



# **FEATURES**

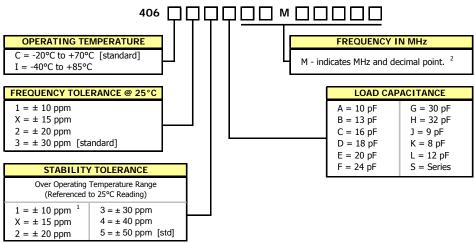
- Standard 6.0mm x 3.5mm Ceramic Surface Mount Package
- Fundamental Crystal Design
- Frequency Range 8 50 MHz
- Frequency Tolerance, ±30 ppm Standard [other tolerances available]
- Frequency Stability, ±50 ppm Standard [other stabilities available]
- Operating Temperature to -40°C to +85°C
- Stable 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

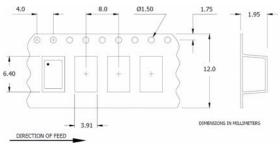


- 1] Only available with temperature range code "C".
- 21 Frequency is recorded with two leading digits before the 'M' and 5 significant digits after the 'M' (including zeros). [Ex. XXMXXXXX (16M38400), XXMXXXXX (14M31818)]

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. maximun per 180mm reel.



# SHENZHEN DIGUO TECHONLOGY CO.LTD



# **ELECTRICAL CHARACTERISTICS**

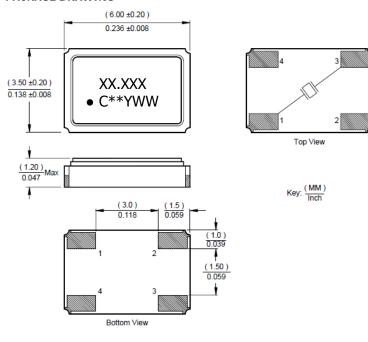
	PARAMETER	VALUE
ELECTRICAL PARAMETERS	Frequency Range	8.0 MHz to 50.0 MHz
	Operating Mode	Fundamental
	Crystal Cut	AT-Cut
	Frequency Tolerance @ 25°C	± 30 ppm standard
		[ $\pm$ 10 ppm, $\pm$ 15 ppm and $\pm$ 20 ppm Available]
	Frequency Stability Tolerance	± 50 ppm standard
	[Operating Temperature Range, Referenced to 25°C Reading]	[ $\pm$ 10 ppm, $\pm$ 15 ppm, $\pm$ 20 ppm, $\pm$ 30 ppm and $\pm$ 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.
- 2. C CTS identifier.
- 3. \*\* Manufacturing Site code.
- 4. 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.
- 2. 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.
- 4. MSL = 1.

#### SUGGESTED SOLDER PAD GEOMETRY

