

**SERIES H10A**

**FEATURES**

- LOW PROFILE
- HIGH ACCURACY AND STABILITY
- WIDE FREQUENCY RANGE FROM 10.000 MHz TO 200.000 MHz

**SPECIFICATIONS**

PARAMETER		VALUE
FREQUENCY RANGE		10.000 MHz TO 200.000 MHz
MODE OF OSCILLATION	FUNDAMENTAL	8.000 MHz TO 40.320 MHz
	THIRD OVERTONE	24.576 MHz TO 200.000 MHz
	FIFTH OVERTONE	XX.XX MHz TO 200.000 MHz
FREQUENCY TOLERANCE AT 25°C		±100 PPM MAXIMUM (±10, ±20, ±30 AND ±50 PPM AVAILABLE)
FREQUENCY STABILITY OVER TEMPERATURE		±100 PPM MAXIMUM (±10, ±20, ±30 AND ±50 PPM AVAILABLE)
OPERATING TEMPERATURE RANGE		-10°C TO +60°C STANDARD -40°C TO +85°C EXTENDED
STORAGE TEMPERATURE RANGE		-40°C TO +85°C
AGING		±2 PPM PER YEAR MAXIMUM
LOAD CAPACITANCE		10 pF to 32 pF OR SERIES
EQUIVALENT SERIES RESISTANCE		SEE TABLE 1
SHUNT CAPACITANCE		7.0 pF MAXIMUM
DRIVE LEVEL		500 µW MAX
SHOCK RESISTANCE		±5 PPM MAXIMUM 75 cm DROP TEST IN 3 AXES ON TO A HARD SURFACE
REFLOW CONDITIONS		260°C ±5°C FOR 10s MAXIMUM



**TABLE 1**

FREQUENCY (MHz)	MODE	MAX ESR (OHMS)	FREQUENCY (MHz)	MODE	MAX ESR (OHMS)	FREQUENCY (MHz)	MODE	MAX ESR (OHMS)

### SERIES H10A

#### ■ PART NUMBERING SYSTEM

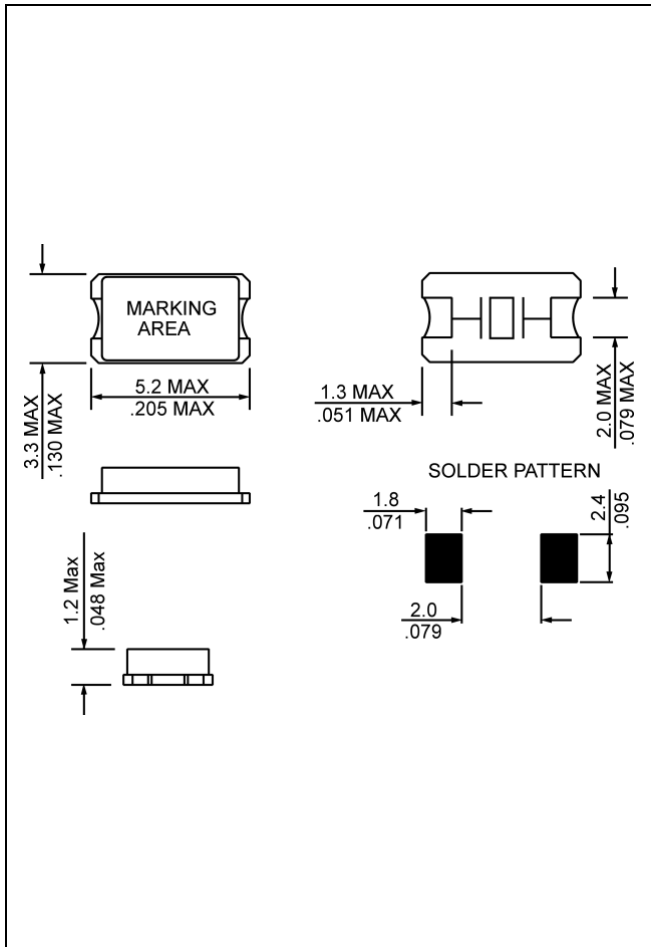
TYPE	FREQUENCY	LOAD CAPACITANCE	MODE	TOLERANCE/STABILITY (PPM/PPM)
H10A	IN MHz	10 TO 32 pF FOR PARALLEL S FOR SERIES	Blank FOR < 24.576 MHz F FOR ≥ 24.576 MHz 3OT THIRD OVERTONE 5OT FIFTH OVERTONE	Blank FOR MAXIMUM PPMPPM Example: 1020, 2050

