

# 3.3 V TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

ASTX-01HA

This product is End of Life - Only Existing Customers will be supported.



RoHS  
Compliant



11.4 x 9.6 x 4.0 mm

## FEATURES:

- SMD package makes reflow soldering possible
- TTL / HCMOS

## APPLICATIONS:

- Standard OSC for exact equipment
- Portable radio equipment
- Car telephone
- Base clock

## STANDARD SPECIFICATIONS:

### PARAMETERS

|                                                                                                             |                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| ABRACON P/N                                                                                                 | ASTX-01HA                                                                                                                  |
| Frequency Range                                                                                             | 2.000MHz to 30.000MHz                                                                                                      |
| Operating Temperature                                                                                       | -30°C to + 75°C (see options below)                                                                                        |
| Storage Temperature                                                                                         | - 40°C to + 85°C                                                                                                           |
| Frequency stability vs. Temperature<br>vs. Supply Voltage<br>vs. Load<br>vs. Aging<br>vs. Initial Tolerance | ±2.5 ppm ( see options below)<br>±0.3 ppm max./ Vdd ±5%<br>±0.3 ppm max./ Load ±10%<br>±1 ppm/yr max.<br>±0.5 ppm at +25°C |
| Frequency adjustment (Internal Trimmer)                                                                     | ±3.0ppm                                                                                                                    |
| Supply voltage (V <sub>DD</sub> )                                                                           | 3.3 Vdc ± 5%                                                                                                               |
| Supply current (I <sub>CC</sub> )                                                                           | 15mA max.                                                                                                                  |
| Output Level (V <sub>OH</sub> )                                                                             | 0.9*Vdd min.                                                                                                               |
| Output Level (V <sub>OL</sub> )                                                                             | 0.1*Vdd min.                                                                                                               |
| Output Load                                                                                                 | 10TTL or 15pF                                                                                                              |
| Output wave form                                                                                            | TTL/HCMOS                                                                                                                  |
| Jitter (pk-pk)                                                                                              | 40ps max.                                                                                                                  |
| Phase noise                                                                                                 | -120dBc/Hz @ 100Hz<br>-140dBc/Hz @ 1KHz<br>-145dBc/Hz @ 10KHz<br>-150dBc/Hz @ 100KHz                                       |
| Start-up time:                                                                                              | 10ms max.                                                                                                                  |

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ASTX - 01HA - Frequency - □ - □

| Frequency   |
|-------------|
| XX.XXXXXMHz |

| Packaging                         |
|-----------------------------------|
| T Tape and Reel<br>(1000pcs/reel) |

| Temperature & Frequency Stability |         |         |          |          |          |          |          |          |
|-----------------------------------|---------|---------|----------|----------|----------|----------|----------|----------|
| Temp. Range                       | ±1.5ppm | ±2.0ppm | ±2.5 ppm | ±3.0 ppm | ±3.5 ppm | ±4.0 ppm | ±4.5 ppm | ±5.0 ppm |
| 0°C to +50°C                      | I15     | I20     | I25      | I30      | I35      | I40      | I45      | I50      |
| -10°C to +60°C                    | D15     | D20     | D25      | D30      | D35      | D40      | D45      | D50      |
| -10°C to +70°C                    |         | C20     | C25      | C30      | C35      | C40      | C45      | C50      |
| -20°C to +70°C                    |         | E20     | E25      | E30      | E35      | E40      | E45      | E50      |
| -30°C to +60°C                    |         |         | H25      | H30      | H35      | H40      | H45      | H50      |
| -30°C to +70°C                    |         |         | F25      | F30      | F35      | F40      | F45      | F50      |
| -30°C to +75°C                    |         |         | STD      | N30      | N35      | N40      | N45      | N50      |
| -40°C to +80°C                    |         |         |          |          | M35      | M40      | M45      | M50      |
| -40°C to +85°C                    |         |         |          |          | L35      | L40      | L45      | L50      |

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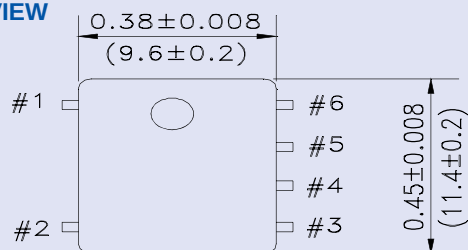
**RoHS**  
Compliant



