

O C X O (Oven Controlled Crystal Oscillators) Product Selection Guide



MERCURY
Since 1973

Product Summary:

| Package | Supply Voltage | Operating Temperature | Best Frequency Stability Available (AT-cut Crystal) | Typical Frequency Stability | Frequency Range | Pin to Pin Spacing |
|---|--|---|---|-----------------------------|-------------------------------------|--|
| OC14 Series OC14G Series RoHS Compliant 4 pin DIP L: 20.3 mm W: 13.2 mm H: 10.5 mm | +12.0 V | HCMOS model RoHS Equivalent | OC14T12A OC14T12GA | | 10 ~40 MHz. | 15.2 x7.6 mm; (0.3"x0.6") No. of pins: 4 Pins |
| | | Sine Wave model RoHS Equivalent | OC14E12A OC14E12GA | | | |
| | | 0°C ~ +60°C | ±0.05 ppm | ±0.2 ppm | | |
| | | -20°C ~ +70°C | ±0.1 ppm | ±0.3 ppm | | |
| | | -40°C ~ +85°C | ±0.2 ppm | ±0.5 ppm | | |
| | +5.0 V | HCMOS model RoHS Equivalent | OC14T5A OC14T5GA | | 1.25~100 MHz. | |
| | | 0°C ~ +60°C | ±0.02 ppm | ±0.2 ppm | | |
| | | -20°C ~ +70°C | ±0.03 ppm | ±0.3 ppm | | |
| | | -40°C ~ +85°C | ±0.05 ppm | ±0.5 ppm | 40 MHz max. for RoHS models | |
| | | Sine Wave model RoHS Equivalent | OC14E5A OC14E5GA | | 10 to 100 MHz for Sine Wave Models. | |
| | | 0°C ~ +60°C | ±0.075 ppm | ±0.2 ppm | | |
| | | -20°C ~ +70°C | ±0.15 ppm | ±0.3 ppm | | |
| | | -40°C ~ +85°C | ±0.25 ppm | ±0.5 ppm | | |
| | 0°C ~ +70°C | OC14T5C; RoHS Model: OC14T5GC ±4.6 ppm max. over 15 years. Stratum 3 | | 1.25 ~ 40 MHz | | |
| | -40°C ~ +85°C | OC14T5I ; RoHS Model: OC14T5GI ±4.6 ppm max. over 15 years. Stratum 3 | | | | |
| | +3.3 V | HCMOS model RoHS Equivalent | OC14T33A OC14T33GA | | 1.25 ~40 MHz | |
| | | 0°C ~ +60°C | ±0.075 ppm | ±0.2 ppm | | |
| | | -20°C ~ +70°C | ±0.15 ppm | ±0.3 ppm | | |
| -40°C ~ +85°C | | ±0.25 ppm | ±0.5 ppm | | | |
| 0°C ~ +70°C | | OC14T33C: RoHS Model OC14T33GC ±4.6 ppm max. over 15 years. Stratum 3 | | | | |
| -40°C ~ +85°C | | OC14T33I ; RoHS Model OC14T33GI ±4.6 ppm max. over 15 years. Stratum 3 | | | | |
| OC24 Series L: 20.3 mm W: 13.2 mm H: 12.0 mm | OC24 is Gull Wing SMD Version of OC 14 shown above. To order OC24 simply change the "OC14" package code to "OC24". For example: OC24T12A | | | | | 15.2 x7.6 mm; (0.3"x0.6") No. of pins: 4 Pins |

