Planar Monolithics Industries, Inc.

2.0 to 18.0 GHz, 64dB, CW Immune
Extended Range Detector Log Video Amplifier

TECHNICAL Datasheet

PMI Model ERDLVA-218-CW-LPD is a CW Immune, Extended Range Detector Logarithmic Video Amplifier (ERDLVA) designed for ultra low DC power consumption. This model operates over the 2.0 to 18.0GHz frequency range and has the ability to interface with an output cable measuring over 100 feet in length. This model provides very high speed, excellent flatness and accuracy in an ultra small hermetically sealed housing measuring only 2.04” x 1.67” x 0.472”.

Features

- 2.0 to 18.0 GHz
- -60 to +4dBm Logging Range
- 30ns Propagation Delay
- -64dB Min. TSS
- VSWR 2.0:1 Max.
- 200ns Recovery Time Typ.

Applications

- EW Systems
- Radars
- UAVs & UGVs
- Communications
- Test Equipment
- Laboratories

Electrical Specifications

- Frequency Range: 2.0 to 18.0GHz
- Frequency Flatness: ±2.0 dB max.
- TSS: -64dBm min.
- Maximum Noise: 100mV RMS with input terminated
- VSWR: 2.0:1 max.
- Maximum Input Power (No Damage): +30dBm CW
- Maximum Peak Pulse, 1% Duty Cycle, 0usec: +50dBm
- Log Slope: 77mV/dB (±5mV)
- Video Output Range: -0.5V (-60dBm) < RF IN < 5.5V (4dBm)
- DC Offset: ±150mV
- Log Range: -60 to +4dBm min.
- Log Linearity: ±1.5dB (-20°C to +85°C) max.
- ±1.75dB (-54°C to +95°C) max.
- Pulse Range: 200ns/sec to 20usec
- Propagation Delay: 30ns/sec
- Rise Time: 35ns max. (20ns typ)
- Settling Time to ±1dB: 50ns
- Recovery Time: 500ns max (200ns typ)
- Duty Cycle: 80% at maximum pulse width
- 50% at minimum pulse width
- CW Immunity Range: TSS to -40dBm
- Pulse Considered "CW": 900usec
- Baseline Shift: 25mV max.
- Rejection Time: 1msec
- Droop: 1dB max.
- Power Supply: ±10.8V to ±12.5V
- Maximum DC Power: 3.9 watts (Both supplies)
- Weight: 8oz max (3 oz. typ)
- Reliability @ +95°C: >75,000 hours
- Package: Hermetically sealed
- Finish: Mil-Spec Epoxy Paint, Gray Color

West Coast Operation:
4921 Robert J. Mathews Pkwy, Suite 1
El Dorado Hills, CA 95762 USA
Tel: 916-542-1401 Fax: 916-265-2597

ISO9001 REGISTERED
Web: www.pmi-rf.com
Email: sales@pmi-rf.com

East Coast Operation:
7311-F Grove Road
Frederick, MD 21704 USA
Tel: 301-662-5019 Fax: 301-662-1731
Environmental Specifications

- Temperature: -54°C to +95°C Operating
  -62°C to +125°C Non-Operating
- Low Temperature: MIL-STD-810G, Method 502.5, Procedure I (Storage) and Procedure II (Operational)
- Temperature Shock: MIL-STD-810G, Method 503.5, Procedure I-C
- Temperature Cycle: MIL-STD-810G, Figure 503.5-3
- Humidity: MIL-STD-810G, Method 507.5, Procedure II
- Shock: MIL-STD-810G, Method 516.6, Procedure I
- Acoustic Noise Susceptibility: MIL-STD-810G, Method 515.6, Procedure I Figure 516.6A-1
- Fungus: MIL-STD-810G, Method 508.2

PROPAGATION DELAY @ 10.0 GHz
Green Trace: Crystal Detector
Yellow Trace: ERDLVA Video Output

TANGENTIAL SIGNAL SENSITIVITY
10.0 GHz 99.1Ω Load @ -54°C
TECHNICAL DATASHEET

SENSITIVITY WITHOUT CW @ 25C

DEGRADATION OF SENSITIVITY WITH -40dBm CW @ 25C

MAXIMUM NOISE P-P & RMS INTO 99.1 Ohms @ 25C

MAXIMUM NOISE P-P & RMS INTO 99.1 Ohms @ 54C

MAXIMUM NOISE P-P & RMS INTO 99.1 Ohms @ 95C

ERDLVA-218-CW-LPD

AM MODULATION 9.978GHz ON 10.0 GHz PULSE

AM MODULATION 10.0 GHz ON 10.0 GHz PULSE

AM MODULATION 10.023 GHz ON 10.0 GHz PULSE

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TECHNICAL DATASHEET
ERDLVA-218-CW-LPD

SMA FEMALE

SMP MALE
FULL DETENT

R0.050

4X Ø0.140

ERDLVA 2.0 TO 18.0 GHz
MODEL NO: ERDLVA-218-CW-LPD
SERIAL NO: PLXXXX/XXXX
PART NO: 

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