

# R1612-48.000-8-F-2020-EXT-TR-NS1

# **SPECIFICATIONS**

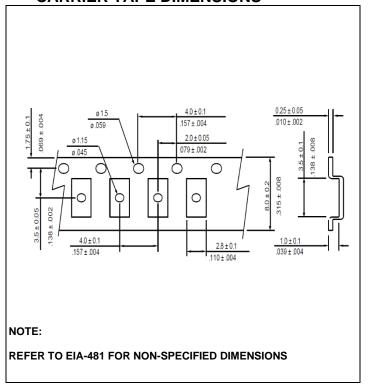
PARAMETER	VALUE
NOMINAL FREQUENCY	48.000 MHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±20 ppm max
FREQUENCY STABILITY OVER TEMPERATURE	±20 ppm max
OPERATING TEMPERATURE RANGE	-40°C to +85°C
STORAGE TEMPERATURE RANGE	-40°C to +85°C
AGING	±2 ppm first year max
LOAD CAPACITANCE	8 pF
EQUIVALENT SERIES RESISTANCE	80 ohms max ←
SHUNT CAPACITANCE	3.5 pF max
DRIVE LEVEL	50 μW max
REFLOW CONDITIONS	260°C for 10 sec max



# **MECHANICAL SPECIFICATION**

# 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**



### **PACKAGING**

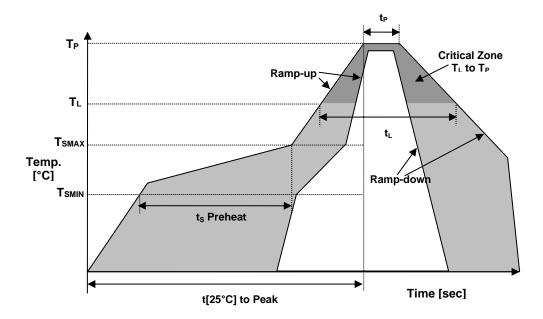
180 mm REEL DIAMETER 8 mm TAPE WIDTH, 4 mm PITCH QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481



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# REFLOW PROFILE



Reflow profile				
Temperature Min Preheat	T <sub>SMIN</sub>	150°C		
Temperature Max Preheat	T <sub>SMAX</sub>	200°C		
Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> )	t <sub>S</sub>	60-180 sec.		
Temperature	TL	217°C		
Peak Temperature	T <sub>P</sub>	260°C		
Ramp-up rate	R <sub>UP</sub>	3°C/sec max.		
Ramp-down rate	R <sub>DOWN</sub>	6°C/sec max.		
Time within 5°C of Peak Temperature	t <sub>P</sub>	10 sec.		
Time t[25°C] to Peak Temperature	t[25°C] to Peak	480 sec.		
Time	tL	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





# R1612-48.000-8-F-2020-EXT-TR-NS1

# MARKING

R480 xx8yw

x – Internal Production ID code

y – Year code

w – Week code

YEAR CODE		
Year	Code	
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	0
6	f	24	x	42	P
7	g	25	у	43	Q
8	h	26	Z	44	R
9	i	27	A	45	S
10	j	28	В	46	T
11	k	29	C	47	U
12	1	30	D	48	V
13	m	31	E	49	W
14	n	32	F	50	X
15	0	33	G	51	Y
16	р	34	Н	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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