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| Package | Supply Voltage | Operating Temperature | Best Frequency Stability Available (AT-cut Crystal) | Best Frequency Stability Available (SC-cut Crystal) | Frequency Range | Pin to Pin Spacing |
|--|----------------|-----------------------|---|---|---|--|
| OC18 Series L:20.3 mm W: 20.3 mm H: 10.5 mm | +12.0 V | HCMOS model | OC18T12A | OC18T12S | 1.25 ~ 100 MHz 10 to 100 MHz for Sine Wave Models. | 15.2 x15.2 mm (0.6"x0.6") No. of pins: 5 |
| | | Sine Wave model | OC18E12A | OC18E12S | | |
| | +5.0 V | HCMOS model | OC18T5A | OC18T5S | | |
| | | Sine Wave model | OC18E5A | OC18E5S | | |
| | 0°C ~ +60°C | ±0.02 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.05 ppm | ±0.01 ppm | | |
| -40°C ~ +85°C | ±0.1 ppm | ±0.03 ppm | | | | |
| OC11 Series L:25.4 mm W: 25.4 mm H: 16.0 mm (1"x1") | +12.0 V | HCMOS model | OC11T12A | OC11T12S | 1.25 ~ 100 MHz 10 to 100 MHz for Sine Wave Models. | 19 x19 mm (0.75"x0.75") No. of pins: 5 |
| | | Sine Wave model | OC11E12A | OC11E12S | | |
| | +5.0 V | HCMOS model | OC11T5A | OC11T5S | | |
| | | Sine Wave model | OC11E5A | OC11E5S | | |
| | 0°C ~ +60°C | ±0.05 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.1 ppm | ±0.02 ppm | | |
| -40°C ~ +85°C | ±0.2 ppm | ±0.03 ppm | | | | |
| OC30 Series L:36.2 mm W: 27.2 mm H: 16.0 mm | +12.0 V | HCMOS model | OC30T12A | OC30T12S | 1.25 ~ 100 MHz 10 to 100 MHz for Sine Wave Models. | 25.4x17.8 mm (1" x 0.7") No. of pins: 5 |
| | | Sine Wave model | OC30E12A | OC30E12S | | |
| | +5.0 V | HCMOS model | OC30T5A | OC30T5S | | |
| | | Sine Wave model | OC30E5A | OC30E5S | | |
| | 0°C ~ +60°C | ±0.03 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.08 ppm | ±0.02 ppm | | |
| -40°C ~ +85°C | ±0.2 ppm | ±0.03 ppm | | | | |
| OC31 Series Euro Package L:36.2 mm W: 27.2 mm H: 16.0 mm Note: Same package as OC30 except different pin configurations | +12.0 V | HCMOS model | OC31T12A | OC31T12S | 1.25 ~ 100 MHz 10 to 100 MHz for Sine Wave Models. | Note: Same package as OC30 except different pin configurations |
| | | Sine Wave model | OC31E12A | OC31E12S | | |
| | +5.0 V | HCMOS model | OC31T5A | OC31T5S | | |
| | | Sine Wave model | OC31E5A | OC31E5S | | |
| | 0°C ~ +60°C | ±0.03 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.08 ppm | ±0.02 ppm | | |
| -40°C ~ +85°C | ±0.2 ppm | ±0.03 ppm | | | | |

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| Package | Supply Voltage | Operating Temperature | Best Frequency Stability Available (AT-cut Crystal) | Best Frequency Stability Available (SC-cut Crystal) | Frequency Range | Pin to Pin Spacing |
|--|----------------|-----------------------|---|---|---|---|
| OC40 Series L:38.8 mm W: 38.8 mm H: 16.0 mm | +12.0 V | HCMOS model | OC40T12A | OC40T12S | 1.25 ~ 100 MHz 10 to 100 MHz for Sine Wave Models. | 25.4x25.4 mm (1" x 1") No. of pins: 4 |
| | | Sine Wave model | OC40E12A | OC40E12S | | |
| | +5.0 V | HCMOS model | OC40T5A | OC40T5S | | |
| | | Sine Wave model | OC40E5A | OC40E5S | | |
| | 0°C ~ +60°C | ±0.05 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.1 ppm | ±0.02 ppm | | |
| -40°C ~ +85°C | ±0.2 ppm | ±0.03 ppm | | | | |
| OC22 Series L:50.8 mm W: 50.8 mm H: 19.0 mm (2"x2") | +12.0 V | HCMOS model | OC22T12A | OC22T12S | 5 ~ 20 MHz | 38.1x38.1 mm No. of pins: 7 |
| | | Sine Wave model | OC22E12A | OC22E12S | | |
| | +5.0 V | HCMOS model | OC22T5A | OC22T5S | | |
| | | Sine Wave model | OC22E5A | OC22E5S | | |
| | 0°C ~ +60°C | ±0.05 ppm | ±0.01 ppm | | | |
| | | -20°C ~ +70°C | ±0.1 ppm | ±0.02 ppm | | |
| -40°C ~ +85°C | ±0.2 ppm | ±0.03 ppm | | | | |

