



DC SERIES

Model DC-20/26.5G

20 TO 26.5 GHz ULTRA-WIDEBAND BLOCK DOWNCONVERTER



FEATURES

- 20 to 26.5 GHz RF input
- Very low phase noise
- Extends input receive bands of DC-8/20G and DC-0.5/20G to 26.5 GHz

The DC-20/26.5G is a high-performance single conversion inverting ultra-wideband block downconverter system. The system converts an input signal in a 20–26.5 GHz band to an output of 10.3–16.8 GHz, and allows an input of 0.5–20 GHz to pass through with no conversion. This block downconverter is designed to be used with MITEQ Models DC-8/20G and DC-0.5/20G ultra-broadband 2 Hz resolution tunable downconverters to extend their input receive band to 26.5 GHz.



SPECIFICATIONS

INPUT CHARACTERISTICS

| | |
|-----------------------|------------------------------|
| Input frequency | 20–26.5 GHz |
| Level..... | to -35 dBm operational |
| Impedance | 50 ohms |
| Input VSWR | 2.0:1 typical, 2.5:1 maximum |
| Noise figure | 15 dB typical, 18 dB maximum |

OUTPUT CHARACTERISTICS

| <u>RF Input Bands</u> | <u>RF Output Bands</u> |
|-----------------------|------------------------|
| 20–26.5 GHz | 10.3–16.8 GHz |
| 0.5–20 GHz | Pass-Thru |

| | |
|---------------------------------------|------------------------------|
| Output power (1 dB compression) | -15 dBm |
| Impedance | 50 ohms |
| Output VSWR..... | 2.0:1 typical, 2.2:1 maximum |

TRANSFER CHARACTERISTICS

| | |
|-----------------------|-----------------------------------|
| Conversion type | Single |
| Frequency sense..... | Inverting |
| Gain..... | 0 ±2 dB |
| Gain flatness | ±1 dB maximum in any 500 MHz slot |
| Inband spurious..... | -55 dBc typical |
| Image rejection..... | 55 dB typical |
| LO leakage..... | -70 dBm maximum |

SINGLE SIDEBAND PHASE NOISE

| <u>Phase noise</u> | <u>Offset from carrier</u> | <u>dBc/Hz (typ.)</u> |
|--------------------------|----------------------------|----------------------|
| | 100 Hz | -62 dBc |
| | 1 kHz | -87 dBc |
| | 10 kHz | -98 dBc |
| | 100 kHz | -103 dBc |
| | 1 MHz | -123 dBc |

GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS

Voltage 90–250 VAC
Frequency 47–63 Hz

PHYSICAL

Weight 19 pounds nominal
Overall dimensions 19" x 1.75" x 22" maximum
Rear panel connectors
RF IN 3.5 mm female
RF OUT SMA female
Remote interface DEM-9S for RS422/485/232
Summary alarm DE-9P
External reference input BNC female
Reference output BNC female
Opto interface to DC-8/20G and
DC-0.5/20G 10-pin header w/ejector

ENVIRONMENTAL

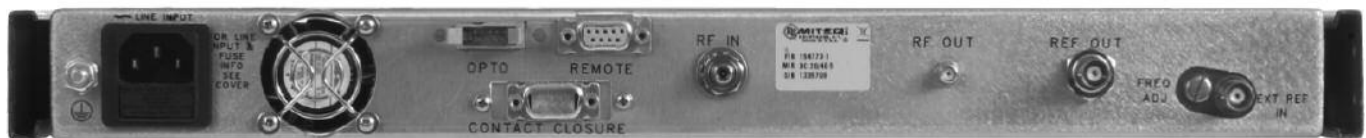
Operating

Temperature 0 to 50°C
Full compliance temperature range 10 to 40°C
Relative humidity Up to 95% at 30°C
Atmospheric pressure Up to 10,000 feet

Nonoperating

Temperature -30 to +70°C
Relative humidity Up to 95% at 40°C, noncondensing
Atmospheric pressure Up to 40,000 feet
Shock and vibration Rough handling

REAR PANEL VIEW



ORDERING INFORMATON

Specify by part number: DC-20/26.5G



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