

● SPECIFICATIONS

PARAMETER	VALUE
NOMINAL FREQUENCY	16.000 MHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±20 ppm max
FREQUENCY STABILITY OVER TEMPERATURE	±30 ppm max
OPERATING TEMPERATURE RANGE	-40°C to +85°C
STORAGE TEMPERATURE RANGE	-55°C to +125°C
AGING	±2 ppm first year max
LOAD CAPACITANCE	12 pF
EQUIVALENT SERIES RESISTANCE	70 Ω max
SHUNT CAPACITANCE	2 pF max
DRIVE LEVEL	300 μW max
INSULATION RESISTANCE	500 MΩ min @ DC 100V

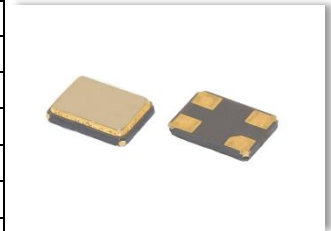
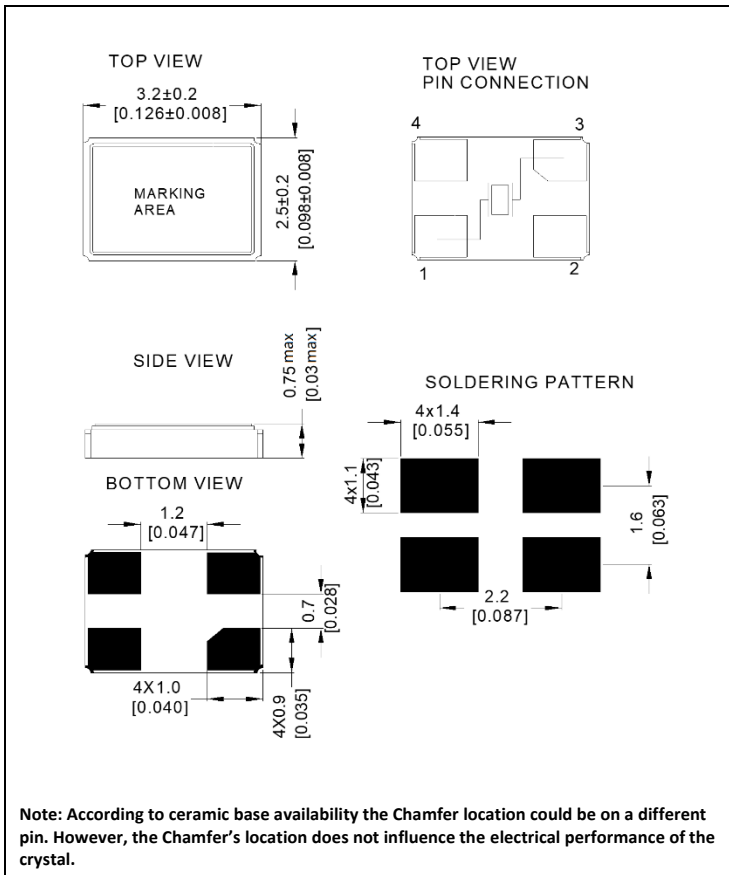
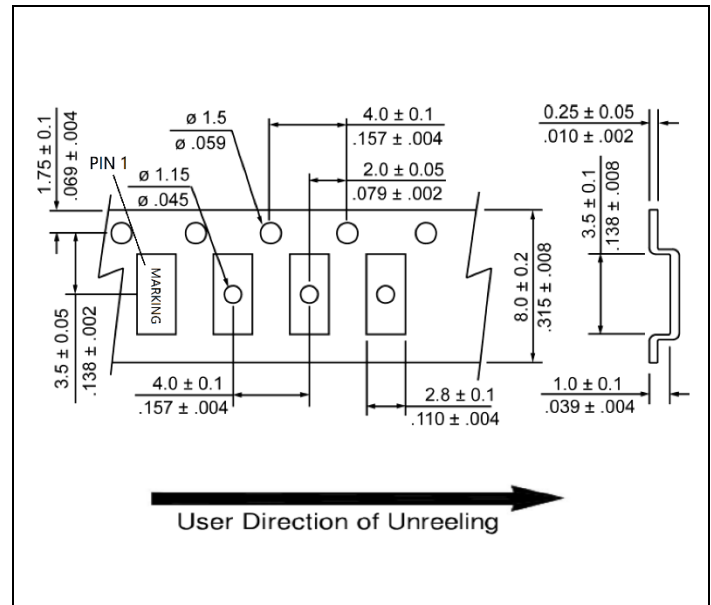


