

SERIES H130B

FEATURES

- SMALL PACKAGE OF 5.0 x 3.2 x 1.0 mm
- EXCELLENT TOLERANCE AND STABILITY
- CUSTOM SPECIFICATIONS AVAILABLE

APPLICATIONS

- PAGERS
- CORDLESS TELEPHONES
- GPS
- BLUETOOTH



SPECIFICATIONS

PARAMETER		VALUE
FREQUENCY RANGE		8.000 MHz TO 120.000 MHz
MODE OF OSCILLATION	FUNDAMENTAL	8.000 MHz TO 50.000 MHz
	THIRD OVERTONE	45.000 MHz TO 120.000 MHz
FREQUENCY TOLERANCE AT 25°C		±50 PPM MAXIMUM (±10, ±20, AND ±30 PPM AVAILABLE)
FREQUENCY STABILITY OVER TEMPERATURE		±50 PPM MAXIMUM (±10, ±20, AND ±30 PPM AVAILABLE)
OPERATING TEMPERATURE RANGE		-20°C TO +70°C STANDARD ¹ -30°C TO +85°C EXTENDED ¹
STORAGE TEMPERATURE RANGE		-40°C TO +90°C
AGING		±1 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)
8.00 TO 11.99	FUND	40
12.00 TO 14.99	FUND	35
15.00 TO 19.99	FUND	30
20.00 TO 50.00	FUND	20
45.00 TO 59.99	3OT	55
60.00 TO 89.99	3OT	50
90.00 TO 120.00	3OT	45

SERIES H130B

PART NUMBERING SYSTEM

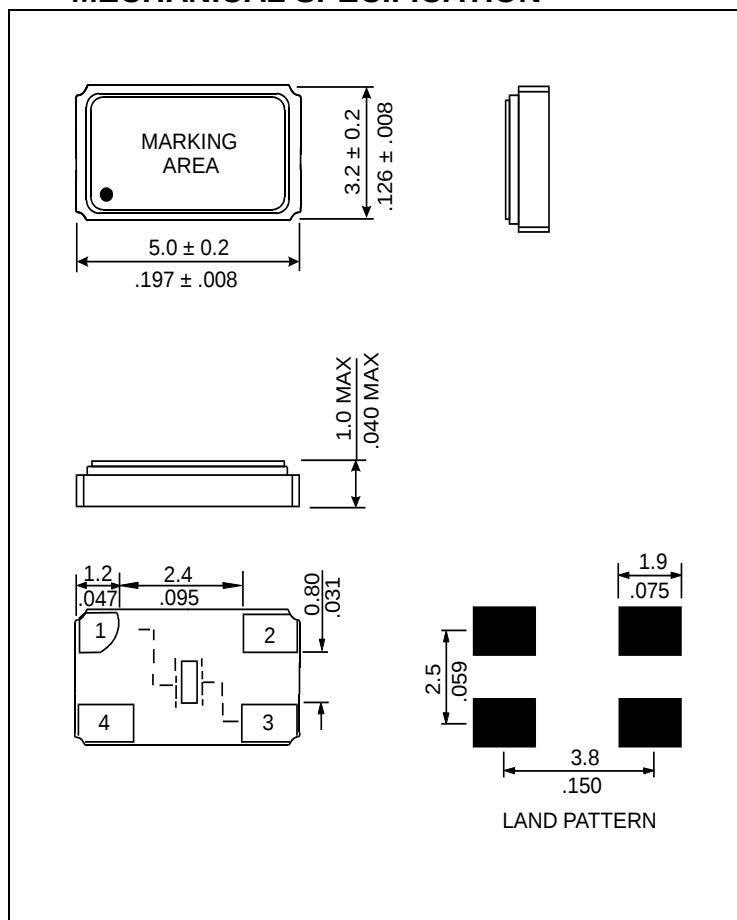
TYPE	-	FREQUENCY	-	LOAD CAPACITANCE	-	MODE	-	TOLERANCE/STABILITY (PPM/PPM)
H130B	-	IN MHz	-	8 TO 32 pF FOR PARALLEL S FOR SERIES	-	Blank FOR < 45.000 MHz F FOR ≥ 45.000 MHz 3OT THIRD OVERTONE	-	Blank FOR MAXIMUM PPMPPM Example: 1020, 2050

