

SERIES R2016A

FEATURES

- SMALL PACKAGE OF 2.05 x 1.65 x 0.45 mm
- EXCELLENT TOLERANCE AND STABILITY
- CUSTOM SPECIFICATIONS AVAILABLE

APPLICATIONS

- AUTOMOTIVE



SPECIFICATIONS

PARAMETER	VALUE
FREQUENCY RANGE	20.000 MHz TO 65.000 MHz
MODE OF OSCILLATION FUNDAMENTAL	20.000 MHz TO 65.000 MHz
FREQUENCY TOLERANCE AT 25°C	(±15, ±20, ±30, AND ±50 PPM AVAILABLE)
FREQUENCY STABILITY OVER TEMPERATURE	SEE TABLE 2
OPERATING TEMPERATURE RANGE	-20°C TO +70°C STANDARD -40°C TO +85°C EXT -40°C TO +105°C EXT6 -40°C TO +125°C EXT1
STORAGE TEMPERATURE RANGE	-55°C TO +125°C
AGING	±1 PPM PER YEAR
LOAD CAPACITANCE	8 pF to 32 pF OR SERIES
EQUIVALENT SERIES RESISTANCE	SEE TABLE 1
SHUNT CAPACITANCE	3.0 pF MAXIMUM
DRIVE LEVEL	100 µW TYP
SHOCK RESISTANCE	±5 PPM MAXIMUM 75 cm DROP TEST IN 3 AXES ONTO A HARD WOOD SURFACE
REFLOW CONDITIONS	260°C ±5°C FOR 10s MAXIMUM



TABLE 1

FREQUENCY (MHz)	MODE	MAX ESR (OHMS)
20MHz ≤ F0 < 24MHz	FUND	100
24MHz ≤ F0 < 30MHz	FUND	100
30MHz ≤ F0 < 48MHz	FUND	80
48MHz ≤ F0	FUND	80

TABLE 2

Temp Range	±15 PPM	±20 PPM	±30 PPM	±50 PPM
-20 to +70°C	O	O	O	O
-40 to +85°C	O	O	O	O
-40 to +105°C	X	△	O	O
-40 to +125°C	X	△	△	O

Note: O: Available, △: Conditional, X: Not available

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■ PART NUMBERING SYSTEM

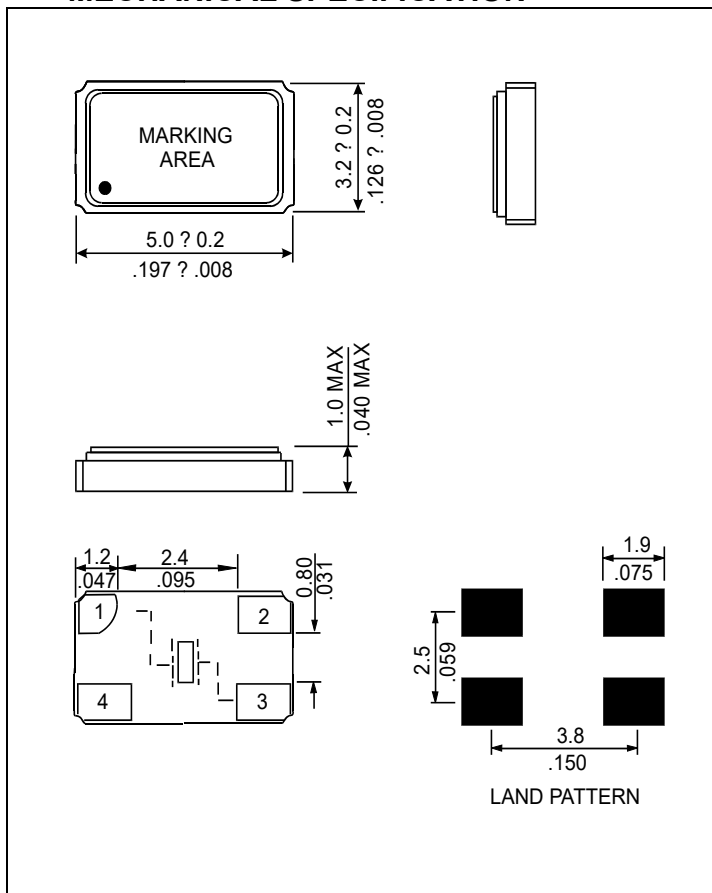
TYPE	FREQUENCY	LOAD CAPACITANCE	MODE	TOLERANCE/STABILITY (PPM/PPM)
R2016A	IN MHz	8 TO 32 pF FOR PARALLEL S FOR SERIES	Blank FOR < 24.576 MHz F FOR ≥ 24.576 MHz	Blank FOR MAXIMUM PPMPPM Example: 3050

