

#### AS-12.000-20-SMD-TR

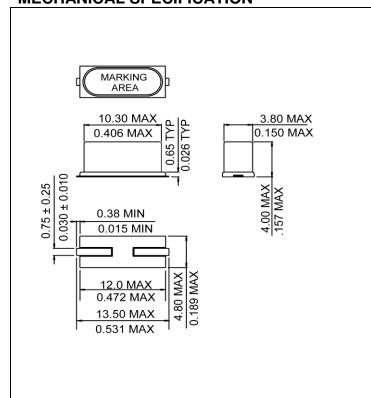
#### **SPECIFICATIONS**

PARAMETER	VALUE
NOMINAL FREQUENCY	12.000 MHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±30 ppm max
FREQUENCY STABILITY OVER TEMPERATURE	±50 ppm max
OPERATING TEMPERATURE RANGE	-20°C to +70°C
STORAGE TEMPERATURE RANGE	-40°C to +90°C
AGING	±5 ppm per year max
LOAD CAPACITANCE	20 pF
EQUIVALENT SERIES RESISTANCE	$50 \Omega \max$
SHUNT CAPACITANCE	5 pF max
DRIVE LEVEL	500 μW max
REFLOW CONDITIONS	260°C ±5°C for 10 sec max

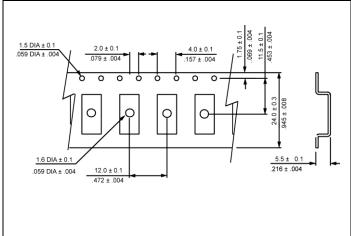


Photo is not actual par

## **MECHANICAL SPECIFICATION**



## **CARRIER TAPE DIMENSIONS**



**NOTE: REFER TO EIA-481 FOR DIMENSIONS** 

#### PACKAGING

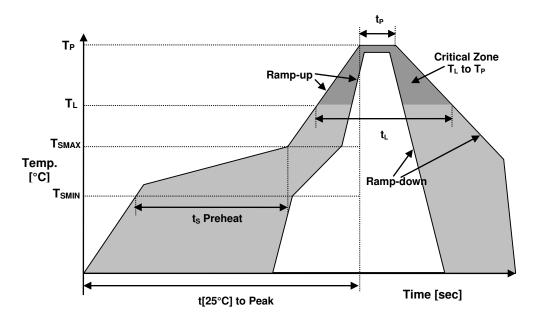
178 mm REEL DIAMETER 24 mm TAPE WIDTH, 12 mm PITCH QUANTITY: 1000 PIECES PER REEL

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	T <sub>L</sub>	217°C	
Peak Temperature	$T_{P}$	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	tı	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	Sn





# LOW PROFILE MICROPROCESSOR CRYSTAL

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#### MARKING

R120xxAyw

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	О
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	С	47	U
12	1	30	D	48	V
13	m	31	Е	49	W
14	n	32	F	50	X
15	О	33	G	51	Y
16	р	34	Н	52	Z
17	q	35	I		
18	r	36	J		

## APPROVAL

DRAWN BY:	KJackson, May 10, 2016
APPROVED BY:	KJackson, May 10, 2016
REVISION:	A, Initial Release
	Updated to current spec levels KJ 1/27/17

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