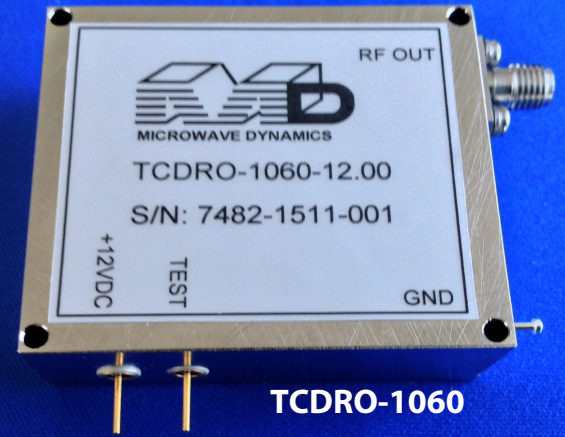




MICROWAVE DYNAMICS

TCDRO-1060

TEMPERATURE COMPENSATED
OSCILLATOR (TCDRO)



TCDRO-1060

FEATURES

- * DIELECTRIC RESONATOR
- * FREQ STABILITY BETTER THAN 0.1 PPM/°C
- * INTERNAL VOLTAGE REGULATOR
- * LOW PHASE NOISE
- * MIC FABRICATION
- * LOW MICROPHONICS
- * UP TO +25 dBm OUTPUT POWER
- * AVAILABLE FROM 1-40 GHz
- * OPERATING RANGE: -40°C TO +85°C

APPLICATION

- * SATELLITE COMMUNICATIONS
- * CABLE TV LINKS (CATV)
- * LOCAL AREA NETWORKS (LAN)
- * GLOBAL POSITIONING SYSTEMS (GPS)
- * TEST EQUIPMENT
- * POINT TO POINT
- * UP/DOWN CONVERTERS
- * TRANSMITTER & RECEIVERS
- * DIGITAL RADIOS
- * MISSILE GUIDANCE
- * SPACE, MILITARY, COMMERCIAL

DESCRIPTION

TCDRO-1060 Temperature compensated Dielectric Resonator Oscillator (TCDRO) utilizes state-of-the art MIC and SMT to provide high stability at microwave frequencies up to 40 GHz. The low profile and rugged construction provide excellent durability against harsh environmental conditions.

TCDRO-1060 oscillator is designed using FET or BJT amplifier with series feed back at source and Dielectric Resonator at the gate. High gain, low-noise FETs/BJTs are biased positively or negatively at the gate to ensure minimum phase-noise. The device is carefully matched for maximum power, minimum phase-noise and Voltage Standing Wave Ratio (VSWR). The oscillator is matched for maximum temperature stability and optimum negative resistance.

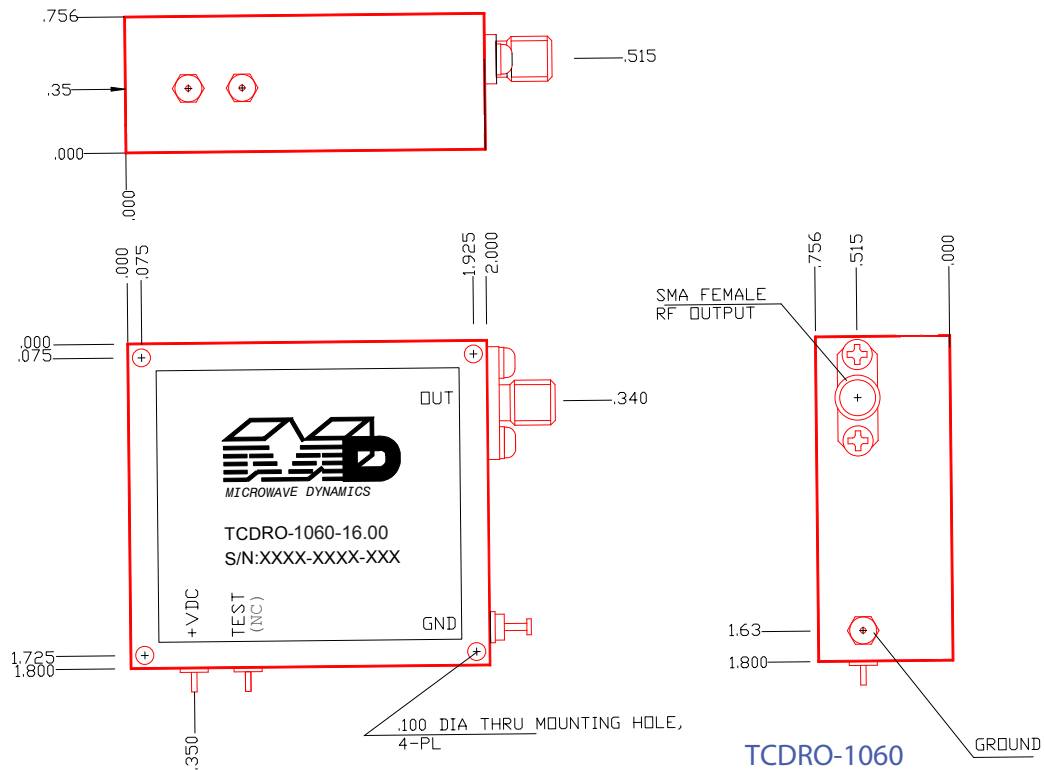
TCDRO-1060 oscillator is buffered by cascaded low-noise driver and power amplifiers for minimum load pulling, maximum isolation and power. FET/BJT devices are directly attached to gold plated Kovar carriers to minimize shear effect and maximize heat sinking. Kovar carriers are mounted to the chassis to provide an efficient thermal junction and a stable structure for reduction of microphonics. Temperature compensating circuit is added to ensure the frequency stability over temperature range. Frequency pushing and pulling is negligible.

TCDRO-1060 series is internally voltage regulated to avoid reverse bias. frequency pushing, bias modulation and voltage transients.

SPECIFICATIONS

Model Number	TCDRO-1060-XX.XX (Where XX.XX is freq in GHz)
Single Frequency	1.00 to 40.00 GHz
Power Output	+13 dBm, up to + 25 dBm Optional
Load VSWR, Maximum	2.0: 1.0
Power Requirements	+12VDC or +15 VDC @ 200 mA (TYP)
Pushing	Less than 1 KHz/V, +/- 4V
Pulling	Less than 1 KHz @ 1.5:1
Power Variation	+/- 2 dBm
Frequency Stability	0.1 ppm/°C
Phase Noise	-85 dBc/Hz @ 10 KHz (TYP)
Spurious	-75 dBc
Harmonics	-25 dBc
Operating Temperature	0°C to 50°C Standard; -40°C to +85°C Optional
Storage Temperature	-55°C to 125°C
Connectors	SMA-Female or 2.92 mm-Female
Size	2.0" x 1.8" x .75"
Finish	Nickel

OUTLINE DRAWING



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