

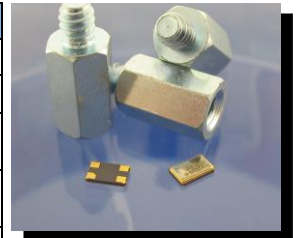
● **FEATURES**

- SMALL PACKAGE OF 4.0 x 2.5 x 0.8 mm
- EXCELLENT TOLERANCE AND STABILITY
- CUSTOM SPECIFICATIONS AVAILABLE



● **SPECIFICATIONS**

PARAMETER		VALUE
FREQUENCY RANGE		12.000 MHz TO 50.000 MHz
MODE OF OSCILLATION	FUNDAMENTAL	12.000 MHz TO 50.000 MHz
FREQUENCY TOLERANCE AT 25°C		±30 PPM MAXIMUM (±10 AND ±20 PPM AVAILABLE)
FREQUENCY STABILITY OVER TEMPERATURE		±30 PPM MAXIMUM (±10 AND ±20 PPM AVAILABLE)
OPERATING TEMPERATURE RANGE		-20°C TO +70°C STANDARD ¹ -40°C TO +85°C EXTENDED ¹
STORAGE TEMPERATURE RANGE		-40°C TO +85°C
AGING		±2 PPM PER YEAR MAXIMUM
LOAD CAPACITANCE		8 pF to 32 pF OR SERIES
EQUIVALENT SERIES RESISTANCE		SEE TABLE 1
SHUNT CAPACITANCE		7.0 pF MAXIMUM
DRIVE LEVEL		100 µW TYP, 500 µW MAX
SHOCK RESISTANCE		±5 PPM MAXIMUM 75 cm DROP TEST IN 3 AXES ONTO A HARD SURFACE
REFLOW CONDITIONS		260°C ±5°C FOR 10s MAXIMUM



¹ NOTE: NOT ALL STABILITIES ARE AVAILABLE FOR ALL OPERATING TEMPERATURE RANGES. CONTACT FACTORY FOR AVAILABILITY.

TABLE 1

FREQUENCY (MHz)	MODE	MAX ESR (OHMS)
12.000 TO 15.999	FUND	90
16.000 TO 25.999	FUND	80
26.000 TO 31.999	FUND	60
32.000 TO 50.000	FUND	50

■ **PART NUMBERING SYSTEM**

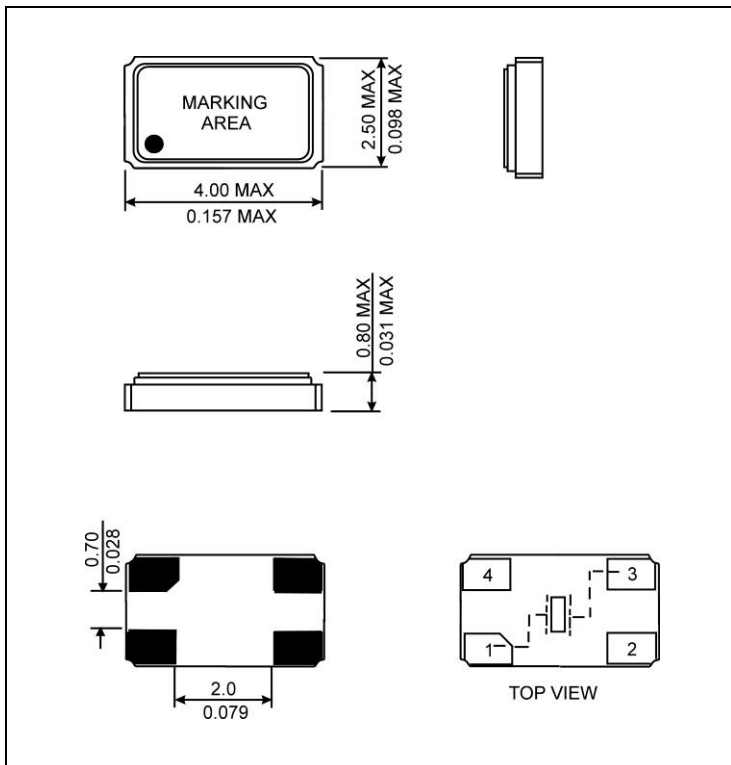
TYPE	FREQUENCY	LOAD CAPACITANCE	MODE	TOLERANCE/STABILITY (PPM/PPM)
H120B	IN MHZ	8 TO 32 pF FOR PARALLEL S FOR SERIES	Blank FOR < 24.576 MHz F FOR ≥ 24.576 MHz	Blank FOR MAXIMUM PPM/PPM Example: 1020, 2050