Photo is not actual part

● MECHANICAL SPECIFICATION



● CARRIER TAPE DIMENSIONS



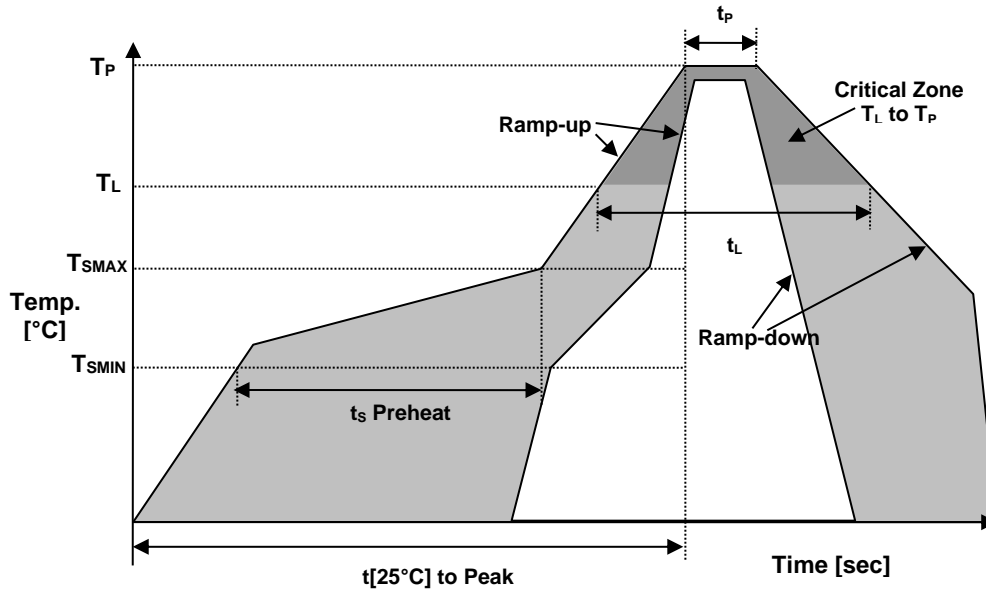
NOTE: REFER TO EIA-481 FOR DIMENSIONS

● PACKAGING

178 mm REEL DIAMETER
8 mm TAPE WIDTH, 4 mm PITCH
QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481

● REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	T_{SMIN}	150°C
Temperature Max Preheat	T_{SMAX}	200°C
Time (T_{SMIN} to T_{SMAX})	t_s	60-180 sec.
Temperature	T_L	217°C
Peak Temperature	T_P	260°C
Ramp-up rate	R_{UP}	3°C/sec max.
Ramp-down rate	R_{DOWN}	6°C/sec max.
Time within 5°C of Peak Temperature	t_p	10 sec.
Time $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak	480 sec.
Time	t_L	60-150 sec.

● ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	Compliant
REACH SVHC	Compliant
HALOGEN-FREE	Compliant
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au



● MARKING

R16.000
xJDyw

x – 1 or 2 Digits as Internal Production ID code
y – Year code
w – Week code

YEAR CODE	
Year	Code
2018	8
2019	9
2020	0
2021	1
2022	2
2023	3
2024	4
2025	5
2026	6
2027	7
2028	8
2029	9

ALPHA WEEK CODE TABLE					
Week	Code	Week	Code	Week	Code
1	a	19	s	37	K
2	b	20	t	38	L
3	c	21	u	39	M
4	d	22	v	40	N
5	e	23	w	41	O
6	f	24	x	42	P
7	g	25	y	43	Q
8	h	26	z	44	R
9	i	27	A	45	S
10	j	28	B	46	T
11	k	29	C	47	U
12	l	30	D	48	V
13	m	31	E	49	W
14	n	32	F	50	X
15	o	33	G	51	Y
16	p	34	H	52	Z
17	q	35	I		
18	r	36	J		

● APPROVAL

DRAWN BY	AR, September 27, 2022
APPROVED BY	CP, September 27, 2022
REVISION	A, Initial Release B, Updated C0, drawing and marking by XLIU, March 14, 2024

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■ RELIABILITY SPECIFICATIONS

