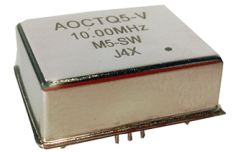


# Oven Controlled Crystal Oscillators

**AOCTQ5**



RoHS/RoHS II compliant



36.1 x 27.1 x 12.1 mm Leaded

## FEATURES:

- 36.1x 27.1 x 12.1mm Leaded- RoHS Compliant Package
- SC-Cut, High “Q” resonator based design
- Either CMOS or Sinewave output
- Tight frequency stability:
  - ± 3 ppb accuracy over -40°C to +85°C temperature range
  - ± 5 ppb accuracy over -55°C to +85°C temperature range
- Excellent close-in phase noise (-145 dBc/Hz max. @1kHz offset; 10MHz carrier)
- Ideal for Low-g-Sensitivity Designs (0.3 ppb/g maximum)

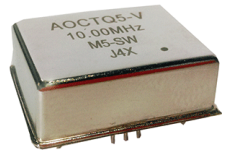
## APPLICATIONS:

- COTS Military & Industrial Radios & Timing Circuits
- Cellular Infrastructure
- Radar Systems
- Test & Measurement Equipment
- GPS Tracking with precision hold-over accuracy
- WiMax / WLAN

## STANDARD SPECIFICATIONS:

Parameters	Min.	Typ.	Max.	Units	Notes
<b>RF Output</b>					
Frequency		10.00		MHz	
<b>Supply Voltage (Vdd)</b>		5		Vdc	
<b>Power Consumption</b>			5	W	During Warming-up
			1.6	W	Steady-State @ +25°C & under still air
<b>Waveform</b>	Sinewave				
Output Level	+7		+14	dBm	
Harmonics			-35	dBc	
Spurious			-70	dBc	
Output Load		50		Ω	
<b>Waveform</b>	HCMOS				
V <sub>OH</sub>	2.4			V	With Load =15pF
V <sub>OL</sub>			0.4	V	
Duty Cycle	45		55	%	@ (V <sub>OH</sub> - V <sub>OL</sub> )/2
Rise/Fall Time			6	ns	With Load =15pF
Output Load			15	pF	
<b>Storage Temperature Range</b>	-55		+125	°C	
<b>Initial Frequency Tolerance</b>			±10	ppb	At shipment, nominal EFC
<b>Short-term Stability (1 sec)</b>			5 x 10 <sup>-11</sup>		Test after 15 minutes
<b>Warm-up Time</b>			10	Minutes	@+25°C, with-in ±5ppb of final frequency
<b>G-Sensitivity</b>			0.3	ppb/g	
<b>Frequency Stability vs. Temp.</b>					Available Options
-40° C to +85°C			±3	ppb	Option “I3”
			±5	ppb	Option “I5”
-55° C to +85°C			±5	ppb	Option “M5”
			±10	ppb	Option “M10”
<b>Frequency Stability vs. Supply Voltage (Vdd ± 5%)</b>			±3	ppb	
<b>Frequency Stability vs. Load Variation (Load ± 5%)</b>			±3	ppb	
<b>Aging</b>					
Per Day			±0.5	ppb	After 30 days in operation
Per Year			±50	ppb	

# Oven Controlled Crystal Oscillators



36.1 x 27.1 x 12.1 mm Leaded

**AOCTQ5**



RoHS/RoHS II compliant

## STANDARD SPECIFICATIONS:

Parameters	Min.	Typ.	Max.	Units	Notes
<b>Phase Noise (10MHz Carrier) @ +25°C</b>					
@ 10 Hz offset		-120		dBc/Hz	
@ 100 Hz offset		-140		dBc/Hz	
@ 1,000 Hz offset		-145		dBc/Hz	
@ 10,000 Hz offset		-155		dBc/Hz	
@ 100,000 Hz offset		-160		dBc/Hz	
<b>Electrical Frequency Adjustment</b>					For Voltage Control Option only
Control Voltage Range (Vc)	0		5	Vdc	
Center Control Voltage (Vc)	2.30	2.50	2.70	Vdc	To be with-in ±10 ppb from 10.000MHz (as received)
Frequency Pull Range	±500			ppb	
Frequency Pull Slope	Positive				