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

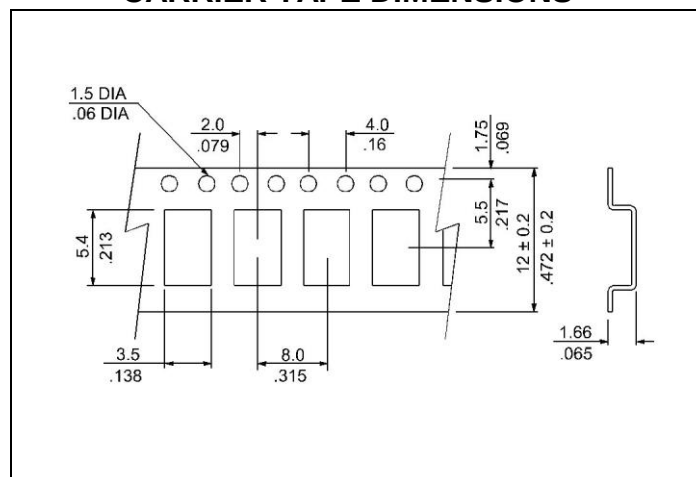
EXAMPLE: H130B-24.000-18-TR

Surface Mount Microprocessor Crystal, H130B 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



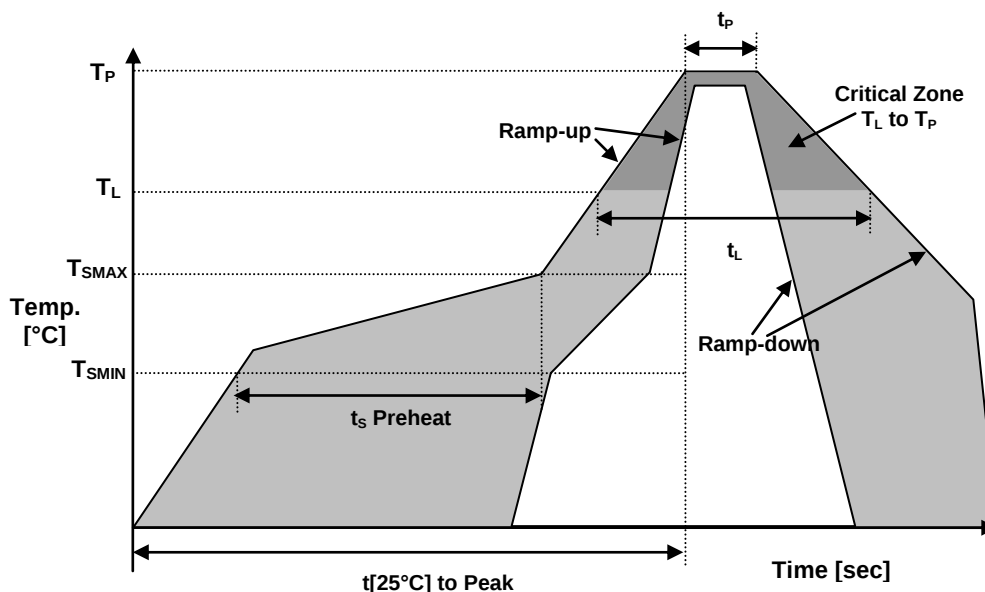
NOTE: REFER TO EIA-481 FOR NON-SPECIFIED DIMENSIONS

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 _S MIN	150°C
Temperature Max Preheat	T _S MAX	200°C
Time (T _S MIN to T _S MAX)	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

