Planar Monolithics Industries, Inc.

4.0 to 18.0GHz, 65dB Dynamic Range
Successive Detection Log Video Amplifier

TECHNICAL Datasheet
SDLVA-418-65-16MV-12DBM

PMI Model No. SDLVA-418-65-16MV-12DBM is a successive detection log video amplifier (SDLVA) that operates between the 4.0 to 18.0GHz frequency range. It has a dynamic range of 65dB, a nominal log slope of 16.7mV/db. Furthermore, it has been designed using cutting edge GaAs technology which provides stunning performance and reliability in a compact package.

Features
- 4.0 to 18.0GHz
- -64 TSS
- -55 to +10dBm Logging Range
- 65dB Dynamic Range
- 10ns Video Rise Time
- 30ns Recovery Time

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

Electrical Specifications
- Frequency Range: 4.0 to 18.0GHz
- TSS: -64dBm max
- Input Power Handling: +20dBm
- Video Log Range: -55dBm to +10dBm
- Video Log Linearity: ±1.8dB
- Video Log Slope: 16.7±1.3mV/db
- Video Frequency Flatness: ±3dB max
- Pulse Width Range: 25ns to CW
- Video Rise Time: 10ns max
- Video Fall Time: 15ns max
- Recovery Time: 30ns max
- Delay: <2nS
- Video Output Impedance: 350Ohms nominal
- RF In/Out Impedance: 500Ohms
- DC Power Supply: +12V @ 850mA
- -12V @ 250mA
- Size: 4.24" x 0.994" x 0.38"
- Weight: 3oz max
- Finish: Nickel Plate Per MIL-C-26074

Environmental Ratings
- Temperature: 0°C to +85 °C Operating
  -62°C to +86°C Non-Operating
- Humidity: 95% (Continuous and Intermittent)
- Shock: MIL-S-901 Grade A Class 1 Type B
- Vibration: MIL-STD-167-1 Type 1 (4-50Hz)

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ISO9001 REGISTERED
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-1-
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TECHNICAL DatasHEET
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Tabulated Data @ 25°C

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>INTERCEPT (mv)</th>
<th>SLOPE (mv/dB)</th>
<th>RF Input Power (dBm)</th>
<th>Measured Value (mv)</th>
<th>LINEARITY ERROR (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4000 MHz</td>
<td>-1126</td>
<td>-18.42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7600 MHz</td>
<td>-1118</td>
<td>-18.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11200 MHz</td>
<td>-1117</td>
<td>-16.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14800 MHz</td>
<td>-1121</td>
<td>-16.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18000 MHz</td>
<td>-1077</td>
<td>-16.87</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flatness (+/-dB)
1.36 1.87 1.50 2.20 1.66 1.75 2.11 2.17 2.72 1.30 1.68 1.48 1.24 1.05

Linearity Error VS Input Power

Video Out VS Input Power

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VSWR GRAPH

Input VSWR 1.6:1 Max
Output VSWR 1.6:1 Max

Saturated Output vs Frequency

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HARMONICS

MARKER
MKR 8.04 GHz
-11.99 dB

START 2.88 GHz
RES BW 3.0 MHz
VBW 1 MHz
SWP 326 msec
STOP 19.00 GHz

RISE & FALL TIMES

DELAY TIME 50% RF to 10% Video

Note: Due to the negative going pulse the rise & fall time data are reversed.

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MECHANICAL OUTLINE

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