EXTENDED TEMPERATURE	TAPE & REEL
Blank FOR STANDARD EXT FOR EXTENDED	TR

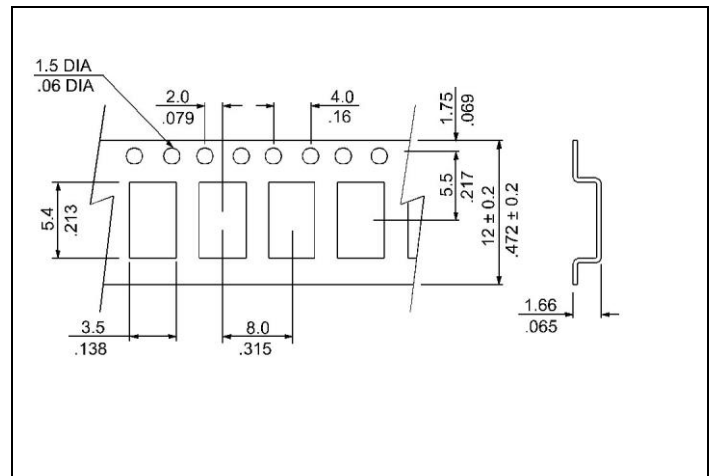
EXAMPLE: H120B-24.000-18-TR

Surface Mount Microprocessor Crystal, H120B package, 24.000 MHz, Fundamental mode, 18 pF load, ±50 ppm Tolerance, ±50 ppm Stability, from -20°C to +70°C, Tape and reel packaging

● **MECHANICAL SPECIFICATION**



● **CARRIER TAPE DIMENSIONS**



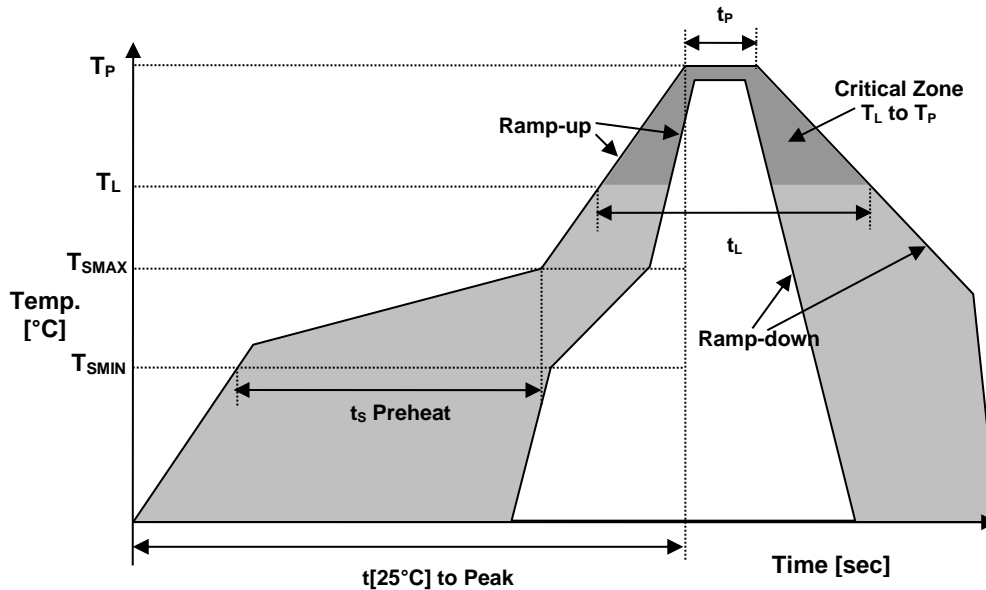
NOTE: REFER TO EIA-481 FOR NON-SPECIFIED DIMENSIONS

● **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 $t[25^\circ\text{C}]$ 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	6/6 COMPLIANT & LEAD FREE
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au