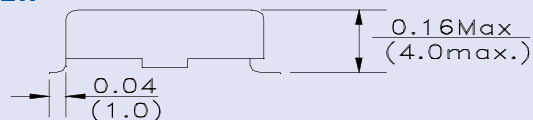
11.4 x 9.6 x 4.0 mm

## OUTLINE DRAWING:

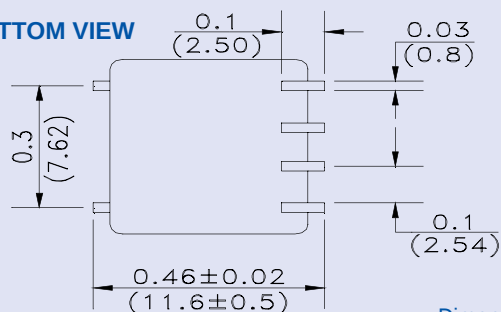
### TOP VIEW



### SIDE VIEW

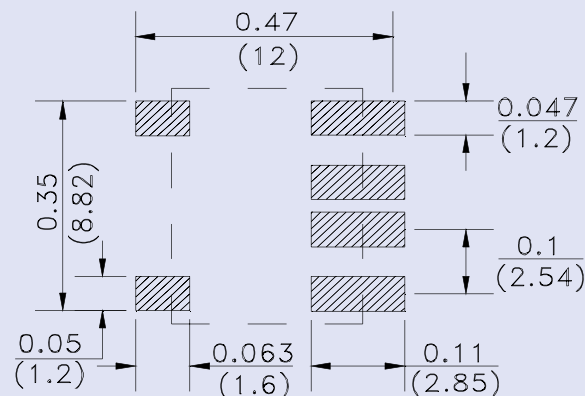


### BOTTOM VIEW



Dimensions: mm

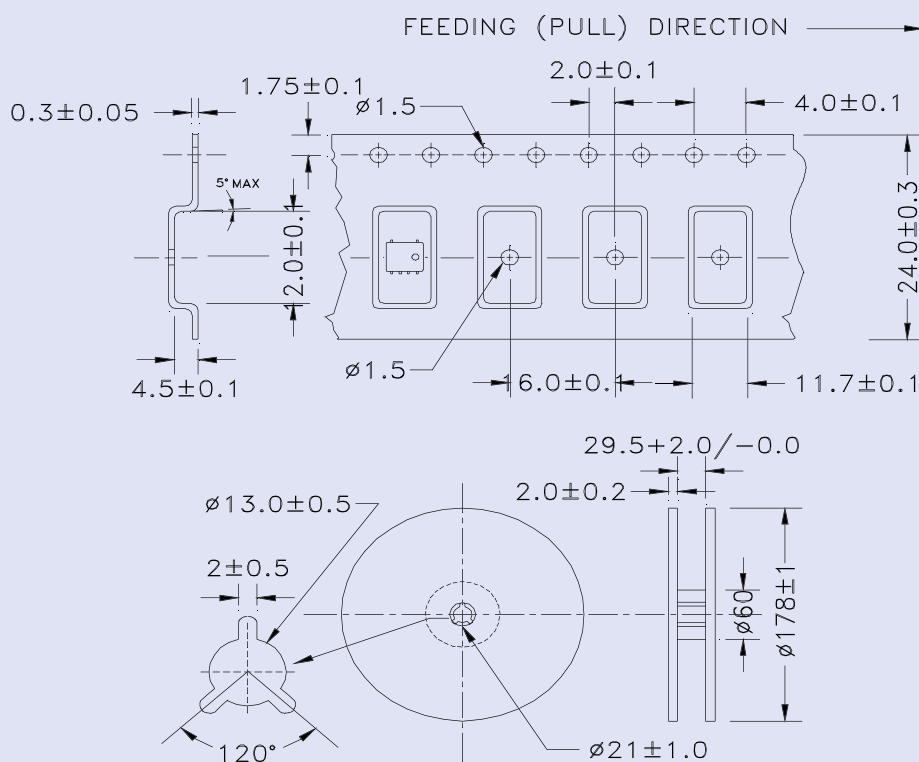
### Recommended Land Pattern



| PIN | FUNCTION |
|-----|----------|
| 1   | GND      |
| 2   | GND      |
| 3   | Output   |
| 4   | GND      |
| 5   | NC       |
| 6   | Vcc      |

**Note:** It is recommended to use an approximately 0.01uF bypass capacitor between PIN 4 and 6.

## TAPE & REEL: T = Tape and reel 1,000pcs/reel



Dimensions: mm

