



Model FE-5149 OCXO

- Standalone Ultra-Stable Quartz Reference Oscillator
- Available in 10 MHz, 10.24 MHz as well as other output frequencies
- RF Output Power standard at +13dBm but other levels available
- Modular unit design allows for wide range of Input Voltages ranging from +28 to +100V DC
- Ultra-Stable Oscillator utilizes a Titanium Dewar Flask with Triple Ovens to produce Excellent Phase Noise and Allan Deviation Performance that are desensitized from external ambient temperature variations
- Space Qualified design with history on multiple programs
- Radiation Hardened for GEO & LEO Applications

Parameter	Condition	Typical	Max	Unit
Output		10.24		MHz
RF Output Power	Into 50 Ω	+13 $\pm$ 2 dBm		dBm
Aging	90 Days after Turn-On	$\pm$ 5E-11		/Day
Allan Deviation	1 second	<5.0E-13		
	10 seconds	<5.0E-13		
	100 seconds	<5.0E-13		
	1000 seconds	<1.0E-12		
Stability	Long Term Stability (All Conditions)		$\pm$ 5E-7	15 years
	Diurnal Stability (30 Days after Turn-On)		$\pm$ 1E-10	25°C
Phase Noise	1 Hz	-108		dBc/Hz
	10Hz	-130		dBc/Hz
	100Hz	-145		dBc/Hz
	1kHz	-155		dBc/Hz
	10kHz	-162		dBc/Hz
	100kHz	-163		dBc/Hz
	1MHz	-164		dBc/Hz
Spurs	All Non-Harmonic Related		<-80	dBc
Harmonics			<-50	dBc
Warm-Up			60	Minutes
Input Voltage		+70		volts
Power Consumption	Warm-up, Vac/Air	12	15	watts
	Continuous, Vac/Air	7	10	watts



Environment	Comments	Level
Thermal Vac Environment	Qualification	-34° to +71°C
	Protoflight	-29 to +71°C
	Acceptance	-24 to +66°C
	Non-Op Qual Range	-34 to +71°C
	Non-Op Protoflight Range	-29 to +71°C
Pyro Shock	Non-Op Acceptance Range	-24 to +66°C
	100Hz	20g SRS
	2000Hz	2000g SRS
	10000Hz	2000g SRS
Vibration - Random	Any Axis	20 grms
EMI/EMC Compliance	Qualified per standard MIL-STD-461/462 tests	
Radiation	RAD Hardened for typical LEO & GEO total dose and displacement damage environments; Not SEE susceptible	

Item	Comments
Commands	ON/OFF Command +26 Relay Pulse
Telemetries	Oven Temp - Thermistor floating leads - 30k @ 25C
	Chassis Temp - Thermistor floating leads - 30k @ 25C
Connectors	RF Connector SMA Female - M83517/04-32005
	J1: 15 pin MicroD-Subminiature Plug In - M83513/01-BN
	J1: 9 pin MicroD-Subminiature Plug In - M83513/01-AN
Unit Envelope Dimensions:	L x W x H (in) - 7.25" x 3.75" x 6.2"
Mass	2450 Grams (Max)

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