



Planar Monolithics Industries, Inc.

RF & Microwave Components and Modules to 50GHz

ISO9001:2008 Certified

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Here's What's New...

New Product Releases & Product Updates

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***** NEW RELEASES *****

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### **1.0 PMI Model No.: BPF-11D825D-1D85G-60DB-SF, Bandpass Filter**



PMI Model No. BPF-11D825D-1D85G-60DB-SFF is a band pass filter centered at 11.825 GHz. The 1 dB bandwidth is 1850 MHz. This unit is supplied with SMA (F) connectors, in a 1.27" x 0.28" x 0.32" sized housing with a blue painted finish.

- Center Frequency: 11.825 GHz
- 1 dB Bandwidth: 1850 MHz
- VSWR over 90% of the passband: 2.0:1 Max
- 1 dB Passband Insertion Loss: 3 dB Max- **Measured 2.9 dB**
- Rejection:
  - 60 dBc Min. @ 9.15 to 9.9 GHz - **Measured: -70 dBc Min, 9.15 - 9.9 GHz**
  - 60 dBc Min. @ 13.75 to 14.5 GHz - **Measured: -62 dBc Min, 13.75 - 14.5 GHz**

PMI Website Link,

<http://www.pmi-rf.com/Products/filters/BPF-11D825D-1D85G-60DB-SFF.htm>

### **2.0 PMI Model No.:**

## BPF-14D125G-750M-50DB-SFF, Bandpass Filter



PMI Model No. BPF-14D125G-750M-50DB-SFF is a band pass filter centered at 14.125 GHz. The 1 dB bandwidth is 750 MHz. This unit is supplied with SMA (F) connectors, in a 1.74" x 0.28" x 0.32" sized housing with a blue painted finish.

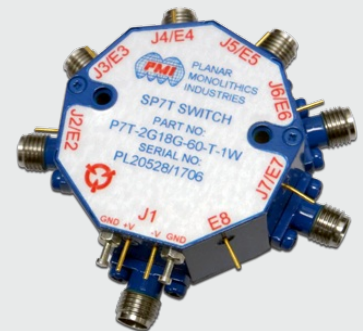
- Center Frequency: 14.125 GHz
- 1 dB Bandwidth: 750 MHz
- VSWR over 90% of the passband: 2.0:1 Max
- 1 dB Passband Insertion Loss: 3 dB Max - **Measured 2.2 dB**
- Rejection:
  - 50 dBc Min @ 10.9 to 12.75 GHz - **Measured: -69 dBc Min 10.9 - 12.75 GHz**
  - 50 dBc Min @ 15.5 to 17.35 GHz - **Measured: -59 dBc Min 15.5 - 17.35 GHz**
- Input Power: +40 dBm CW Max

PMI Website Link,

<http://www.pmi-rf.com/Products/filters/BPF-14D125G-750M-50DB-SFF.htm>

## 3.0 PMI Model No.: P7T-2G18G-60-T-1W, SP7T Absorptive Switch

PMI Model No. P7T-2G18G-60-T-1W is a single pole, seven throw absorptive switch with phase and amplitude matching of  $\pm 6^\circ$  and  $\pm 0.5$  dB respectively, relative to J8. This model has also been designed to operate over the 2.0 to 8.0 GHz, frequency range with low in-band video leakage of -65 dBm. Features include SMA female connectors. Unit size is 1.83 Typ" x  $\varnothing$ 1.50" with a painted blue finish.



- Frequency: 2.0 to 18.0 GHz
- Insertion Loss: 4.5 dB Max  
**Measured:**  
Unit A: 4.09 dB  
Unit B: 4.31 dB
- Amplitude Matching:  $\pm 0.5$  dB (Ref. to J8)  
**Measured:**  
Unit A:  $\pm 0.195$  dB  
Unit B:  $\pm 0.290$  dB
- Isolation: 60 dB Min  
**Measured:**  
Unit A: 70.05 dB  
Unit B: 71.95 dB
- VSWR: In/ Out: 2.0:2  
**Measured:**  
Unit A: 1.97:1  
Unit B: 1.97:1  
Out/ Off: 1.5:1  
**Measured:**  
Unit A: 1.99:1  
Unit B: 1.95:1
- Phase Matching:  $\pm 6^\circ$  Max (Ref. to J8)  
 $\pm 15^\circ$  Unit to Unit Max (Between Pairs)

Measured:

