



**Distributor of CTS Electronic Components: Excellent Integrated System Limited**  
Datasheet of 406C35B10M00000 - Crystal 10.0000MHz 30ppm 13pF 60 Ohm -20°C - 70°C  
Surface Mount 4-SMD, No Lead (DFN, LCC)

Contact us: [sales@integrated-circuit.com](mailto:sales@integrated-circuit.com) Website: [www.integrated-circuit.com](http://www.integrated-circuit.com)

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## Excellent Integrated System Limited

Stocking Distributor

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[406C35B10M00000](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



# MODEL 406

## SURFACE MOUNT QUARTZ CRYSTAL

## FEATURES

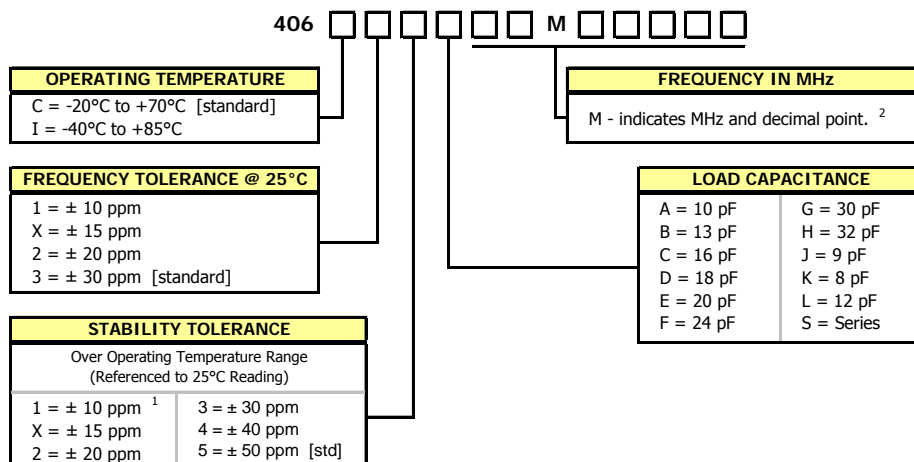
- **Standard 6.0mm x 3.5mm Ceramic Surface Mount Package**
- **Fundamental Crystal Design**
- Frequency Range 8 – 50 MHz
- Frequency Tolerance,  $\pm 30$  ppm Standard  
[other tolerances available]
- Frequency Stability,  $\pm 50$  ppm Standard  
[other stabilities available]
- Operating Temperature to  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Stable Frequency Over Temperature and Drive Level
- Tape & Reel Packaging Standard, EIA-481
- **RoHS/Green Compliant (6/6)**



## APPLICATIONS

The Model 406 is a seam sealed ceramic packaged crystal offering reduced size, ideal for high-density circuit board applications. M406 offers reliable precision and excellent shock performance suitable for wireless communications, broadband access, WLAN/WiMax/WIFI, portable equipment, test and measurement, PCMCIA, computers and modems.

## ORDERING INFORMATION



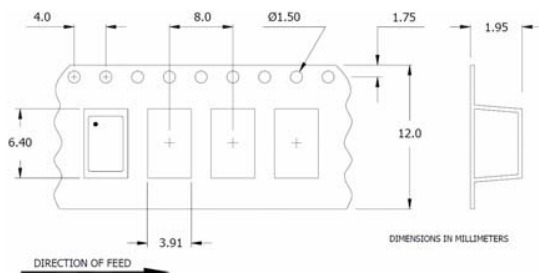
1) Only available with temperature range code "C".

2] Frequency is recorded with two leading digits before the 'M' and 5 significant digits after the 'M' (including zeros).  
[Ex. XXMXXXXX (16M38400), XXMXXXXX (14M31818)]

Not all performance combinations and frequencies may be available.  
Contact your local CTS Representative or CTS Customer Service for availability.

## PACKAGING INFORMATION [reference]

Device quantity is 1k pcs. maximum per 180mm reel.



