

A5XA Series 5.0 x 3.2 mm SMD Automotive Crystal Resonator

A : Automotive

5 : 5.0×3.2×0.8 mm | SMD5032-2P

X : Crystal Resonator

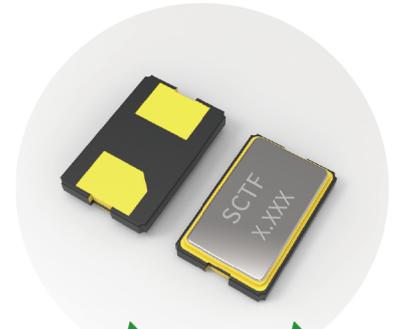
A : Ceramic Seam 2PAD Package

Feature

- AT-cut Crystal Construction
- Miniature Ceramic surface mount with Metal Lid
- High temperature, high precision and reliability Characteristics
- Pb-free and RoHS/Green compliant
- AEC-Q200 Qualified

Applications

- Industrial Control & Automation
- ADAS
- LiDAR (Light Detection and Ranging)
- Power Control & Conversion



Electrical Specifications

Item	Symb.	Min.	Typ.	Max.	Unit	Notes
Frequency Range	Freq.	8.000		50.000	MHz	
Oscillation Mode		Fundamental (AT-cut)				
Frequency Tolerance	$\Delta f/f$			± 10	ppm	at 25°C $\pm 2^\circ\text{C}$
Operating Temperature	T _{use}	-40		85	°C	
		-40		105	°C	
		-40		125	°C	
Storage Temperature Range	T _{sta}	-55		125	°C	
Shunt Capacitance	C ₀			5	pF	
Drive Level	DL		10	300	μW	
Load Capacitance	CL	8		20	pF	
Insulation Resistance	IR			500	M Ω	at DC 100V
Aging	f _{age}			3	ppm	1st. Year at 25°C

Frequency Stability & Operating Temperature Range

Temp. \ FT	$\pm 15\text{ppm}$	$\pm 20\text{ppm}$	$\pm 30\text{ppm}$	$\pm 50\text{ppm}$
-40°C to +85°C	Δ	★	★	★
-40°C to +105°C		Δ	★	★
-40°C to +125°C			Δ	★

★: Available Δ : Conditional

Equivalent Series Resistance

Frequency Range	ESR(Max.)
8MHz \leq Freq. < 10MHz	100 Ω
10MHz \leq Freq. < 16MHz	80 Ω
16MHz \leq Freq. < 20MHz	50 Ω
20MHz \leq Freq. < 24MHz	40 Ω
24MHz \leq Freq. \leq 50MHz	30 Ω

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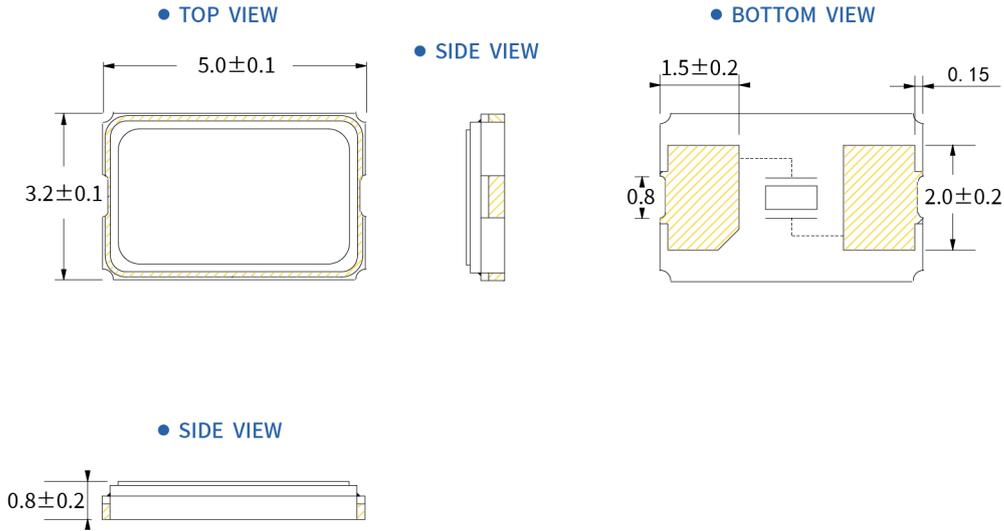
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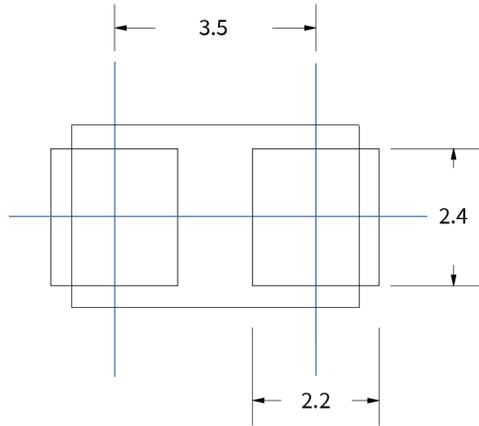
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Dimensions (UNIT:mm)



