

2.5 x 2.0 x 0.9mm

ASTX-H12

Moisture Sensitivity Level (MSL)-1



RoHS
Compliant

FEATURES:

- HCMOS Output
- Compact and low in height
- Low current consumption; IR reflow possible
- Suitable for high-density SMT

APPLICATIONS:

- Cellular and cordless phones
- Standard OSC for exact equipment
- Mobile communication equipment
- Portable radio equipment and music player

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		0.675	-----	55.000	MHz	
Standard Frequencies		5, 10, 12, 16, 20, 24, 32, 40, 44			MHz	
Operating Temperature		-30	-----	+75	°C	
Storage Temperature:		-40	-----	+125	°C	
Frequency Stability $\Delta f/f_0$ vs Tolerance (@+25°C)		-2.0	-----	+2.0	ppm	1 hr after reflow
vs Temperature (ref. to +25°C)		-2.5	-----	+2.5		See option (Table 1)
vs Supply Voltage Change ($V_{dd} \pm 5\%$)		-0.2	-----	+0.2		
vs Load Change ($Z_L \pm 10\%$)		-0.2	-----	+0.2		
vs Aging (first year @+25°C)		-1.0	-----	+1.0		
Supply Voltage (V_{dd})		+2.97	+3.3	+3.63	V	See option
Supply Current (I_{cc})		-----	-----	4.0	mA	4~10MHz
		-----	-----	4.8		~20MHz
		-----	-----	5.5		~30MHz
		-----	-----	6.0		~40MHz
		-----	-----	7.0		~54MHz
Rise and Fall Time (T_r/T_f)		-----	-----	5	ns	10%-90% V_{dd}
Symmetry		45	-----	55		@1/2 V_{dd}
Output Voltage	V_{OH}	90% V_{dd}	-----	-----	V	
	V_{OL}	-----	-----	10% V_{dd}		
Load		-----	-----	15	pF	
Waveform		HCMOS				
Phase Noise (Frequency dependant)		-----	-130	-----	dBc	@1kHz offset
		-----	-158	-----		@100kHz offset
Tri-state Function (Stand-by) :		"1" ($V_{IH} \geq 0.75 \cdot V_{dd}$) or Open: Oscillation "0" ($V_{IL} < 0.25 \cdot V_{dd}$) : Hi Z			V	





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OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ASTX-H12- - MHz - -

Vdd (V)
Blank: 3.3V±10%
A: 2.8V±10%
B: 2.5V±10%

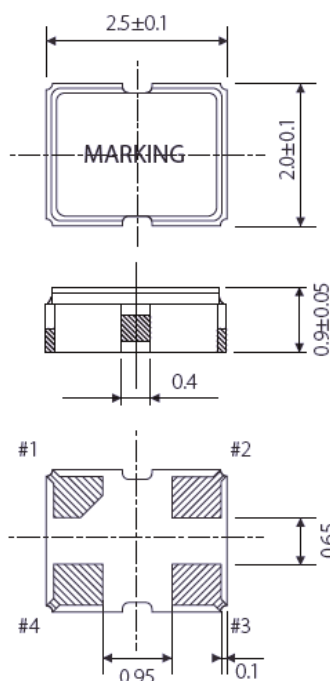
Frequency in MHz
Please specify the frequency in MHz. e.g. 19.200MHz

Packaging
Blank: Bulk
T: 1000pcs/reel

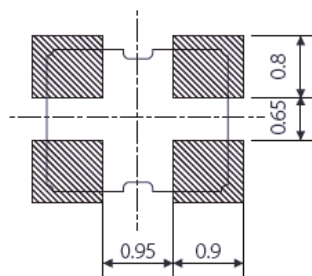
	±2.5ppm	±3.0ppm	±4ppm	±5ppm
0°C ~ +50°C	D25	D30	D40	D50
-10°C ~ +60°C	E25	E30	E40	E50
-0°C ~ +70°C	F25	F30	F40	F50
-20°C ~ +75°C	G25	G30	G40	G50
-30°C ~ +75°C	Blank(STD)	H30	H40	H50
-40°C ~ +85°C	I25	I30	I40	I50

Table 1

OUTLINE DIMENSIONS:



Recommended Land Pattern



Tri-state pin	Output
High or floating	Active
Low	Hi-impedance

Note: Recommend using an approximately 0.01μF bypass capacitor between Pin 2 and 4.

PIN	FUNCTION
1	Tri-state
2	GND
3	Output
4	Vdd

Dimensions: mm



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Figure 1 is a graph showing a typical reflow profile. The Y-axis represents Temperature in degrees Celsius (°C), with marked values at 25°C, 150°C, 180°C, 230°C, and 260°C. The X-axis represents Time in seconds (s). The profile consists of three main phases: Pre-Heat, Reflow, and Cool. The Pre-Heat phase starts at 25°C and ramps up to 150°C, with a duration of 60~120s. The Reflow phase starts at 150°C, ramps up to 260°C, and then holds at 260°C for 30~40s. A note above the 260°C plateau indicates '10s max. 1 time at +260°C±5°C'. The Cool phase starts at 260°C and ramps down to 25°C, with a duration of 60~90s.

Technical drawing of a rectangular component with a cutaway view. The top view shows a rectangular shape with rounded ends, featuring four circular holes and two square holes. Dimensions include overall width 8.0 ± 0.2 , overall height 4.0 ± 0.1 , hole diameter 1.55 ± 0.05 , and square hole side length 1.1 ± 0.1 . A cutaway view A-A' shows a square hole with a side length of 2.25 ± 0.05 . A 'TAPING DIRECTION' arrow points to the right.

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