

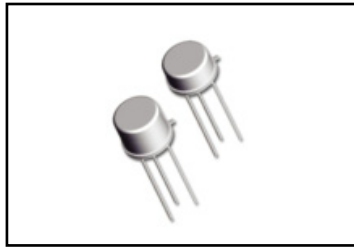
# EXTREME ENVIRONMENT

## SMD HIGH-TEMPERATURE PACKAGED CRYSTALS

### FMXTHT05 SERIES

Extreme Temperature  
Packaged Crystals

**TO-5 & TO-5 Low Profile**



- 3.6 MHz to 125 MHz
- High-Shock & Vibration
- Standard Stability from  $\pm 70$ ppm
- Low Profile TO-5 Option Available
- Specify Custom Stabilities from  $-55^{\circ}\text{C}$  to  $+220^{\circ}\text{C}$

### SPECIFICATIONS



Specification Parameters	Performance / Range
Frequency Range	*3.60 MHz to 125.000 MHz
Operation Mode	See Operation Mode and ESR Table
Load Capacitance (CL)	18pf Std, 8 - 60pf and Series available
Frequency Tolerance	$\pm 50$ ppm @ $25^{\circ}\text{C}$ , Custom Options available
Temperature Tolerance	$\pm 250$ ppm Std, $\pm 70$ ppm to $\pm 300$ ppm available
Operating Temperature	0 to $200^{\circ}\text{C}$ Std, Custom Options available
Storage Temperature	$-55^{\circ}\text{C}$ to $+240^{\circ}\text{C}$ Standard
Equivalent Series Resistance (ESR)	See Operation Mode and ESR Table
Shunt Capacitance (CO)	7pF max
Drive Level	50 $\mu\text{W}$ typical, 1mW max
Aging @ $+25^{\circ}\text{C}$	$\pm 5$ ppm per year
Shock	1000g, 1 msec, Standard
Vibration - Random	20g RMS 10 Hz to 2 kHz Random, Standard
Screening / Testing Available	per MIL-3098

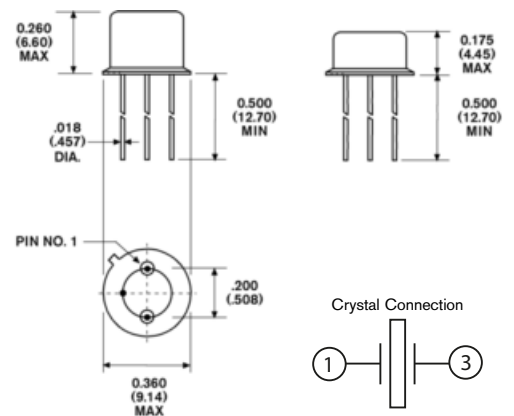
All specifications subject to change without notice.

\*Note: For frequencies less than 3.6 MHz use Crystal Oscillator in 5x7mm or 7x7mm package.

- High Pullability
- AT, IT, or SC Cut Crystals
- Extended Operating Temp. Range from  $-150^{\circ}\text{C}$  to  $+300^{\circ}\text{C}$  Available
- Swept Quartz Option

#### TO-5 & TO-5 Low Profile

3 and 4 pin versions available



#### Pin Configuration

Pin	Function
1	Connect
3	Connect
4	Case Ground

Note: Pin 2 available upon request

Dimensions: in / (mm)

#### Operation Mode and ESR Table

Freq (MHz)	Mode	MAX ESR
3.6 - 4.1	Fundamental	150
4.2 - 4.9	Fundamental	100
5.0 - 7.9	Fundamental	80
8.0 - 14.9	Fundamental	50
15.0 - 39.0	Fundamental	25
31.0 - 42.0	Fundamental	35
24.0 - 59.9	3rd Overtone	40
60.0 - 81.9	3rd Overtone	50
82.0 - 104.9	3rd Overtone	60
105.0 - 125.0	3rd Overtone	70

related product:

Extremely Linear  
**Temperature Sensors**  
for High-Temperature  
Applications Now  
Available.

FMI continuously performs life test on high temperature products. Inquire about the life test relevant to your specific application.

#### Material

Base & Leads: Nickel Plated Kovar\*  
Lid: Stainless Steel

\*note: leads w/ gold flash available

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PLEASE CONTACT US FOR PART NUMBERS, HOW TO ORDER,  
ADDITIONAL PRODUCT SPECIFICATIONS & OR WITH YOUR CUSTOM REQUIREMENTS