

**OCXO (Oven Controlled Crystal Oscillators)
OC14E5A, OC14E5GA (RoHS version) Series**

**+5.0 V
Sine Wave**



MERCURY
Since 1973

- Full size 4 pin DIP full metal package
- +5.0 V D.C supply Voltage
- 50 ohm load Sine wave output
- AT-cut crystal
- Voltage control (Electronic Frequency Tuning) on pin 1



General Specifications (10 MHz at +25°C, at +5.0 V Vcc and +2.5 V Vcon)

Output Wave Form		Sine wave. Wave form code is "E"				
Frequency Range		10 MHz ~100.0 MHz. Note: 40 MHz max. for RoHS version				
Type of Crystal Cut Used		AT-cut. Use "A" for crystal code.				
Supply Voltage (Vcc)		+5.0 V ±0.2 V (voltage code is "5")				
Initial Calibration Tolerance		±0.5 ppm max. at the time of shipment. Vcon= +2.5V				
Frequency Stability vs	Operating Temperature Range (custom spec. on request)	Operating Temperature	0°C to +60°C	-20°C to +70°C	-40°C to +85°C	
		Best Stability Available	±0.075 ppm	±0.15 ppm	±0.25 ppm	
		Typical Stability	±0.2 ppm	±0.3 ppm	±0.5 ppm	
	Aging	< ±0.7 ppm first year. < ±4.0 ppm over 10 years.				
	Short Term Stability	< 5 E ⁻¹⁰ (0.1 sec to 30 sec.); typical 5 E ⁻¹¹ at 1 sec.				
	Supply Voltage ±0.2 V Variation	< ±0.1 ppm				
	Load ±5% variation	< ±0.01 ppm				
Warm-up time (at +25°C)	3 minutes max. Within ±0.1 ppm of its reference frequency.					
Voltage Control on pin 1 (EFC) (Electronics Frequency Tuning)	Frequency Deviation Range	±4 ppm min. Referenced to fo at +25°C.				
	Control Voltage Range	0.0 V to 5.0 V				
	Transfer Function	Positive: Increasing control voltage increases output frequency.				
	Input Impedance	47 K ohms min.				
	EFC Linearity	±10% max.				
Power	Power Dissipation (at +25°C)	1.5 Watts max. at steady-state. 2.5 Watts max. at turn-on.				
Output	Output Level	3 dBm typical with 50Ω load				
	Harmonic	-10 dBc min.				
	Spurious	-70 dBc min.				
	Phase Noise	Offset	1 Hz	10 Hz	100 Hz	1 KHz
10 MHz at static condition		-80 dBc	-110 dBc	-135 dBc	-145 dBc	-150 dBc
Storage Temperature		-65°C to +125°C				
Shock		2000 G's, 0.3 ms ½ sine				
Vibration		10 to 2000 Hz / 10 G's				

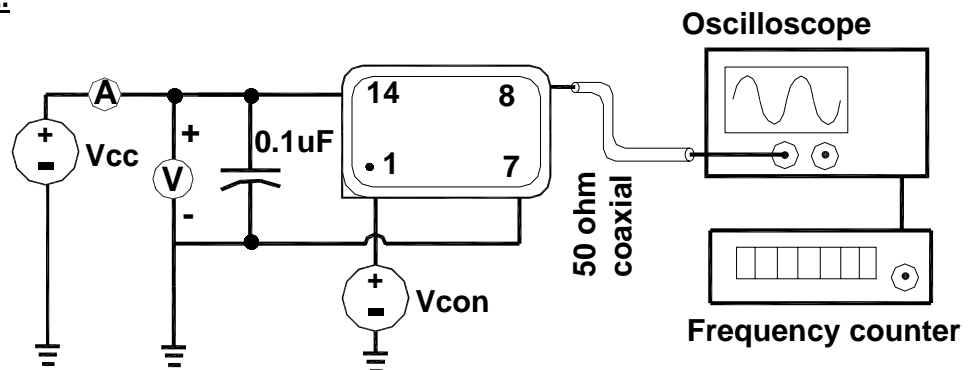
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OC14E5A Test Circuit:

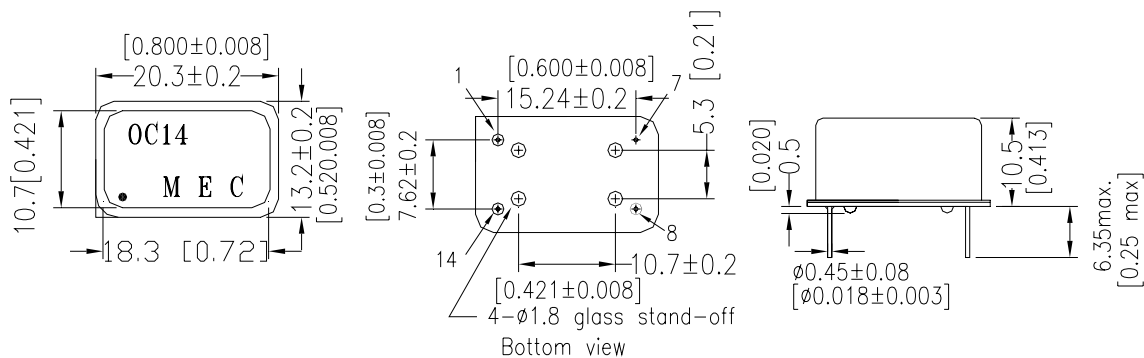


OC14E5A Package Dimensions and Pin Connections:

Pin 1: Voltage Control (EFC)
Pin 8: Output

Pin 7: Ground / Case
Pin 14: Supply Voltage

unit mm [inches]
Square corner is pin No. 1



Part Number Format and Example:

Example: OC14E5GA-10.000-0.1/-20+70											
OC	14	E	5	G	A	—	10.000	—	0.1	/	-20+70
①	②	③	④	⑤	⑥	dash	⑦	dash	⑧	slash	⑨
<p>①: "OC" Product Prefix for OCXO ②: Package type. "14" for 4 pin DIP.</p> <p>③: Output wave form code. "E" for 50 ohm load Sine wave.</p> <p>④: Supply voltage code. "5" for +5.0V;</p> <p>⑤: "G" for RoHS compliant equivalent, " " (blank) for non-RoHS part.</p> <p>⑥: Crystal type. "A" for AT-cut crystal;</p> <p>⑦: Frequency in MHz; ⑧: Frequency stability in ppm;</p> <p>⑨: Operating temperature range: -20°C to +70°C in this case.</p>											