

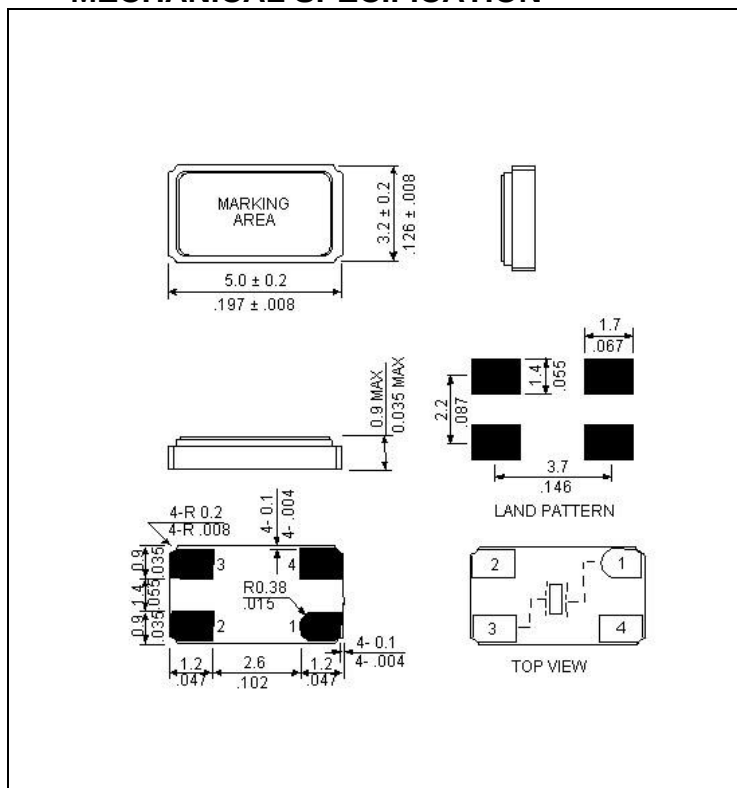
● SPECIFICATIONS

PARAMETER	VALUE
NOMINAL FREQUENCY	20.000 MHz
MODE OF OSCILLATION	FUNDAMENTAL
FREQUENCY TOLERANCE AT 25°C	±20 PPM MAXIMUM
FREQUENCY STABILITY OVER TEMPERATURE	±50 PPM MAXIMUM
OPERATING TEMPERATURE RANGE	-40°C TO +85°C
STORAGE TEMPERATURE RANGE	-40°C TO +85°C
AGING	±2 PPM PER YEAR MAXIMUM
LOAD CAPACITANCE	20 pF
EQUIVALENT SERIES RESISTANCE	40 Ω MAXIMUM
SHUNT CAPACITANCE	5 pF MAXIMUM
DRIVE LEVEL	500 μW MAXIMUM

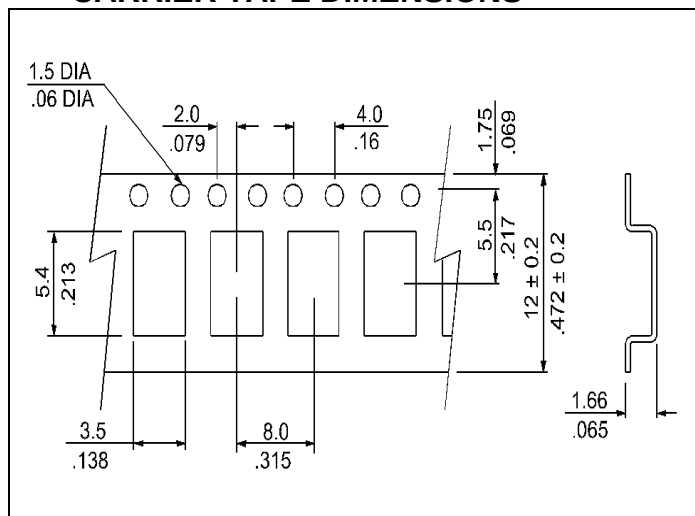


Photo is not actual part

● MECHANICAL SPECIFICATION



● CARRIER TAPE DIMENSIONS

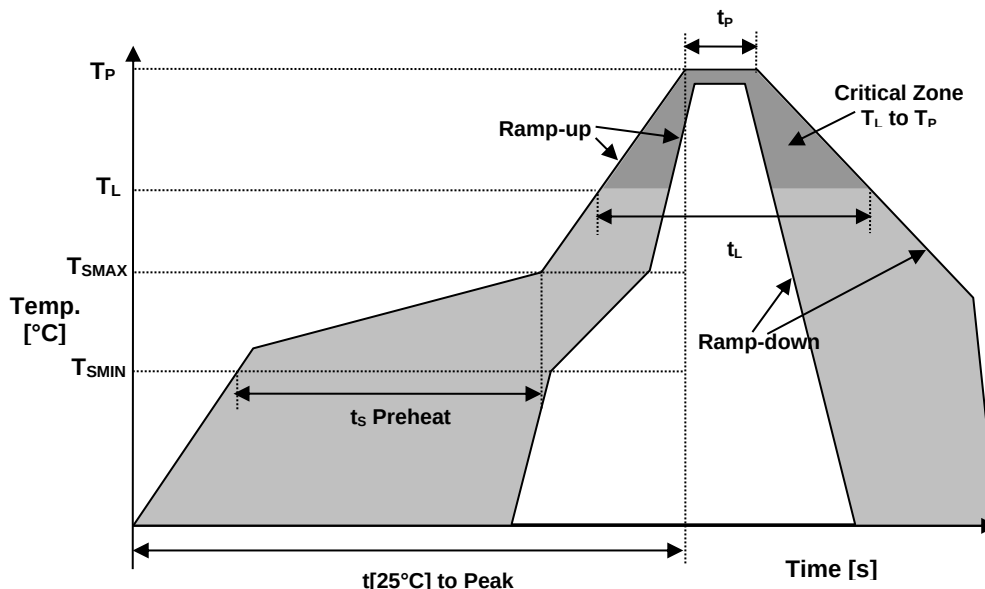


NOTE: REFER TO EIA-481 FOR DIMENSIONS

● PACKAGING

178 mm REEL DIAMETER
12 mm TAPE WIDTH, 8 mm PITCH
QUANTITY: 3000 PIECES PER REEL
IN ACCORDANCE WITH EIA-481

REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	T_{SMIN}	125°C
Temperature Max Preheat	T_{SMAX}	150°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-2	6/6 COMPLIANT & LEAD FREE
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au





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SURFACE MOUNT MICROPROCESSOR CRYSTAL

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H130B-20.000-20-2050-EXT-TR

● MARKING

R20.000

xxADyw

x – Internal Production ID code

y – Year code

w – Week code

YEAR CODE	
Year	Code
2011	1
2012	2
2013	3
2014	4
2015	5
2016	6
2017	7
2018	8
2019	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

RALTRON	
DRAWN BY:	KJackson, Sept. 22, 2016
APPROVED BY:	KJackson, Sept. 22, 2016
REVISION:	A, Initial Release
	Specs updated to current levels KJ 9/22/16

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