Solder pad layout (UNIT:mm)



Options and Part Identification : Example SXA5A8.000F1010G30

Company		Ratings	Ceramic Package	Frequency Code [MHz]	Vibration Mode	Load Capacitance	Frequency Tolerance	Operating Temperature	Frequency Drift	
SX		A	5A	X.XXX	F	10	10	G	30	
Code	Company	Code	Ratings	Frequency	Code	Vibration Mode	Code	Frequency Tolerance	Code	Frequency Drift
SX	SCTF	Blank	Standard	8.000	F	AT - Fundamental	10	±10ppm	15	±15ppm
		A	AEC-Q100, AEC-Q200				20	±20ppm	20	±20ppm
		Code	Ceramic Package						30	±30ppm
		0B	1.6 x 1.2 x 0.35mm [4PAD]						50	±50ppm
		1B	2.0 x 1.6 x 0.45mm [4PAD]							
		2B	2.5 x 2.0 x 0.55mm [4PAD]							
		3B	3.2 x 2.5 x 0.7mm [4PAD]							
		5B	5.0 x 3.2 x 0.8mm [4PAD]							
		5A	5.0 x 3.2 x 0.8mm [2PAD]							
		Code	Load Capacitance							
		S	Please specify CL in pF or S for series							
		06	6pF							
		08	8pF							
		10	10pF							
		12	12pF							
		20	20pF							
		Code	Operating Temperature							
		F	-40°C ~ +85°C							
		G	-40°C ~ +105°C							
		M	-40°C ~ +125°C							