EXTENDED TEMPERATURE	TAPE & REEL
Blank FOR STANDARD EXT FOR EXTENDED EXT6 FOR EXTENDED6 EXT1 FOR EXTENDED1	TR

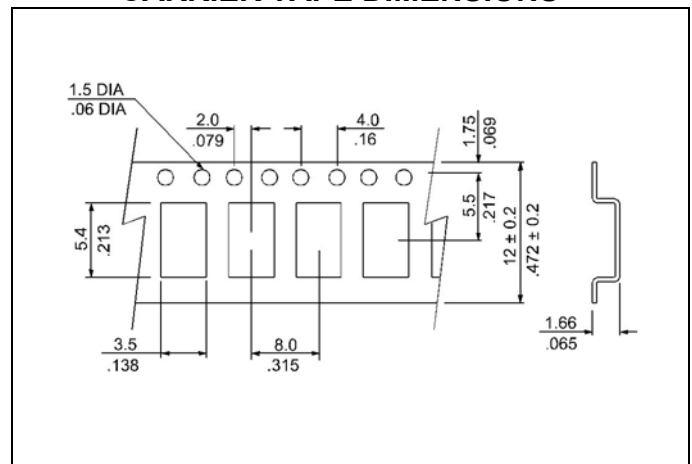
EXAMPLE: R2016A-24.000-18-3050-EXT1-TR

Surface Mount Microprocessor Crystal, Automotive Grade, R2016A package, 24.000 MHz, Fundamental mode, 18 pF load, ±30 ppm Tolerance, ±50 ppm Stability, from -40°C to +125°C, Tape and reel packaging

● MECHANICAL SPECIFICATION



● CARRIER TAPE DIMENSIONS

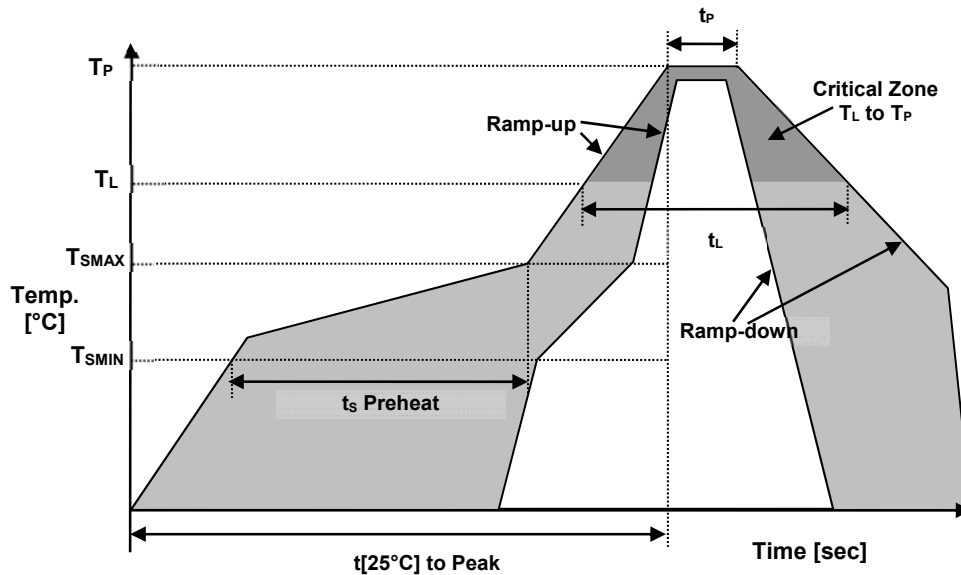


NOTE: REFER TO EIA-481 FOR NON-SPECIFIED DIMENSIONS

● PACKAGING

180 mm REEL DIAMETER
12 mm TAPE WIDTH, 8 mm PITCH
QUANTITY: 1000 PIECES PER REEL
IN ACCORDANCE WITH EIA-481

REFLOW PROFILE



Reflow profile (Reference IPC/JEDEC J-STD-020)		
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/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	t _L	60-150 sec.

● **ENVIRONMENTAL**

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	6/6 COMPLIANT & LEAD FREE
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au
UNIT WEIGHT (GRAMS)	0.048



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