Unit A: 15.92°, 0° - reference

Unit B: 8.53°, +6.23° / -10.22°

- Speed: Rise: 15 ns Max - Measured Unit A: 5.6 ns, Unit B: 5.2 ns
- Fall: 15 ns Max - Measured Unit A: 11.9 ns, Unit B: 8.6 ns
- Delay On: 75 ns Max - Measured Unit A: 43 ns, Unit B: 40 ns
- Delay Off: 75 ns Max - Measured Unit A: 25 ns, Unit B: 22 ns
- Speed Matching: ±5 ns (Ref, to J8)

Measured:

Unit A: ±2.5 dB

Unit B: ±2.5 dB

- Video Leakage: -65 dBm In-Band Max

Measured:

Unit A: -80.32 dB

Unit B: -80.31 dB

- Operating Power: +30 dBm CW Max
- Survival Power: 1.2 Watts CW, 10 Watts Peak 1 µs
- Control: TTL Logic  
"0" = On  
"1" = Off
- Power Supply:  
+5 V @ 350 mA Max - Measured 264 mA  
-15 V @ 100 mA Max - Measured 44 mA

PMI Website Link,

<http://www.pmi-rf.com/products/switches/P7T-2G18G-60-T-1W.htm>

## 4.0 PMI Model No.:

### P16T-100M40G-100-T-I-292, SP16T Absorptive Switch



PMI Model No. P16T-100M40G-100-T-I-292 is a single pole, sixteen throw solid state switch operating over the 0.1 to 40.0 GHz frequency range. This model offers a typical insertion loss of 15 dB while maintaining a typical isolation of 80 dB. This unit is supplied with 2.92 mm (F) connectors in a gold plated housing measuring 12.0" x 5.5" x 0.65".

- Frequency: 0.1 to 40.0 GHz
- Insertion Loss:  
10 dB (0.1 to 18.0 GHz) Max - Measured 8.23 dB  
15 dB (18.0 to 40.0 GHz) Max - Measured 14.42 dB
- VSWR (In/Out): 2.5:1 (0.1 to 18.0 GHz) Max - Measured 2.49:1  
2.75:1 (18.0 to 40.0 GHz) Max - Measured 2.50:1
- Isolation: 70 dB (0.1 to 18.0 GHz) Min - Measured 100.40 dB  
80 dB (1.0 to 18.0 GHz) Min - Measured 93.82 dB  
80 dB (18.0 to 40.0 GHz) Min - Measured 80.97 dB
- Input Power: 20 dBm CW Max

- Switching Speed: 50 ns Typ, 100 ns Max - **Measured 40ns**
- Control Signal: TTL Logic  
"0" = ON  
"1" = "OFF"
- DC Voltage:  
+5 V @ 800 mA Max - **Measured 753 mA**  
-5 V @ 700 mA Max - **Measured 495 mA**

PMI Website Link

<http://www.pmi-rf.com/Products/Switches/P16T-100M40G-100-T-I-292.htm>

## 5.0 PMI Model No.: P2T-2G4G-75-T-SFF-PN, SP2T Absorptive Switch

PMI Model No. P2T-2G4G-75-T-SFF-PN is a single pole, double throw, non reflective switch designed to operate over the 2.0 to 4.0 GHz frequency range. This model is designed to maintain low insertion loss, high isolation and fast switching speed. This unit is supplied with SMA (F) connectors with a painted finish in a housing measuring 3.75 " x 1.50 " x 0.40".



- Frequency : 2.0 to 4.0 GHz
- Insertion Loss: 1.2 dB - **Measured 1.15 dB**
- Isolation: 75 dBm min - **Measured 87.15 dB**
- VSWR: 1.6:1 max - **Measured 1.51:1**
- Switching Speed: 100 ns max - **Measured 73 ns**
- Power Input (Operating): 1 Watt CW max
- Control: 2 Bit TTL Logic
- Power Supply:  
+5V @ 80mA nominal - **Measured 26 mA**  
-15V @ 50mA nominal - **Measured 59 mA**

PMI Website Link,

<http://www.pmi-rf.com/products/switches/P2T-2G4G-75-T-SFF-PN.htm>

## 6.0 PMI Model No.: SDLVA-0120-70-100M2G-10DBM, Successive Detection Video Log Amplifier (SDLVA)

PMI model SDLVA-0120-70-100M2G-10DBM is a successive detection log video amplifier (SDLVA) that operates over the 0.1 to 2.0 GHz frequency range. It has a dynamic range of 70 dB minimum and a TSS of -65 dBm. This unit offers a maximum rise time of 25 ns and a fall time of 30 ns. This model provides a limited IF output of +10 dBm typically. The unit is supplied with SMA (F) connectors in a gold plated housing measuring 3.75 " x 1.50 " x 0.40".



