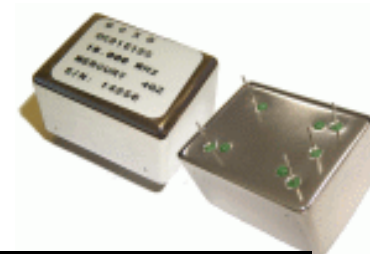


OCXO (Oven Controlled Crystal Oscillators)**+5.0 V****OC31E5A; OC31E5S Series****50 Ω Load Sine Wave****MERCURY**
Since 1973

Mercury OC31E is 36.2x27.2 mm 5 pin solder sealed metal package with 25.4x17.8 mm pin-to-pin spacing high stability low aging OCXO. Besides standard AT cut crystal, users can also choose SC cut crystal for better performance. HCMOS square wave output is available as OC31T series.

**General Specifications**

Output Wave Form			Sine wave. Wave form code is "E"			
Frequency Range			4.0 MHz ~100.0 MHz			
Type of Crystal Cut Used			AT-cut. Use "A" for crystal code or SC-cut: use "S" for crystal code. Please refer to technical note TN031 for SC and AT-cut crystal comparison			
Supply Voltage (Vcc)			+5.0 V _{D.C} ±5% (voltage code is "5")			
Initial Calibration Tolerance			±0.05 ppm max. at time of shipment; Vcon= +2.5V			
Frequency Stability vs	Operating Temperature Range (custom spec. on request)		AT-cut crystal		SC-cut crystal	
			±0.03 ppm over -20°C to +70°C		±0.01 ppm over -20°C to +70°C	
			±0.05 ppm over -20°C to +70°C		±0.03 ppm over -20°C to +70°C	
			±0.1 ppm over -20°C to +70°C		±0.05 ppm over -20°C to +70°C	
	Aging		±0.05 ppm over -40°C to +85°C		±0.03 ppm over -40°C to +85°C	
			±0.1 ppm over -40°C to +85°C		±0.05 ppm over -40°C to +85°C	
			±0.5 ppm over -40°C to +85°C		±0.1 ppm over -40°C to +85°C	
Supply Voltage ±5% Variation		AT-cut: ±0.1 ppm typical first year. SC-cut: ±0.05 ppm typical first year.				
Load ±5% variation		±20 ppb max.				
Warm-up time (at +25°C)		±20 ppb max.				
Voltage Control on pin 1 (EFC) (Electronics Frequency Tuning)		Freq. Deviation Range		AT-cut: ±5 ppm typical SC-cut: ±0.7 ppm typical		
		Control Voltage Range		0.5 V to 4.5 V		
		Transfer Function		Positive: Increasing control voltage increases output frequency.		
		Input Impedance		100 K Ω min.		
		EFC Linearity		±10% max.		
Power	Power Dissipation (at +25°C)		Warm-up: 500 mA max. Steady-state: 200 mA max.			
Output	Wave Form		Sine wave			
	Load		50 Ω			
	Output Level		0 dBm min.; +3 dBm typical; +5 dBm max.			
	Harmonic		-30 dB min.; -40 dB typical; -45 dB max.			
	Spurious		-75 dB min.; -80 dB typical; -85 dB max.			
	Phase Noise	Offset	10 Hz	100 Hz	1 KHz	10 KHz
10 MHz AT-cut XTAL		-115 dBc typ.	-140 dBc typ.	-150 dBc typ.	-155 dBc typ.	
Storage Temperature			-40°C to +105°C			
Shock			2000 G's, 0.3 ms ½ sine			

MERCURY www.mercury-crystal.com

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OCXO (Oven Controlled Crystal Oscillators) OC31E5A; OC31E5S Series

+5.0 V
50 Ω Load Sine Wave

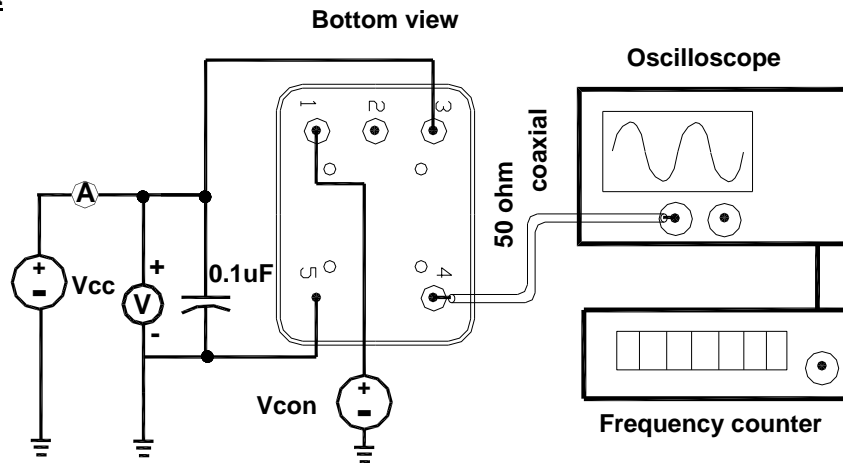


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Since 1973

Vibration

10 to 2000 Hz / 10 G's

OC31E Test Circuit



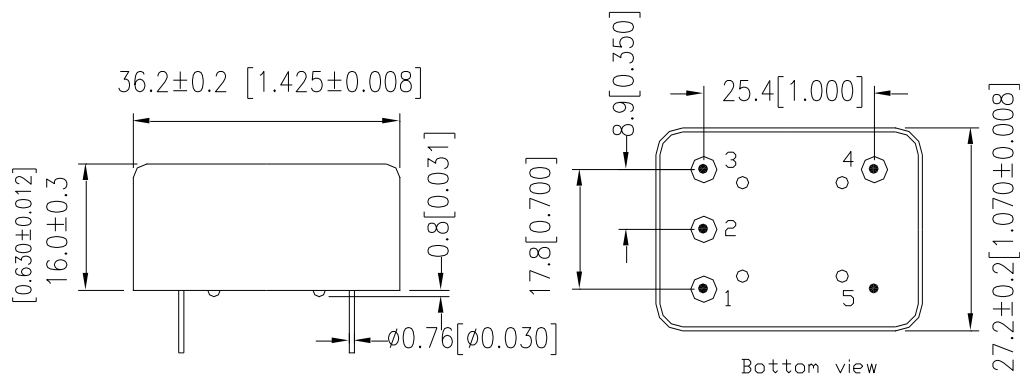
OC31E Series Package Dimensions and Pin Connections:

unit mm

Pin 1: Voltage Control EFC
Pin 4: RF Output

Pin 2: Reference Voltage Output
Pin 5: Ground / Case

Pin 3: Supply Voltage



Part Number Format and Example:

Example: OC31E5A-10.000-0.1/-20+70

OC31E5	A	—	10.000	—	0.1	/	-20+70
①	②	dash	③	dash	④	slash	⑤

①: OC31E5: OC31 series; “E” for 50 ohm load sine wave; “5” for +5.0 V supply voltage

②: Crystal type. “A” for AT-cut crystal; “S” for SC-cut crystal ③: Frequency in MHz

④: Frequency stability in ppm ⑤: Operating temperature range in Celsius