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

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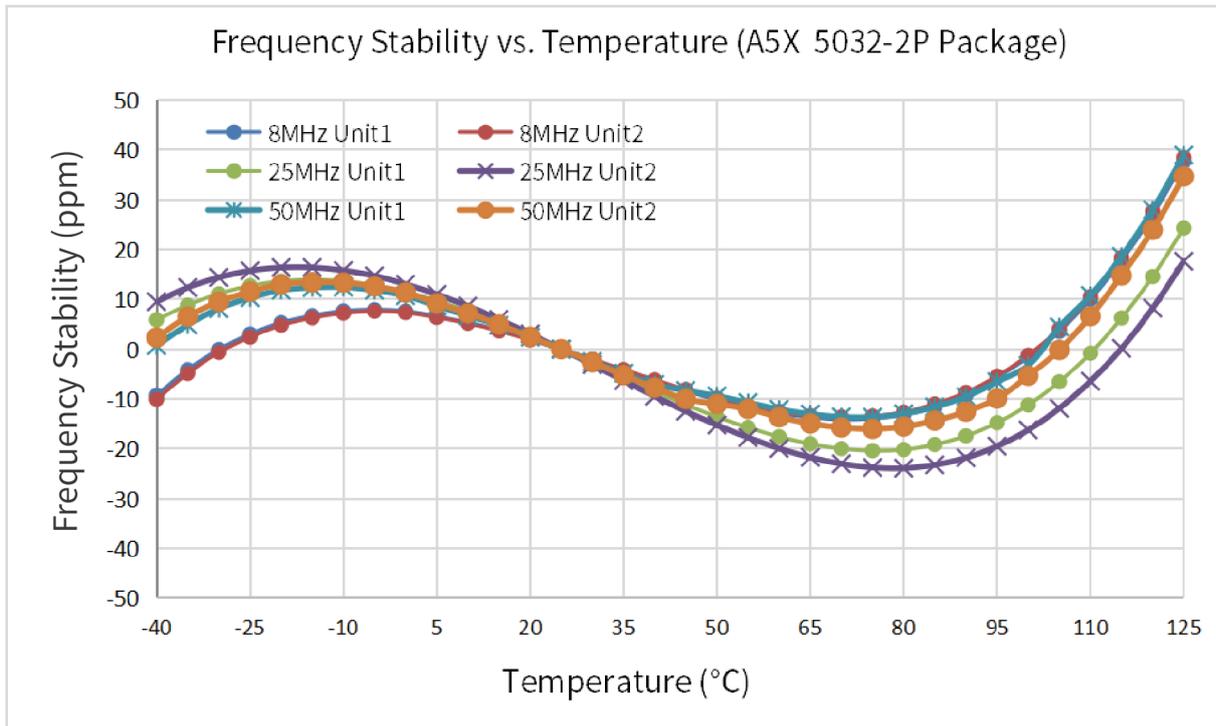
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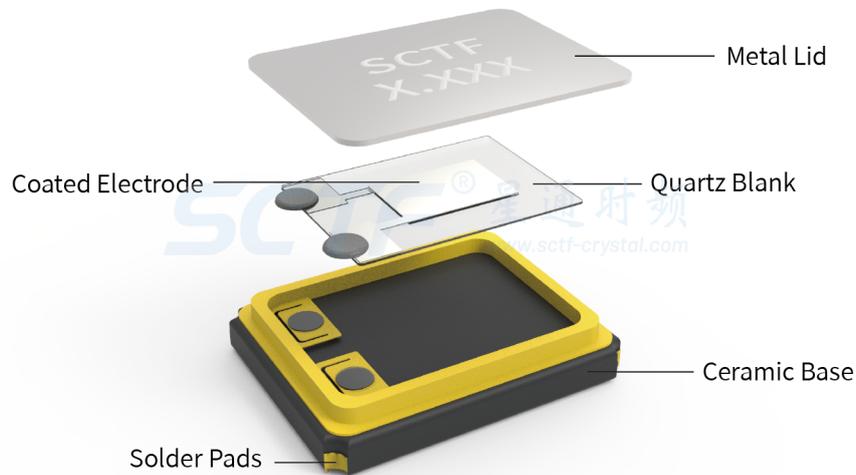
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Frequency Temperature Characteristics