For detailed spec. please refer to the spec. of individual model at www.mercury-crystal.com.
Spec. subject to change with notice

Part Number Format and Example:

Example: OC14GT12A-10.000-0.1/-20+70

| | | | | | | | | | | | |
|----|----|---|---|----|---|------|--------|------|-----|-------|--------|
| OC | 14 | G | T | 12 | A | — | 10.000 | — | 0.1 | / | -20+70 |
| ① | ② | ③ | ④ | ⑤ | ⑥ | dash | ⑦ | dash | ⑧ | slash | ⑨ |

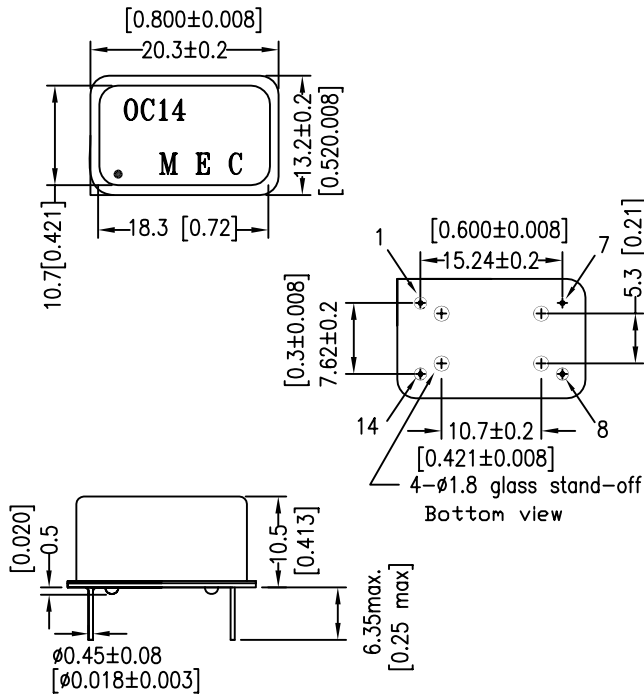
①: "OC" Product Prefix for OCXO ②: Package type. "14" for 4 pin DIP.
 ③: "G" for RoHS compliant equivalent, " " (blank) for non-RoHS part.
 ④: Output wave form code. "T" for 15 pf load HCMOS square wave; "E" for 50 ohm load Sine wave.
 ⑤: Supply voltage code. "12" for +12.0V; "5" for +5.0V; "33" for +3.3V
 ⑥: Crystal type. "A" for AT-cut crystal; "S" for SC-cut crystal. SC-cut has better performance but higher cost.
 ⑦: Frequency in MHz; ⑧: Frequency stability in ppm;
 ⑨: Operating temperature range: -20°C to +70°C in this case.

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Package: OC14

Resistance Welded



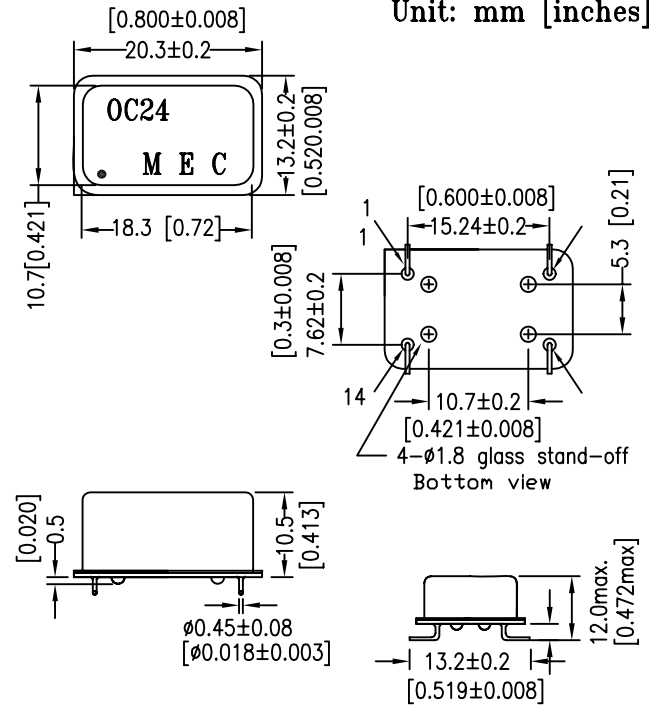
Pin Connections

- Pin 1: Voltage Control
- Pin 7: Ground/Case
- Pin 8: RF Output
- Pin 14: Supply Voltage

