

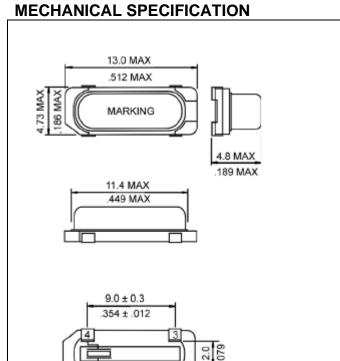
LOW PROFILE MICROPROCESSOR CRYSTAL Page 1 of 3

AS-12.000-20-4PD-TR-NS1

SPECIFICATIONS

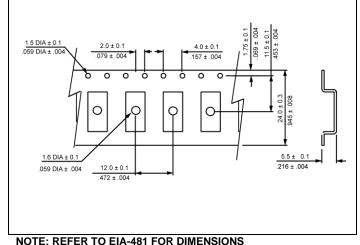
PARAMETER	VALUE	
NOMINAL FREQUENCY	12.000 MHz	
MODE OF OSCILLATION	Fundamental	
FREQUENCY TOLERANCE AT 25°C	±30 ppm max	
FREQUENCY STABILITY OVER TEMPERATURE	±50 ppm max	
OPERATING TEMPERATURE RANGE	-10°C to +60°C	
STORAGE TEMPERATURE RANGE	-55°C to +125°C	
AGING	±5 ppm first year max	
LOAD CAPACITANCE	20 pF	
EQUIVALENT SERIES RESISTANCE	50 Ω max	
SHUNT CAPACITANCE	7 pF max	
DRIVE LEVEL	100 μW typ, 1000 μW max	
REFLOW CONDITIONS	260°C for 10 sec max	





20 4

CARRIER TAPE DIMENSIONS



PACKAGING

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

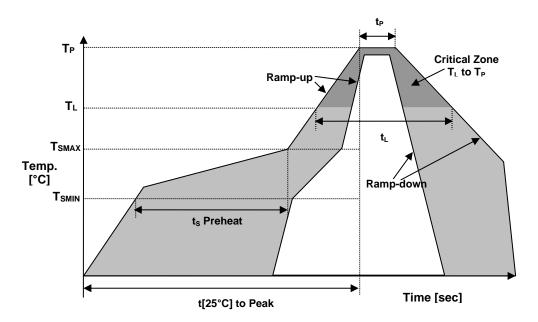
IN ACCORDANCE WITH EIA-481



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• REFLOW PROFILE



Reflow profile			
Temperature Min Preheat	T _{SMIN}	150°C	
Temperature Max Preheat	T _{SMAX}	200°C	
Time (T _{SMIN} to T _{SMAX})	t _S	60-180 sec.	
Temperature	TL	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°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	Sn





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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	а	19	s	37	K
2	b	20	t	38	L
3	с	21	u	39	М
4	d	22	v	40	Ν
5	e	23	w	41	0
6	f	24	х	42	Р
7	g	25	У	43	Q
8	h	26	z	44	R
9	i	27	А	45	S
10	j	28	В	46	Т
11	k	29	С	47	U
12	1	30	D	48	V
13	m	31	E	49	W
14	n	32	F	50	Х
15	0	33	G	51	Y
16	р	34	Н	52	Z
17	q	35	I		
18	r	36	J		

APPROVAL

DRAWN BY:	AR, February 26, 2020
APPROVED BY:	CP, February 26, 2020
ALLKOVED DI.	OF, I EDIUALY 20, 2020
REVISION:	A, Initial Release

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