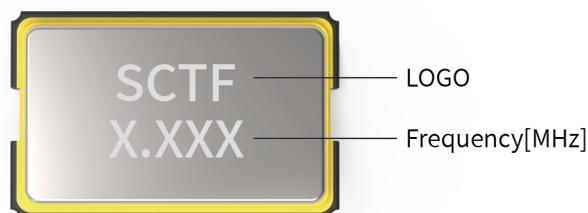


Product Structure & Marking Information

Product Structure



Marking Information



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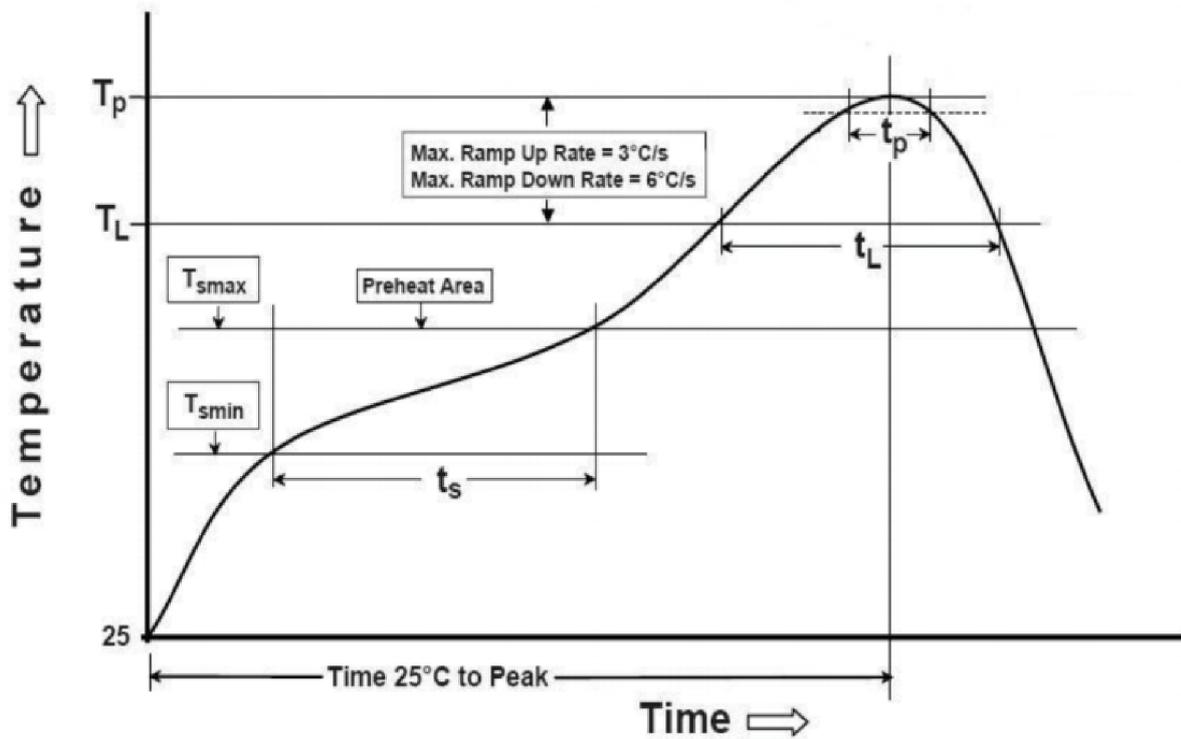
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Suggested Reflow Profile



Profile Feature	Sn - Pb Eutectic Assembly	Preheat / Soak
Preheat / Soak <ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● 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.
Suggest reflow times	2 Times max.	

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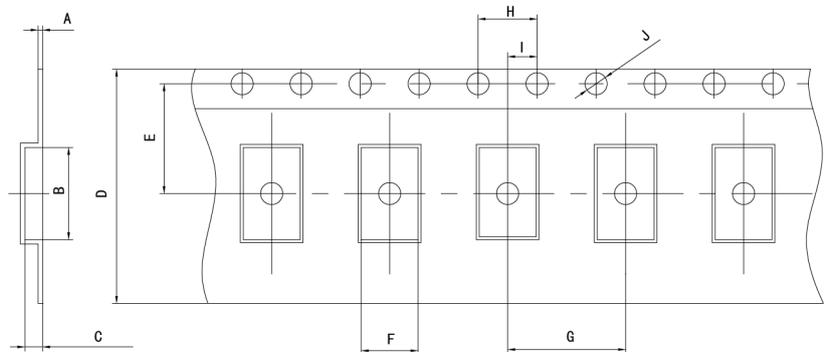
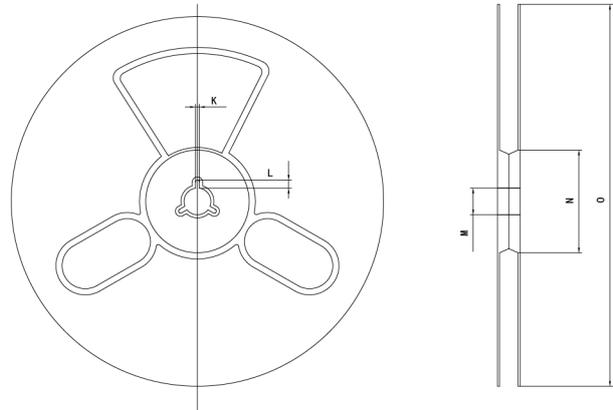
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Packaging Information

T=Tape and reel (1,000pcs/reel)



Pocket Tape Dimensions(mm)

Series	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
A5XA	0.3±0.05	5.4±0.1	1.2±0.1	12±0.3	5.5±0.1	3.6±0.1	8.0±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

A5XA Series				
8.000	8.192	10.000	11.0592	11.2896
12.000	12.288	13.000	13.560	14.31818
14.7456	16.000	16.384	18.432	19.6608
20.000	22.1184	24.000	24.576	25.000
26.000	27.000	27.120	28.63636	30.000
32.000	40.000	48.000	50.000	