- Frequency Range: 0.1 to 2.0 GHz
- Dynamic Range: 70 dB Min, 75 dB Typ
- Log Linearity:  $\pm 2.0$  dB Max (-65 dBm to +5 dBm) - **Measured 1.81 dB**
- Log Linearity @ 100MHz:  $\pm 2.0$  dB Max (-50 dBm to +5 dBm)
- Minimum Log Range: -65 dBm



- Maximum Log Range: +5 dBm
- VSWR Input: 2.0:1 Max, 1.8:1 Typ
- Tangential Sensitivity: -65 dBm Min, -70 dBm Typ
- Limited IF Output: +10 dBm - **Measured 8.31 dBm Min, 11.84 dBm Max**
- Maximum RF Input Power: +10 dBm
- Log Video Output Coupling: DC
- Log Video Maximum Output Voltage: 2.7 V
- Log Video Output Rise Time: 25 ns Max
- Log Video Output Fall Time: 30 ns Max
- Log Video Output Settling Time: 40 ns Max
- Log Video Output DC Offset: 0.1 V Nominal (Adjustable)
- Log Video Output Slope: 25 mV/dB Nominal (@ 1 GHz) - **Measured 24.3 mV/dB**
- Log Video Output Variation with Frequency:  $\pm 0.5$  mV/dB (Over 80 MHz RF Bandwidth)
- Log Video Output Variation with Temperature:  $\pm 0.5$  mV/dB Typ
- Log Video Propagation Delay: 10 ns Typ
- Log Video Load: 100 Ohm  $\pm 10\%$  - **Measured 100 Ohms**
- DC Power (+V): +7 to +18 V @ 300 mA - **Measured 117 mA**
- DC Power (-V): -7 to -18 V @ 150 mA - **Measured 138 mA**

PMI Website Link,

<http://www.pmi-rf.com/Products/SDLVA/SDLVA-0120-70-100M2G-10DBM.htm>

## 7.0 PMI Model No.: PLVA-500M18G-50, Detector Log Video Amplifier (DLVA)

PMI Model PLVA-500M18G-50 is a 50 dB Detector Log Video Amplifier (DLVA) designed to operate over the 500 MHz to 18.0 GHz frequency range. This model employs planar diode detectors and integrated video circuitry for high speed performance and outstanding reliability. It is of superior construction using state-of-the-art MIC/MMIC technology. The log slope of this DLVA is 50 mV/dB and has a log linearity error of less than  $\pm 0.5$  dB. The logging range is -40 to +5 dBm with a maximum rise time of 20 ns, maximum settling time of 45 ns and a recovery time of 150 ns typical. The unit is offered in a small, compact housing that measures only 2.2" x 1.5" x 0.4"



- Frequency Range: 0.5 to 18.0 GHz
- Frequency Flatness:  $\pm 1.0$  dB Max - **Measured  $\pm 0.6$  dB**
- Logging Range: -40 dBm to +0 dBm (Useful Range up to +5 dBm)
- Log Linearity Error:  $\pm 0.5$  dB Max (+25 °C),  $\pm 1.0$  dB Average (-54 °C to +85 °C) - **Measured  $\pm 0.8$  @ -54 °C to +85 °C**
- Log Slope: 50 mV/dB - **Measured 50.1 mV/dB**
- Log Slope Accuracy:  $\pm 4$  % of Average Slope
- Temperature Stability:  $\pm 1.0$  dB Max (-54 °C to +85 °C) - **Measured  $\pm 0.9$  dB**
- Pulse Range: 50 ns to CW
- Rise Time: 20 ns Max - **Measured 16.5 ns**
- Settling Time: 45 ns Max - **Measured 35 ns**
- Recovery Time: 150 ns Typ, 300 ns Max. - **Measured 200 ns**
- TSS: -42 dBm Min - **Measured -43 dBm**
- Input Power: +15 dBm CW Max
- VSWR: 3.0:1 Max - **Measured 2.8:1**
- Video Output Level: 0 to 2.5 V (50 Ohms minimum load)

PMI Website Link,

<http://www.pmi-rf.com/Products/dlva/PLVA-500M18G-50.htm>

## 8.0 PMI Model No.: GMDA-D1007, Extended Dynamic Range Detector Log

## Video Amplifier (ERDLVA)

PMI Model No. GMDA-D1007 is an Extended Dynamic Range DLVA designed to operate over the 0.5 to 2.0 GHz frequency range. It employs planar diode detectors and integrated video circuitry for high speed performance and outstanding reliability. It is of superior construction using state of the art MIC/MMIC technology. SMA Connectors.



