TECHNICAL DATASHEET

SDLVA-2D5G4D9G-60-50MV

PMI Model No. SDLVA-2D5G4D9G-60-50MV is a successive detection log video amplifier operating over the frequency range of 2.5 to 4.9GHz. It has a dynamic range of -60 to 0dBm and a log slope of 50.5 ±5% mV/dB. The unit has input power handling of +20dBm CW max with a duty cycle of 0 to 100%.

Features
- 2.5 to 4.9GHz
- 100ns to CW Pulse Width
- -70dBm TSS
- -60 to 0dBm Dynamic Range
- VSWR 2.0:1
- 20ns Rise Time

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

Electrical Specifications
- Frequency Range 2.5 to 4.9GHz
- Dynamic Range -60 to 0dBm
- Input RF Power Handling +20dBm CW max
- Duty Cycle 0 to 100%
- Pulse Width 100ns to CW
- VSWR 2.0:1 at J1 and J2 (50 Ohms ±2 nominal)
- RF Gain 50dB min
- RF Saturated Power +15dBm RF Output max
  1dB gain compression to be +6dBm min
- Tangential Sensitivity -70dBm min (J3)
- Log Video Load Imp. 93 ±5 Ohms
- Log Video Linearity +1.5dB max over input dynamic range
- Log Slope 50.5 ±5% mV/dB
- Absolute Log Video Output 0.423 ±0.075 with RF input of -55dBm
- AVG Log Video Output 0.17V ±0.05V with RF Input of -60dBm
  3.2V ±0.05V with RF Input of 0dBm
- Flatness <4.0dB @ -60 to -50dBm Input
  <6.0dB @ -50 to 0dBm Input
- No Sig Output Voltage >140 mV Below Output Voltage at -60dBm
- Rise Time 20ns (10 to 90%)
- Fall/Recovery Time 50ns (90 to 10%)
- Pulse Delay 90% RF Input to 90% Log Video Pulse <35ns
- Log Video Output CW & Pulse Leading Edge Overshoot 1.0dB up to -35dBm
  2.5dB from -35 to 0dBm
  35ns to recover within 0.6dB of final value
- DC Power +12VDC ±3%, 200mV P-P ripple @ 500mA max
  -12VDC ±3%, 200mV P-P ripple @ 180mA max
- Weight 1.4 oz max

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 Ratings

- **Temperature:**
  - Operating: -20°C to +85°C
  - Non-Operating: -65°C to +95°C

- **Altitude:**
  - 1300 to +35,000 FT Per MIL-STD-202F Method 105C

- **Thermal Shock:**

- **Humidity:**
  - MIL-STD-202F, Method 103B Cond. A

- **Fungus:**
  - MIL-STD-810C, Method 508.2

- **Salt Fog:**

- **Sand and Dust:**
  - MIL-STD-202F, Method 110A

- **Fluid Exposure:**
  - Resistant to and shall not form toxic by-products when exposed to:
    - A) Isopropyl Alcohol (TT-1-735)
    - B) 1,1,1 Trichloroethane, Vapor Decreasing Solvent (MIL-T-81533)
    - C) Freon TF
    - D) Methanol (O-M-232)
    - E) Coolanol 20, 25 and 25R
    - F) Hydraulic Oil (MIL-H-5606 or 87257)
    - G) Water

- **Shock:**

- **Acoustic Noise:**
  - 60 min test in normal mounting configuration, survival use table 1

- **Random Vibration:**
  - MIL-STD-202F, Method 214A
  - Per the vibration curve in Figure 1 on Product Feature

- **Sinusodial Search/Dwell:**
  - Unit to meet electrical requirements during/after test described in Table 2 on Product Feature. Resonance search is for a duration of 15 mins per axis duration of the dwell test shall be at 133Hz at an input level corresponding to the level specified in each of the three mutually perpendicular axes

- **Altitude:**
  - MIL-STD-202F, Method 212A Cond. A at a 20G level

- **Explosive Atmosphere:**
  - MIL-STD-810C, Method 511.1, Procedures I through III

- **Electromagnetic Interference:**
  - Paragraph 5.016 of MIL-STD-461 and the requirements identified in RE102
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SDLVA-2D5G4D9G-60-50MV
MECHANICAL OUTLINE

LOG TRANSFER WITH FREQUENCY
MODEL: SDLVA-2D5G4D9G-60-50MV
SERIAL NO: PL15984
Test Temp: +25°C

Video Out VS Input Power

Linearity Error VS Input Power
2.5 to 4.9GHz, 60dB
Successive Detection Log Video Amplifier

**TECHNICAL DATASHEET**

**SDLVA-2D5G4D9G-60-50MV**

**RISE TIME 25°C= 9.2nS**

**FALL TIME 25°C= 26.8nS**

**DELAY TIME 25°C= 16.4nS**

**OVERSHOOT 0dBm, 25°C= 49mV**
2.5 to 4.9GHz, 60dB
Successive Detection Log Video Amplifier

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MECHANICAL OUTLINE