Test Item	Test Methods/Conditions	Test Criteria	Reference
Drop Test	50cm for 2 times on hardWood.	Δ Freq. $\leq \pm 10$ ppm, Δ ESR $\leq \pm 3\Omega$ or 20% Good hermetically	IEC68-2-32 Free Fall All Frequency tests adopt series mode
Vibration	Frequency: 20 to 2000 Hz to 20Hz, 20g Amplitude: 1.5 mm Direction: X, Y, Z Duration: 2.0 hours in each direction	Δ Freq. $\leq \pm 10$ ppm, Δ ESR $\leq \pm 3\Omega$ or 20% Good hermetically	IEC68-2-6 MIL-STD-883H METHOD 2007.3 Condition A All Frequency tests adopt series mode
Solderability	Temperature: $260 \pm 5^\circ\text{C}$ Time: 10 ± 1 second	Pinhole, void and porosity, where the area must less than 5% Good hermetically	GB/T12273.1-4.8.3.2 All Frequency test adopt series mode
Aging	100°C for 168 hours	Δ Freq. $\leq \pm 10$ ppm, Δ ESR $\leq \pm 3\Omega$ or 20% Good hermetically	IEC 60068-2-2 (GB/T2423.2-2008) MIL-STD-883H Method 1008.2 All Frequency tests adopt series mode
Fine Leak	Helium Bombing: 0.4~0.5MPa Time: 1 hour	Helium Bombing: 0.4~0.5MPa Time: 1 hour	MIL-STD-883H METHOD 1014.13 All Frequency tests adopt series mode
High Temp Storage	Temperature: $85^\circ\text{C} \pm 5^\circ\text{C}$ Time 96 hours	Δ Freq. $\leq \pm 10$ ppm, Δ ESR $\leq \pm 3\Omega$ or 20% Good hermetically	IEC 60068-2-2 (GB/T2423.2-2008) All Frequency tests adopt series mode
Temperature Cycle	$25^\circ\text{C} \pm 3^\circ\text{C}$ for 10 minutes $-40^\circ\text{C} \pm 3^\circ\text{C}$ for 10 minutes $25^\circ\text{C} \pm 3^\circ\text{C}$ for 10 minutes $125^\circ\text{C} \pm 3^\circ\text{C}$ for 10 minutes 20 cycles	Δ Freq. $\leq \pm 10$ ppm, Δ ESR $\leq \pm 3\Omega$ or 20% Good hermetically	MIL-STD-883H METHOD 1010.8 All Frequency tests adopt series mode

RH100-16.000-12-2030-EXT-TR

Resistance to Soldering Heat	Temperature: 235°C ±5°C Time: 2 ±0.2 second	ΔFreq. ≤±10ppm, ΔESR ≤±3Ω or 20% Good hermetically	GB/T12273.1 -4.8.3.1 All Frequency tests adopt series mode
Humidity	Temperature: 40°C ±2°C Relative Humidity: 90%~95% Time: 96 hours	ΔFreq. ≤±10ppm, ΔESR ≤±3Ω or 20% Good hermetically	IEC 60068-2-3 Damp Heat (GB/T2423.3-2006) All Frequency tests adopt series mode
Thermal Shock	-40°C ±3°C to 100°C ±3°C, soak 15 minutes at each point, transfer time within 15 seconds, 20 cycles	ΔFreq. ≤±10ppm, ΔESR ≤±3Ω or 20% Good hermetically	IEC 60068-2-14 (GB/T 2423.22 -2002) MIL-STD-883H METHOD 1011.9 All Frequency tests adopt series mode
Low Temp Storage	-40°C ±3°C for 96 hours	ΔFreq. ≤±10ppm, ΔESR ≤±3Ω or 20% Good hermetically	IEC68-2-1 (GB/T2423.1-2008) All Frequency tests adopt series mode
IR Reflow	Pre-Heating:150°C to 200°C, 60-120 seconds Heating:217°C, 60 to 150 seconds Peak temp: 260°C ±5°C, 20 ±5 seconds	ΔFreq. ≤±10ppm, ΔESR ≤±3Ω or 20% Good hermetically	JEDEC J-STD-020C All Frequency tests adopt series mode
Salt Spray	35+/-2°C, 5% salt spray for 24 hours	No corrosion	MIL-STD-883H Method 1009.8 Condition A All Frequency tests adopt series mode