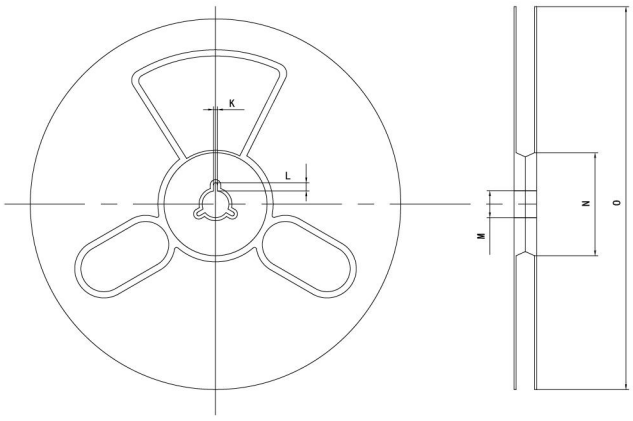


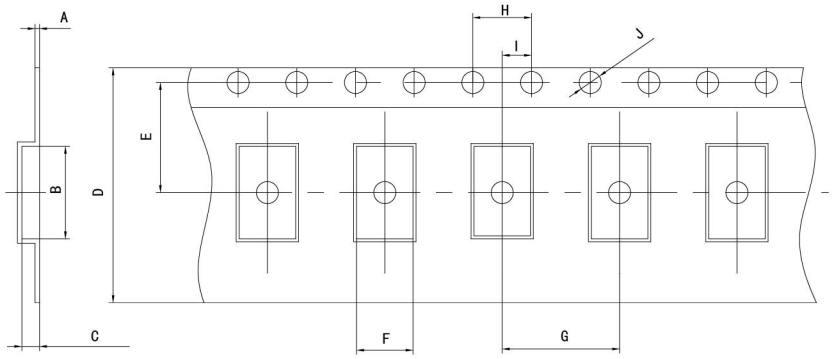
Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.

Packaging Information

T=Tape and reel (3,000pcs/reel)







Pocket Tape Dimensions(mm)

Series	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
3V	0.25±0.05	3.5±0.1	1.4±0.1	8.0±0.1	3.5±0.1	2.70±0.1	4.0±0.1	4.0±0.1	2.0±0.1	ϕ1.5±0.1	2.0±0.2	4.0±1.0	ϕ13±0.5	ϕ60±1	ϕ180±1

Common Frequencies – MHz

3V Series				
2.048	4.000	4.096	4.9152	6.000
7.3728	7.680	8.000	8.192	10.000
11.0592	11.2896	12.000	12.288	13.000
14.7456	16.000	16.384	18.432	19.200
19.440	20.000	22.5792	24.000	24.576
25.000	26.000	27.000	29.4912	30.000
32.000	32.768	33.000	40.000	45.1584
48.000	49.152	50.000	52.000	54.000