

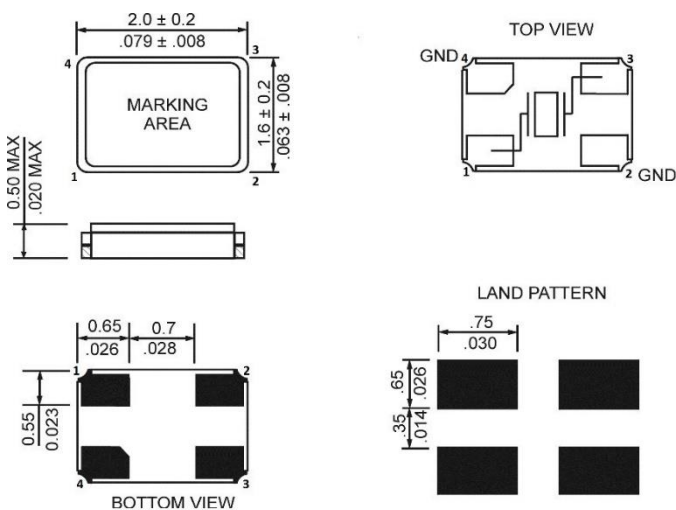
SPECIFICATIONS

PARAMETER	VALUE
NOMINAL FREQUENCY	48.000 MHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±10 ppm max
FREQUENCY STABILITY OVER TEMPERATURE	±20 ppm max
OPERATING TEMPERATURE RANGE	-20°C to +70°C
STORAGE TEMPERATURE RANGE	-40°C to +90°C
AGING	±2 ppm first year max
LOAD CAPACITANCE	7 pF
EQUIVALENT SERIES RESISTANCE	40 Ω max ↩
SHUNT CAPACITANCE	3.5 pF max
DRIVE LEVEL	100 μW max
REFLOW CONDITIONS	260°C for 10s max



Photo is not actual part

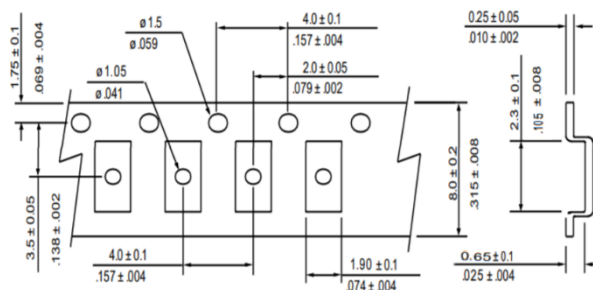
MECHANICAL SPECIFICATION



Tolerance: ±0.1mm/0.004" if nothing else specified

Note: According to ceramic base availability the Chamfer location could be on a different pin. However, the Chamfer's location does not influence the electrical performance of the crystal.

CARRIER TAPE DIMENSIONS



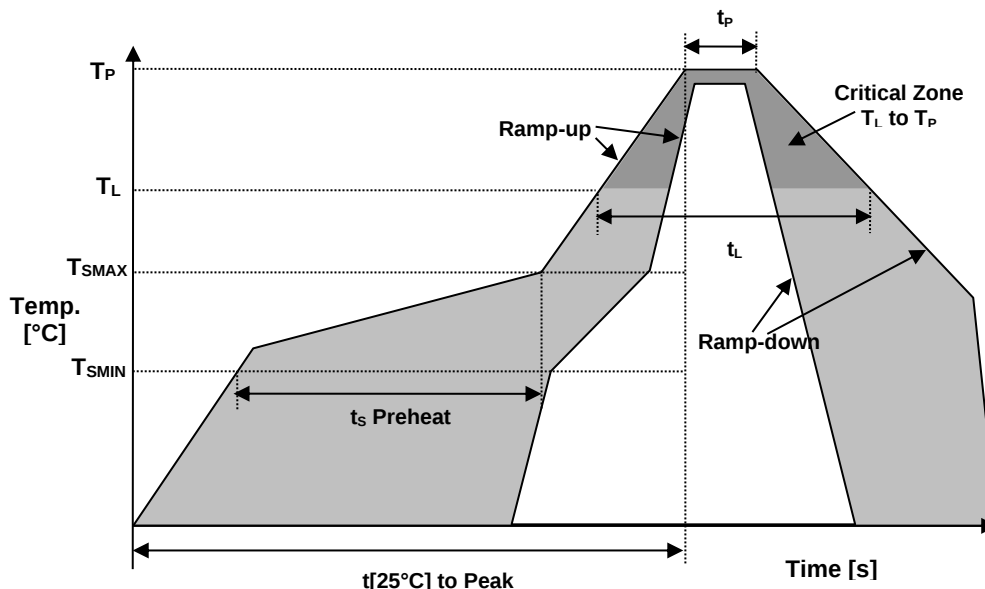
NOTE: REFER TO EIA-481 FOR DIMENSIONS

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/s max
Ramp-down rate	R_{DOWN}	6°C/s 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

R480
x7yw

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:	KJ, March 21, 2024
APPROVED BY:	JI, March 21, 2024
REVISION:	A, Initial Release

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