Square corner is pin No. 1

Package: OC24

Resistance Welded
Unit: mm [inches]



Pin Connections

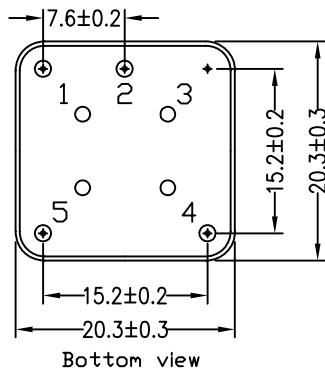
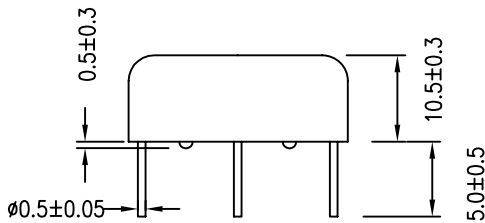
- Pin 1: Voltage Control
- Pin 7: Ground/Case
- Pin 8: RF Output
- Pin 14: Supply Voltage

Square corner is pin No. 1

O C X O

Package: OC18

Solder Sealed

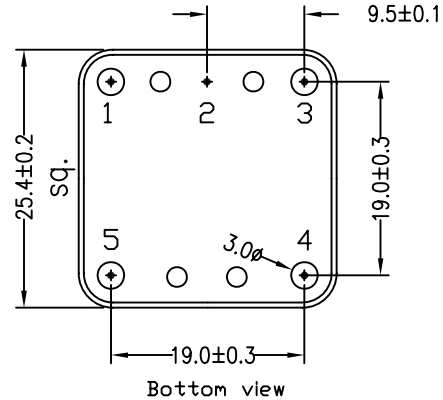
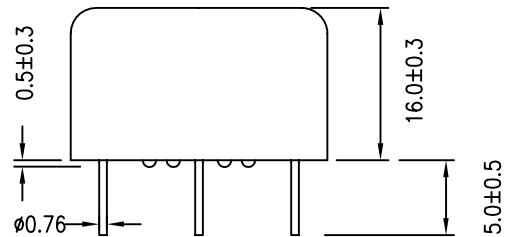


Pin Connections

- Pin 1: Supply Voltage
- Pin 2: RF Output
- Pin 3: Ground/Case
- Pin 4: Voltage Control
- Pin 5: Reference Voltage Output

Package: OC11

Solder Sealed

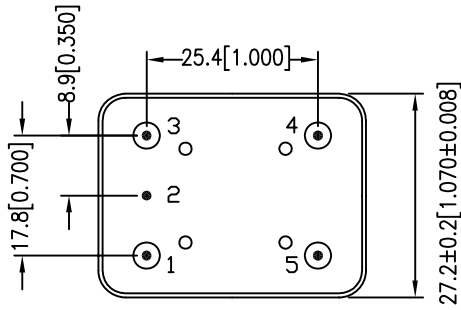
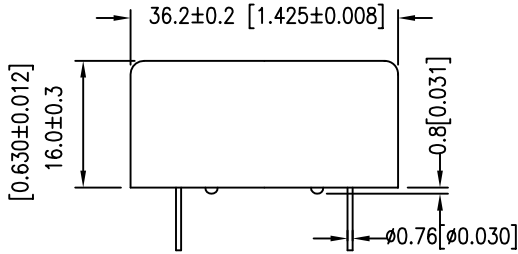


Pin Connections

- Pin 1: RF Output
- Pin 2: Ground/Case
- Pin 3: Voltage Control
- Pin 4: Referene Voltage Output
- Pin 5: Supply Voltage

