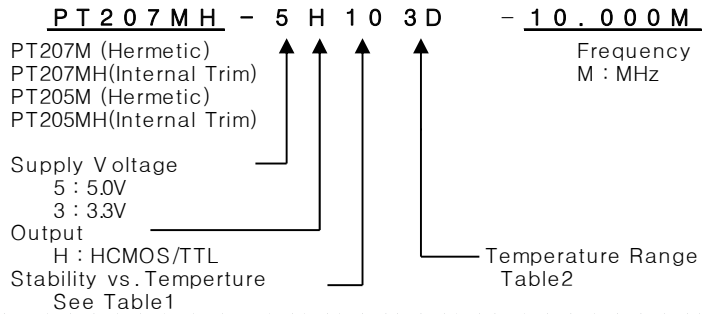


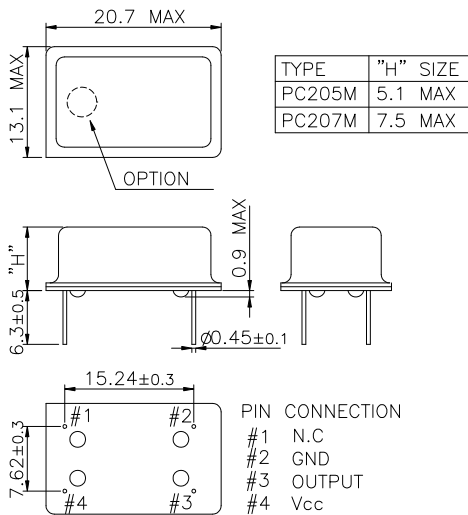
# TCXO

PT205M/PT207M Series  
HCMOS/TTL  
14PIN DIP PACKAGE

## \* PART NUMBERING GUIDE



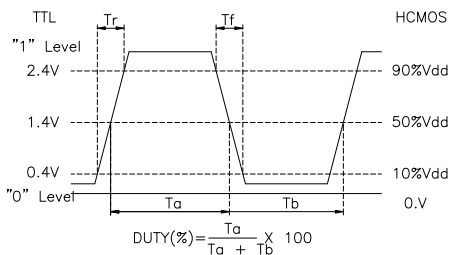
### MECHANICAL DIMENSIONS



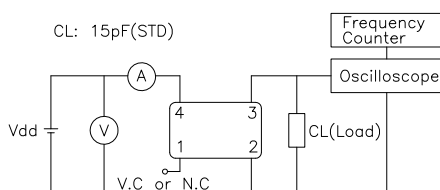
### ELECTRICAL SPECIFICATION

| Frequency range   | 1.000KHz to 250.000MHz<br>(All combinations for Frequency in the range and temp. stability can't be available, please contact factory.)   |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
|---|---|----------|-------|-----|-----------|-------------|----------|-----------|-------------|----------|------|------|-------|------------|-------|-------|-------------|----------|----------|
| Frequency Stability<br>vs. Temperature<br>vs. Supply Voltage<br>vs. Load<br>vs. Aging | ±0.5 ppm to ±5.0ppm<br>±0.1 / ±0.3 ppm max / Vdd ± 5%<br>±0.2 ppm max / 15pF ±10%<br>±1.0 ppm max/ year   |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Temperature Range<br>Operating<br>Storage   | See Table 2<br>-55°C to 125°C   |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Supply Voltage  | 3.3V ± 5%<br>5.0V ± 5%  |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Input Current<br>3.3 V , 5V   | 1.000KHz ~ 40.000MHz ~ 250.000MHz<br>15mA max ~ 30mA max ~ 50mA max   |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Output characteristics  | <table border="1"> <thead> <tr> <th></th> <th>HCMOS</th> <th>TTL</th> </tr> </thead> <tbody> <tr> <td>Logic "1"</td> <td>90% Vdd min</td> <td>2.4V min</td> </tr> <tr> <td>Logic "1"</td> <td>10% Vdd max</td> <td>0.4V min</td> </tr> <tr> <td>Load</td> <td>15pF</td> <td>10TTL</td> </tr> <tr> <td>Duty Cycle</td> <td>40/60</td> <td>40/60</td> </tr> <tr> <td>Rise &amp; Fall</td> <td>10nS max</td> <td>10nS max</td> </tr> </tbody> </table> |          | HCMOS | TTL | Logic "1" | 90% Vdd min | 2.4V min | Logic "1" | 10% Vdd max | 0.4V min | Load | 15pF | 10TTL | Duty Cycle | 40/60 | 40/60 | Rise & Fall | 10nS max | 10nS max |
|   | HCMOS   | TTL      |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Logic "1"   | 90% Vdd min   | 2.4V min |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Logic "1"   | 10% Vdd max   | 0.4V min |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Load  | 15pF  | 10TTL    |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Duty Cycle  | 40/60   | 40/60    |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Rise & Fall   | 10nS max  | 10nS max |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Phase Noise (typical)<br>@20MHz   | -80 dBc / Hz @ 10Hz<br>-120 dBc / Hz @ 100Hz<br>-135 dBc / Hz @ 1KHz<br>-140 dBc / Hz @ 10KHz<br>-145 dBc / Hz @100KHz  |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |
| Frequency Adjustment  | ±3ppm min by internal trimmer (OPTION)<br>PT207MH / PT205MH available   |          |       |     |           |             |          |           |             |          |      |      |       |            |       |       |             |          |          |

### OUTPUT WAVEFORM



### TEST CIRCUIT



### ENVIROMENTAL & MECHANICAL SPECIFICATION

|                |   |
|----------------|---|
| Shock          | MIL-STD-883C, Method 2002, Condition B      |
| Vibration      | MIL-STD-883C, Method 2007, Condition A      |
| Solderability  | MIL-STD-883C, Method 2003                   |
| Seal integrity | MIL-STD-883C, Method 1014, Condition C & A2 |
| Marking        | MIL-STD-202F, Method 215                    |

#### TABLE1

| Symbol | Stability |
|--------|-----------|
| 05     | ±0.5ppm   |
| 10     | ±1.0ppm   |
| 15     | ±1.5ppm   |
| 20     | ±2.0ppm   |
| 25     | ±2.5ppm   |
| 30     | ±3.0ppm   |
| 35     | ±3.5ppm   |
| 50     | ±5.0ppm   |

#### TABLE2

| Symbol | Temp. | Symbol | Temp. |
|--------|-------|--------|-------|
| 0      | 0°C   | A      | 50°C  |
| 1      | -10°C | B      | 60°C  |
| 2      | -20°C | C      | 70°C  |
| 3      | -30°C | D      | 75°C  |
| 4      | -40°C | E      | 80°C  |
|        |       | F      | 85°C  |