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

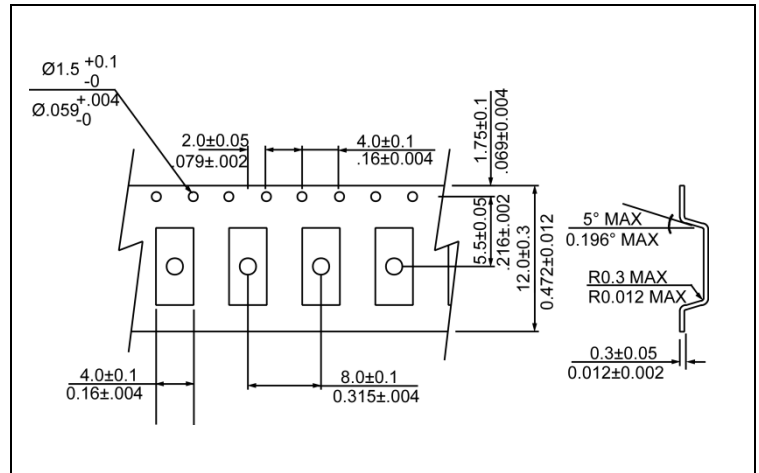
#### EXAMPLE: H10A-24.000-18-TR

Surface Mount Microprocessor Crystal, H10A package, 24.000 MHz, Fundamental mode, 18 pF load, ±30 ppm Tolerance, ±50 ppm Stability, from -10°C to +60°C, Tape and reel packaging

#### ● MECHANICAL SPECIFICATION



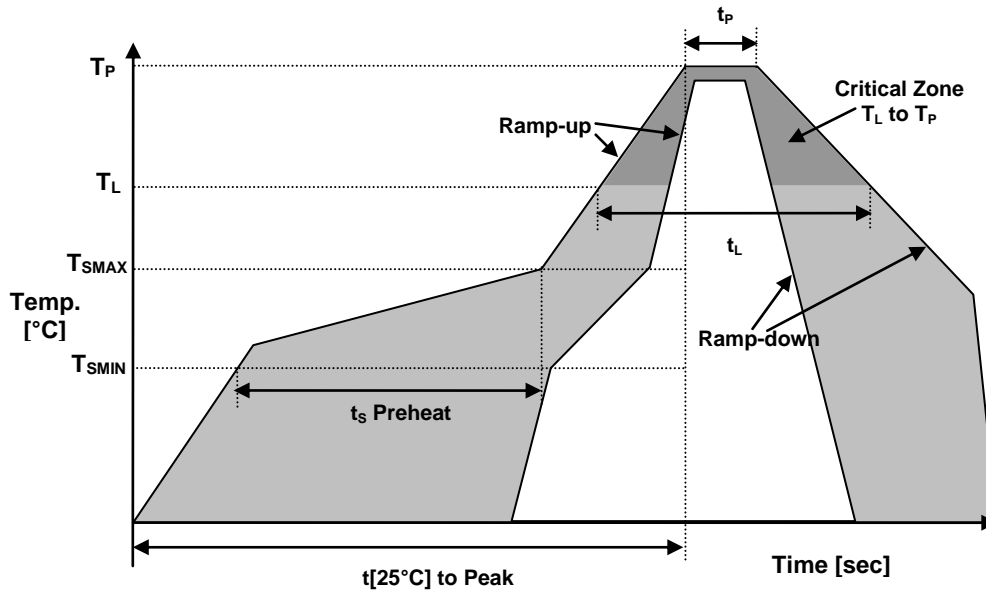
#### ● CARRIER TAPE DIMENSIONS



#### ● PACKAGING

**250** mm REEL DIAMETER  
12 mm TAPE WIDTH, 8 mm PITCH  
QUANTITY: 3000 PIECES PER REEL

## 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	$T_L$	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 $t_{[25^\circ\text{C}] \text{ to Peak Temperature}}$	$t_{[25^\circ\text{C}] \text{ to Peak}}$	480 sec.
Time	$t_L$	60-150 sec.

## ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
REACH SVHC	COMPLIANT
RoHS	6/6 LEAD FREE
TERMINATION FINISH	Sn