## Maximum Ratings

Parameters	Min.	Typ.	Max.	Units	Notes
Supply Voltage (Vdd)	-0.3		15	V	
Control Voltage (Vc)	0		5	V	
ESD, HBM/CDM/MM	3kV/1kV/200V				

## PART IDENTIFICATION:

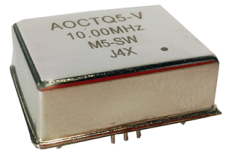
AOCTQ5 -  -10.000 MHz -  -

Fixed or Voltage Controlled
X = Fixed
V = Voltage Controlled

Operating Temp. Range	Frequency Stability (ppb)		
	±3	±5	±10
-40°C to +85°C	I3	I5	
-55°C to +85°C		M5	M10

Output Type
Blank: CMOS
SW: Sinewave

# Oven Controlled Crystal Oscillators



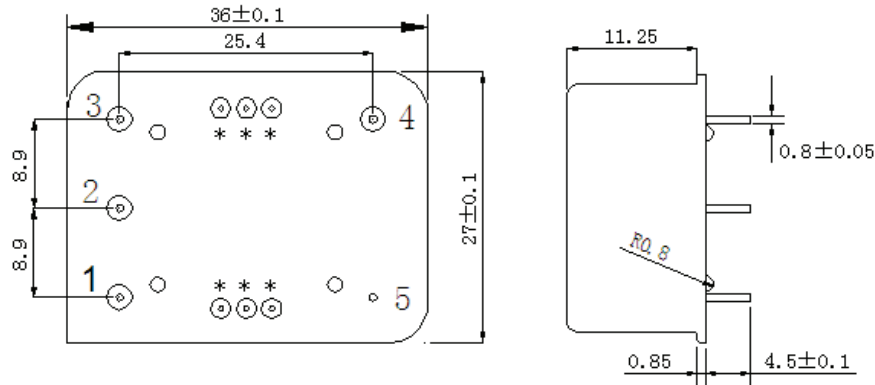
36.1 x 27.1 x 12.1 mm Leaded

**AOCTQ5**

**ESD Sensitive**

**RoHS/RoHS II compliant**

## OUTLINE DIMENSION:

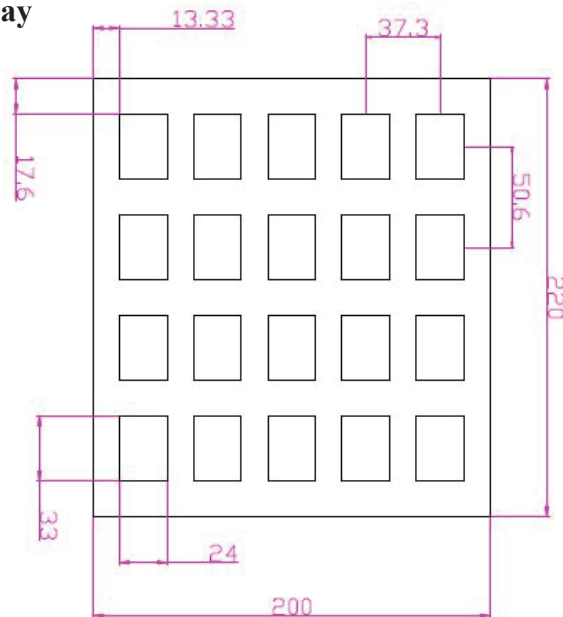


Pin No.	Function	
	Fixed	Voltage Controlled
1	NC	Control Voltage (Vc)
2	NC	
3	Power Supply (Vdd)	
4	Output (Fout)	
5	Ground, Case (GND)	
*	For factory test only	

Dimensions: mm

## TAPE & REEL:

Packaging: 20pcs/tray



Dimensions: mm

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