



2.5 x 2.0 x 0.9mm

ASTX-H12



ESD Sensitive



RoHS/RoHS II compliant

Moisture Sensitivity Level (MSL)–1

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		3.200		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 (Vdd $\pm$ 5%)		-0.2		+0.2		
vs Load Change (ZL $\pm$ 10%)		-0.2		+0.2		
vs Aging (first year @+25°C)		-1.0		+1.0		
Supply Voltage (Vdd)		+2.97	+3.3	+3.63	V	See option
Supply Current (Icc)				4.0	mA	4~10MHz
				4.8		~20MHz
				5.5		~30MHz
				6.0		~40MHz
				7.0		~54MHz
Rise and Fall Time (Tr/Tf)				5	ns	10%-90%Vdd
Symmetry		45		55		@1/2 Vdd
Output Voltage	V _{OH}	90%Vdd			V	
	V _{OL}			10%Vdd		
Load				15	pF	
Waveform		HCMOS				
Phase Noise (Frequency dependant)			-130		dBc	@1kHz offset
			-158			@100kHz offset
Tri-state Function (Stand-by) :		"1" (VIH $\geq$ 0.75*Vdd) or Open: Oscillation "0" (VIL<0.25*Vdd) : 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%

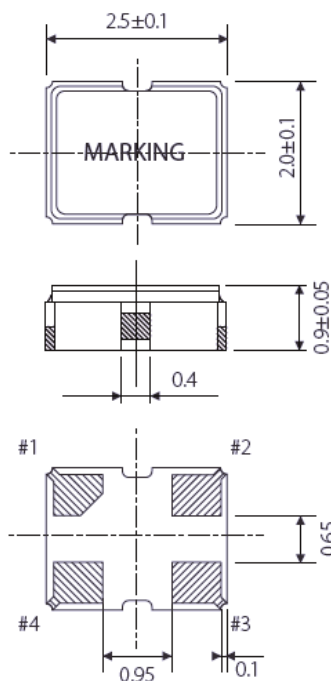
Frequency in MHz
Please specify the frequency in MHz. e.g. 19.200MHz

Packaging
Blank: Bulk
T: 1000pcs/reel

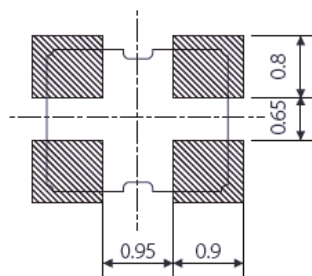
	±2.5ppm	±3.0ppm	±4ppm	±5ppm
0°C ~ +50°C	D25	D30	D40	D50
-10°C ~ +60°C	E25	E30	E40	E50
-0°C ~ +70°C	F25	F30	F40	F50
-20°C ~ +75°C	G25	G30	G40	G50
-30°C ~ +75°C	Blank(STD)	H30	H40	H50
-40°C ~ +85°C	I25	I30	I40	I50

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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