## ELECTRICAL CHARACTERISTICS

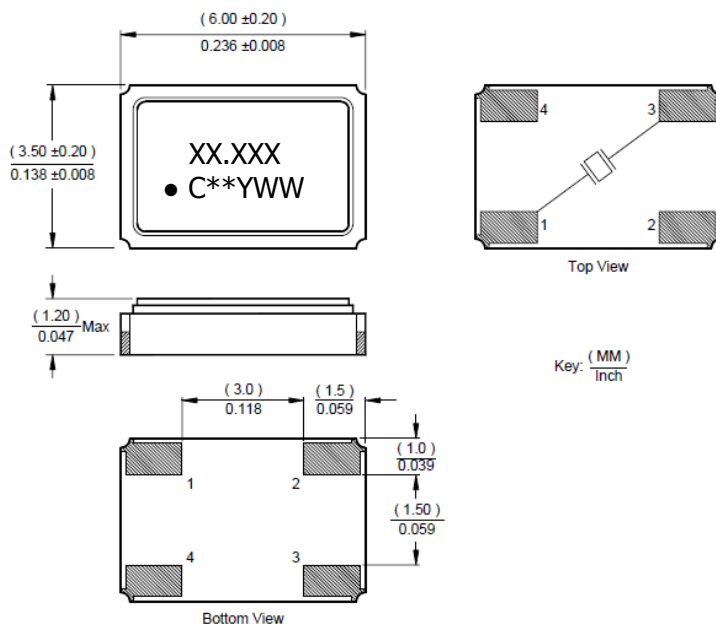
ELECTRICAL PARAMETERS	PARAMETER	VALUE
	Frequency Range	8.0 MHz to 50.0 MHz
	Operating Mode	Fundamental
	Crystal Cut	AT-Cut
	Frequency Tolerance @ 25°C	± 30 ppm standard [± 10 ppm, ± 15 ppm and ± 20 ppm Available]
	Frequency Stability Tolerance [Operating Temperature Range, Referenced to 25°C Reading]	± 50 ppm standard [± 10 ppm, ± 15 ppm, ± 20 ppm, ± 30 ppm and ± 40 ppm Available]
	Operating Temperature Range	-20°C to +70°C -40°C to +85°C
	Equivalent Series Resistance	See ESR Table
	Load Capacitance or Resonance Mode	See Ordering Information
	Shunt Capacitance (C <sub>0</sub> )	4.0 pF typical 7.0 pF maximum
	Drive Level	10 µW typical 100 µW maximum
	Aging @ +25°C	±3 ppm/yr typical ±5 ppm/yr maximum
	Insulation Resistance	500M Ohms @ 100V <sub>DC</sub> ±15V <sub>DC</sub>
	Storage Temperature Range	-55°C to +125°C
	Reflow Condition, per JEDEC J-STD-020	+260°C maximum, 10 Seconds maximum

## EQUIVALENT SERIES RESISTANCE TABLE

FREQUENCY RANGE	MODE of OSCILLATION	ESR Maximum
8.00 MHz - 9.999 MHz	Fundamental	80 Ohms
10.00 MHz - 15.999 MHz	Fundamental	60 Ohms
16.000 MHz - 50.000 MHz	Fundamental	40 Ohms

## MECHANICAL SPECIFICATIONS

### PACKAGE DRAWING



### MARKING INFORMATION

- XX.XXX – Frequency marked with 3 significant digits after the decimal.
- C – CTS identifier.
- \*\* – Manufacturing Site code.
- YWW – Date Code, Y – Last Digit of Year, WW – Week.

### NOTES

- Complete CTS part number, frequency value and date code information must appear on reel and carton labels.
- Termination pads (e4); barrier plating is nickel (Ni) with gold (Au) flash plate.
- Terminations #2, #4 and metal lid are connected internally and may be connected to ground for EMI suppression.
- MSL = 1.

### SUGGESTED SOLDER PAD GEOMETRY

