Pulsed Gunn Oscillators
18-60 GHz

6 (WG) P Series

Features

- Small and Lightweight
- Peak Output Power to 500mW
- Fast Rise Time

Description

The high output power, excellent frequency and power stability of these Millimeter Wave Pulsed Gunn Diode Oscillators make them ideally suited for radar transmitters, point to point digital communications links, industrial control systems as well as laboratory applications. With pulse widths of 0.05 to 2.0 microseconds and duty cycles of 0.001 to 0.01, a broad range of radar and telecommunications requirements can be satisfied from 18.0 to 60.0 GHz. Custom options include: pulse modulator with TTL command pulse input, isolators, voltage regulators, frequency stabilizing circuits, special diode screening criteria, higher power outputs, wider tuning bandwidths, waveguide sizes, chip compensation etc. Contact the factory with your requirements.

Environmental

These devices are designed to meet the following conditions:

Test	MIL-STD	Method	Condition
Temperature Cycle	202	102A	-50°C to +85°C 5 cycles, ½ hour per cycle
Acceleration (Non-Operating)	202	212	11G, three mutually perpendicular axes
Vibration (High Freq.)	202	204B	10G Peak, 10-2000 Hz

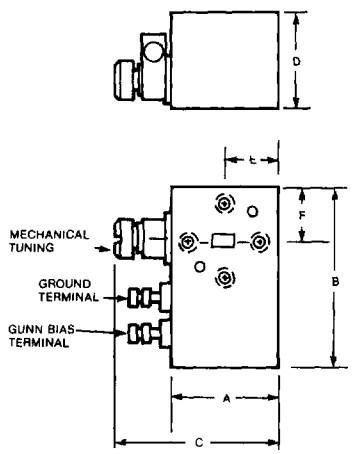
Maximum Ratings

Storage Temp.	-50°C to +85°C
Operating Temp.[1]	-30°C to +70°C

Notes:

1. The operating temperature range is defined as the range of temperature over which application of the bias dc voltage will cause no degradation of the RF performance. The electrical parameters specified in the table on next page are guaranteed from 0°C to +50°C.

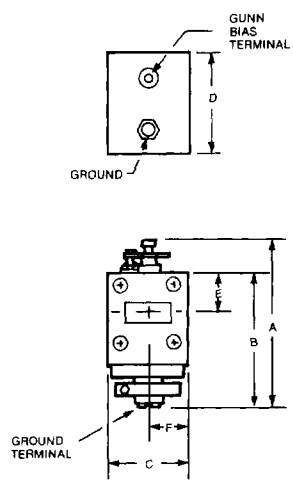
WR-42, WR-28



DIM. (Max.)	MODEL NUMBERS 6-22-808 IN	6-22-808 MM	6-15-808 IN	6-15-808 MM
A	1.12	28,4	0.76	19,3
B	1.30	33,0	1.30	33,0
C	1.65	41,9	1.30	33,0
D	0.67	17,0	0.67	17,0
E	0.56	14,2	0.38	9,7
F	0.56	14,2	0.38	9,7

DIMENSIONS. (Max.)	MODEL NUMBERS 6-42-818 6-42-819 IN	6-42-818 6-42-819 MM	6-28-818 6-28-819 IN	6-28-818 6-28-819 MM
A	1.82	46,2	1.76	43,2
B	1.50	38,1	1.36	34,5
C	0.80	20,3	0.76	19,3
D	0.93	23,6	0.75	19,1
E	0.45	11,4	0.38	9,7
F	0.40	10,2	0.38	9,7

WR-22, WR-15



Specifications at T_C 30°C[5]

Waveguide	Frequency (GHz)[1]	Mechanical Tuning Range (MHz Min.)	Peak Power Output[2] mW	Input Current (Peak Amps. Max.)	Frequency Chirp (MHz Min)	Frequency Deviation[4] (MHz/°C Max.)	Model No.[1]
WR-42	18.0-26.5	±100	250	1.5	100	-0.4	6-42P-818XX*
WR-42	18.0-26.5	±100	500	2.5	100	-0.4	6-42P-819XX*
WR-28	26.5-40.0	±150	250	1.5	100	-0.7	6-28P-818XX*
WR-28	26.5-40.0	±150	500	2.0	100	-0.7	6-28P-819XX*
WR-22	40.0-50.0	±200	250	1.5	200	-2.0	6-22P-808XX
WR-15	50.0-60.0	±200	250	1.5	200	-3.5	6-15P-808XX

***Specify tapped or thru holes for flange.**

Common Specifications

Pulse Width	0.05 to 2.0 µsec.
Duty Cycle	0.01 to 1.0 percent
Peak Input Voltage	+20V Max.[3]
Power Deviation	-.05 dB/°C Max.[4]

Mechanical Specifications

Waveguide	WR-42	WR-28	WR-22	WR-15
RF Mating Flange MIL-F-3922/	54-001-M	68-001 68-002	67B-006	67B-008
UG Reference	595/U	599/U	383/U	385/U
Bias Input	Solder Terminal			

Notes:
1. Replace "XX" in model number with desired center frequency.
2. Higher output power and operating temperature ranges available. The maximum output power is guaranteed into a 1.2:1.0 VSWR. The pulsed oscillator will not be damaged by an RF load from a short to an open circuit.
3. Exact operating voltage is factory set. All bias dc voltages are positive.
4. Frequency and power stability are measured between 0°C and 50°C. For further frequency or voltage stability information, consult factory.
5. Test data measured at a case temperature of 30 ±5°C is provided with each unit.