Package: OC30

Solder Sealed



Bottom view

Pin Connections

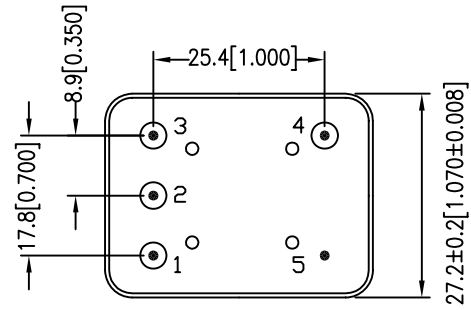
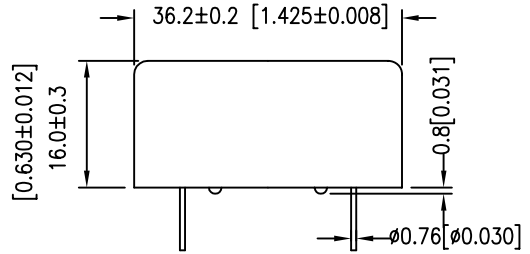
- Pin 1: Voltage Control
- Pin 2: Ground/Case
- Pin 3: RF Output
- Pin 4: Referene Voltage Output
- Pin 5: Supply Voltage

Package: OC31

Euro Package

Unit: mm [inch]

Solder Sealed



Bottom view

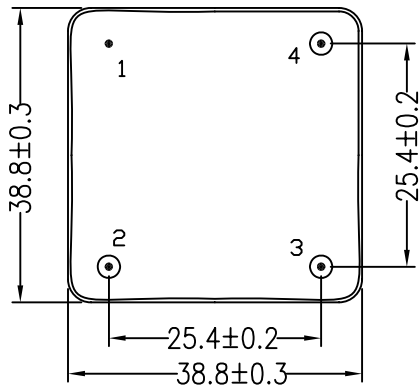
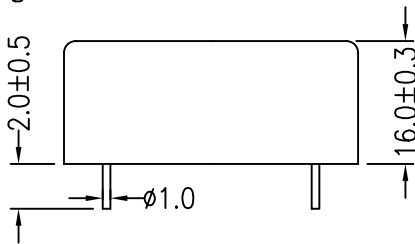
Pin Connections

- Pin 1: Voltage Control
- Pin 2: Reference Voltage Output
- Pin 3: Supply Voltage
- Pin 4: RF Output
- Pin 5: Ground/Case

O C X O

Package: OC40

Solder Sealed



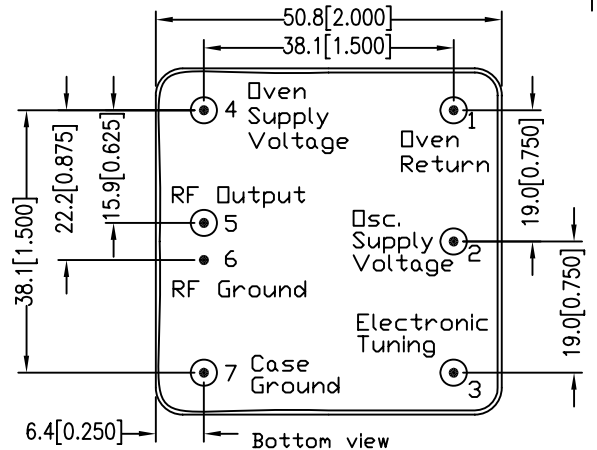
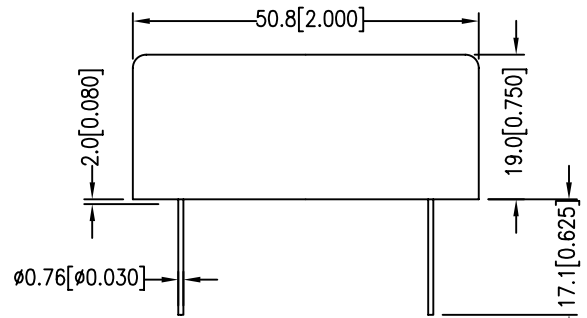
Bottom view

Pin Connections

- Pin 1: Ground/Case
- Pin 2: Supply Voltage
- Pin 3: RF Output
- Pin 4: Control Voltage

Package: OC22

Solder Sealed



Bottom view