- Frequency Range: 0.5 to 2.0 GHz
- Logging Range: -60 dBm to +7 dBm
- TSS: -65 dBm Max - Measured -67 dBm
- Logging Slope: +25  $\pm$  1 mV/dB @ Room Temperature
- +25  $\pm$  2 mV/dB Over Temperature +25 mV/dB Typ  
Measured  
25.1 mV/dB @ -54 °C  
25.0 mV/dB @ +25 °C  
25.7 mV/dB @ +85 °C
- Logging Linearity:  
 $\pm$ 1.5 dB @ Room Temperature  
 $\pm$ 2.0 dB Max Over Temperature  
Measured  
+0.80 dB / -1.23 dB @ -54 °C  
+0.52 dB / -0.60 dB @ +25 °C  
+0.84 dB / -0.67 dB @ +85 °C
- Flatness: 100 mV P-P Max 29 mV
- RF Safe Input Power: +23 dBm Max CW
- Maximum Output Voltage: +2.5 V Max
- Input VSWR (50 ohms): 2.3:1 Max - Measured 2.29:1
- Video Load Impedance: 75  $\Omega$  Typ
- Video Rise Time: 30 ns Max - Measured 13.21 ns
- Recovery Time: 500 ns Max - Measured 164 ns
- Throughput Time: 30 ns Max - Measured 25.81
- Video Bandwidth: 10 MHz Typ
- Offset Voltage:  $\pm$ 50 mV Max - Measured -8 mV
- Primary Power:  
+12 to +15.5 VDC @ 300 mA Max - Measured +129 mA  
-12 to -15.5V DC @ 150 mA Max - Measured -66 mA

PMI Website Link,

<http://www.pmi-rf.com/Products/dlva/GMDA-D1007.htm>

## 9.0 PMI Model No.: LM-18G40G-18-1W-292FF, Ultra-High Speed, Millimeter Wave, High Power RF Limiter

PMI Model No. LM-18G40G-18-1W-292FF is an Ultra-High Speed, Millimeter Wave, High Power RF Limiter that operates over the frequency range of 18.0 to 40.0 GHz. This limiter can handle input power levels up to 1 Watt CW and provides a leakage output power of +18 dBm maximum and +12 dBm typical. The limiting threshold is +5 dBm typical and +9 dBm maximum. The insertion loss is less than 4 dB having a typical loss of 3.5 dB at 40 GHz. This limiter offers ultra-high recovery speeds of 10 ns maximum. The ultra-small housing measures only 0.5" x 0.5" x 0.22" and features field removable



2.92mm female connectors. This package can be used in connectorized or drop-in form.

- Frequency Range: 18.0 to 40.0 GHz
- Insertion Loss: 4.0 dB Max - Measured 3.51 dB
- Input Power: 1 Watt CW Max
- Leakage Power: +18 dBm Max - Measured +12 dBm Typ
- Limiting Threshold: +9 dBm Max - Measured +5 dBm Typ
- 1dB Recovery Time: 10 ns Max. - Measured <10 ns
- VSWR: 2.1:1 - Measured 1.87:1

PMI Website Link,

<http://www.pmi-rf.com/Products/limiters/LM-18G40G-18-1W-292FF.htm>

## 10.0 PMI Model No.: PDC-800M2D5G-30C-SFF-50W, Directional Coupler



PMI Model No. PDC-800M2D5G-30C-SFF-50W is a 800 MHz to 2.5 GHz directional coupler having a 30 dB coupling factor and > 20 dB directivity. This model handles an input power of 50 watts. The Unit measures only 4.0" x 1.0" x 0.45" and features SMA female connectors.

- Frequency Range: 0.8 to 2.5 GHz
- Insertion Loss:  $\leq 0.4$  dB - Measured 0.23 dB (Excluding Coupled Power)
- VSWR:  $\leq 1.20:1$  - Measured 1.10:1
- Coupling:  $30 \pm 1.0$  dB - Measured  $\pm 30.66$  dB
- Frequency Sensitivity:  $\leq \pm 0.7$  dB - Measured  $\pm 0.345$  dB
- Directivity: 20 dB Min - Measured 27.14 dB
- Power Handling:
  - Average  $\leq 50$  Watts
  - Peak  $\leq 1$  KW

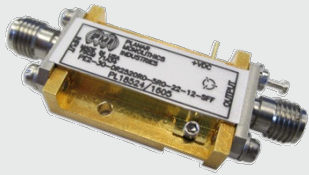
PMI Website Link,

<http://www.pmi-rf.com/Products/couplers/PDC-800M2D5G-30C-SFF-50W.htm>

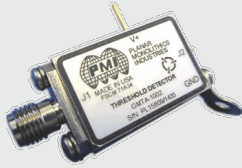
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<http://www.pmi-rf.com>

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