

# MECHANICALLY-TUNED DIELECTRIC RESONATOR OSCILLATORS

## DRO SERIES: M

### FEATURES

- Ultra-clean source ideal for low spur application
- Miniaturized design
- High-reliability construction
- Low phase noise



### OPTIONS

- High power (-HP-ST)
- Voltage tuning (-VT-ST)
- Special (-SP) (please contact factory before ordering)

### MECHANICAL SPECIFICATIONS

Outline number  
5.....1.05" x 1.45" x 0.63"  
Weight .....Frequency dependent, please  
consult MITEQ where critical  
RF connectors.....SMA female  
DC connectors.....Feedthru filter

### ENVIRONMENTAL SPECIFICATIONS

MITEQ's standard dielectric resonator oscillators have been designed to meet the following maximum environmental conditions.  
Operating temperature ..... -55 to +95°C  
Storage temperature ..... -65 to +115°C  
Humidity ..... 95% at 40°C, noncondensing  
Shock (survival)..... 30 g's, 10 ms pulse  
Vibration (survival) ..... 20 to 2000 Hz random to 4 g's rms

## ORDERING INFORMATION

DRO - M - \_\_\_\_\_ - \_\_\_\_\_  
Series      Frequency      Type

ST: standard  
HP-ST: high power standard  
VT-ST: voltage tunable standard  
SP: special

Example 1: 22 GHz DRO standard: DRO-M-22000-ST.  
Example 2: 22.7 GHz DRO with +17 dBm power: DRO-M-22700-HP-ST.  
Example 3: 23 GHz DRO with any specification different than listed in catalog  
DRO-M-23000-SP, please contact MITEQ.

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## ELECTRICAL SPECIFICATIONS

PARAMETERS	SERIES - ST: M
Operating Frequency range (note 2)	22 - 24GHz
Output power (note 1)	+11 dBm, min
Output power variation over temperature range	$\pm 1.5$ dB, max
Fundamental	-20 dBc, max
Harmonics	-20 dBc, max
Spurious	-80 dBc, max
Mechanical tuning	$\pm 10$ MHz, min
Frequency pushing	30 kHz/V, max
Frequency pulling (1.5:1 VSWR)	1 MHz, P-P max
Frequency drift temp. coefficient (note 3)	5 ppm/ $^{\circ}$ C, max
Phase noise @ 10 kHz offset	80 dBc/Hz, typ.
DC power	15 Volts (note 4)
Current	120 mA, Max.
Outline Drawing	5
Temperature range	-20 to +70 $^{\circ}$ C
VOLTAGE TUNABLE (VT-ST)	
Electrical tuning @ Vvar = 1-15 V	25 MHz, min
Phase noise @ 10kHz offset	75 dBc/Hz, typ.
HIGH POWER OPTION (HP-ST)	
Output power	+14 dBm, min
Current	150 mA, max
Frequency pulling (1.5:1 VSWR)	1 MHz, P-P max
Outline Drawing	5
Notes:	
<ol style="list-style-type: none"> <li>1. Output power is guaranteed into 50 ohm load.</li> <li>2. Operating frequency must be specified.</li> <li>3. Averaged over the full temperature range</li> <li>4. Alternate DC voltage available.</li> </ol>	

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## OUTLINE DRAWING

### OUTLINE 5

