

## FEATURES

- ISO/TS 16949 CERTIFIED FACILITY
- RELIABILITY TESTING PER AEC-Q200
- PPAP DOCUMENTATION AVAILABLE
- SMALL PACKAGE OF 5.0 x 3.2 mm
- EXCELLENT TOLERANCE AND STABILITY
- CUSTOM SPECIFICATIONS AVAILABLE



## SPECIFICATIONS

PARAMETER		VALUE
FREQUENCY RANGE		8.000 MHz to 65.000 MHz
MODE OF OSCILLATION	FUNDAMENTAL	8.000 MHz to 65.000 MHz
FREQUENCY TOLERANCE AT 25°C		±5 0 ppm max (±10 ppm, ±15 ppm, ±20 ppm and ±30 ppm available)
FREQUENCY STABILITY OVER TEMPERATURE ‡		±5 0 ppm max (±10 ppm, ±15 ppm, ±20 ppm and ±30 ppm available, see Table 2)
OPERATING TEMPERATURE RANGE ‡		-20°C to +70°C Standard -40°C to +85°C Extended -40°C to +105°C Extended6 -40°C to +125°C Extended1
STORAGE TEMPERATURE RANGE		-55°C to +125°C
AGING		±1 ppm per year max
LOAD CAPACITANCE		6 pF to 32 pF or Series
EQUIVALENT SERIES RESISTANCE		See Table 1
SHUNT CAPACITANCE		5.0 pF max
DRIVE LEVEL		100 µW typ, 500 µW max
INSULATION RESISTANCE		500 MΩ min
SHOCK RESISTANCE		±5 ppm max 75 cm drop test in 3 axes onto a hard wood surface
REFLOW CONDITIONS		260°C for 10 s max



‡ Not all combinations of temperature and frequency stability available, consult factory.

TABLE 1

FREQUENCY (MHz)	MODE	ESR MAX (Ω)
8 ≤ F0 < 10	FUND	80
10 ≤ F0 < 12	FUND	65
12 ≤ F0 < 16	FUND	55
16 ≤ F0 < 20	FUND	50
20 ≤ F0 < 30	FUND	40
30 ≤ F0 ≤ 65	FUND	30

TABLE 2

TEMP RANGE (°C)	STABILITY (ppm)				
	±10	±15	±20	±30	±50
-20 to +70	O	O	O	O	O
-40 to +85	X	O	O	O	O
-40 to +105	X	△	△	O	O
-40 to +125	X	X	X	△	O

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

**SERIES H130BA**

**■ PART NUMBERING SYSTEM**

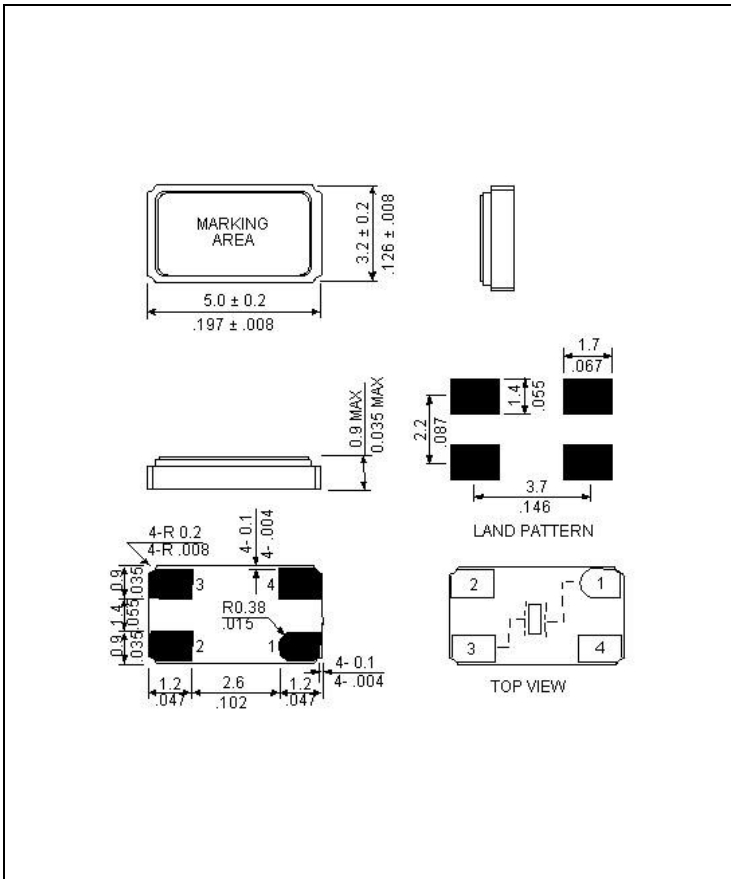
TYPE	FREQUENCY	LOAD CAPACITANCE	MODE	TOLERANCE/STABILITY (PPM/PPM)
H130BA	in MHz	8 to 32 pF for Parallel S for Series	Blank for < 24.576 MHz F for ≥ 24.576 MHz	Blank for max ppm/PPM Example: 1020, 2050

EXTENDED TEMPERATURE	TAPE & REEL
Blank for Standard EXT for Extended EXT6 for Extended6 EXT1 for Extended1	TR

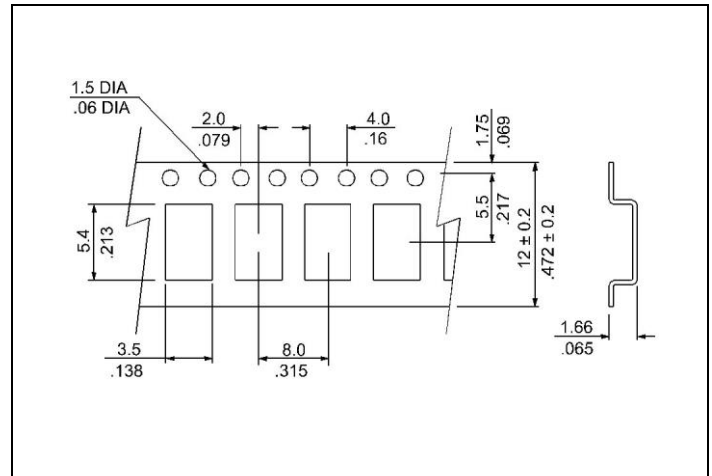
**EXAMPLE: H130BA-24.000-18-3050-EXT1-TR**

AUTOMOTIVE GRADE Surface Mount Microprocessor Crystal, H10SA package, 5.0 x 3.2 mm, 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