Here's What's New...

New Product Releases from
Planar Monolithics Industries, Inc.
July 15, 2019

1.0 PMI Model No. SDLVA-218-64-70MV-CW-100, 2.0 to 18.0 GHz Successive
Detection Log Video Amplifier

PMI Model No. SDLVA-218-64-70MV-CW-100 is a Successive Detection Log Video Amplifier (SDLVA) that
operates over the frequency range of 2.0 to 18.0 GHz. It has a log dynamic range of -60 to +4 dBm, a nominal log slope of 70 mV/dB, and a maximum input VSWR of 2.0:1. This unit is outfitted with SMA female connectors in a hermetically sealed housing measuring 3.5" x 2.5" x 0.5".

- Frequency Range: 2.0 to 18.0 GHz
- Frequency Flatness: ±2.0 dB Typ. - Measured ±2.2 dB
- Pulse Width Range: 100 ns to 300 us
- Pulse Peak Amplitude Loss:
  - -30 dBm or Higher Pulse on CW Level of -50 dBm: No Loss - Measured 1.2 dB
  - -30 dBm or Higher Pulse on CW Level of -40 dBm: 2.0 dB Max. - Measured 1.2 dB
- TSS from -20°C to +85°C: -66 dBm - Measured -68.1 dBm
- Log Dynamic Range: -60 to +4 dBm
- Log Slope: 70 mV/dB Nominal - Measured 68.9 dB
- Log Accuracy:
  - ±1.5 dB Max. Referred to an Ideal Line Defined By: 70 mV * (Input RF Power) + 4700 mV @
    10.0 GHz and 25°C - Measured +0.77/-0.70 dB
  - ±4.5 dB Max. over Temperature and Frequency - Measured +2.40/-2.81 dB
2.0 PMI Model No. P3T-9R5G10G-55-R-SFF, 9.5 to 10.0 GHz, SP3T Reflective Switch

PMI Model No. P3T-9R5G10G-55-R-SFF is a Single Pole, Three Throw, Reflective Switch operating over the frequency range of 9.5 to 10.0 GHz. It has a maximum insertion loss of 1.5 dB and a typical isolation of 55 dB. This model is outfitted with SMA female connectors and a Micro-D 9-pin male connector in a housing that measures 1.50" x 1.25" x 0.75".

- Frequency Range: 9.5 to 10.0 GHz
- Insertion Loss: 1.5 dB Max. - Measured 1.34 dB
- Isolation: 55 dB Typ. - Measured 66.06 dB
- VSWR: 1.5:1 Typ. - Measured 1.25:1
- Average Power: 7.5 W
- Peak Power: 75 W (62 us Max. Pulse Width)
- Switching Speed: 1.0 us Max. - Measured 65.20 ns On/49.40 ns Off/15.80 Rise/3.5 ns Fall
- Power Supply:
  - +5 V @ 250 mA - Measured 237 mA
  - +28 V @ 50 mA - Measured 20 mA

PMI Website Link,
https://www.pmi-rf.com/product-details/p3t-9r5g10g-55-r-sff

3.0 PMI Model No. LM-0518-10-1W-SHS-1-SFM, 0.5 to 18.0 GHz Limiter

PMI Model No. LM-0518-10-1W-SHS-1-SFM is a 0.5 to 18.0 GHz Limiter. It has a maximum insertion loss @ -20 dBm input of 2.0 dB and a speed of 10 ns. This limiter is supplied with SMA male input connector and a SMA female output connector in a housing that measures 0.50" x 0.50" x 0.22".

- Frequency Range: 0.5 to 18.0 GHz
- Insertion Loss @ -20 dBm Input: 2.0 dB Max., 1.5 dB Typ. - Measured 1.93 dB
- VSWR @ -20 dBm Input: 2.0:1 Max., 1.5:1 Typ. - Measured 1.69:1 Input/1.70:1 Output
- Leakage @ 1 W CW Input: +14 dBm Max., +10 dBm Typ. - Measured +13 dBm
- Speed: 10 ns - Measured 8.79 ns
- Input Power: 1 W CW, 100 W Peak, 1 us Pulse, 0.1% Duty Cycle Derated to 20% at 125°C
- Limiting Threshold: +10 dBm Typ. - Measured +5 dBm Min., +7 dBm Max.
4.0 PMI Model No. PLA-14D65G15G35G-20DB-SFF-250W, 14.65 to 15.35
Integrated Limiter and Switch BIT Attenuator

PMI Model No. PLA-14D65G15G35G-20DB-SFF-250W is an Integrated Limiter and Switch BIT Attenuator operating over the 14.65 to 15.35 frequency range. It has a maximum insertion loss of 3.59 dB, an average power of 10 W, and a switching speed of 90 ns. This model is outfitted with SMA female connectors in a housing that measures 0.866" x 0.630" x 0.315".

- Frequency Range: 14.65 to 15.35 GHz
- Insertion Loss: 3.59 dB Max. - Measured 3.5 dB
- Peak Power Handling:
  - Low Temp (-55°C): 100 W Max.
  - Room Temp (+25°C): 125 W Max.
  - High Temp (+85°C): 100 W Max.
- Pulse Width: 40 us Typ.
- Average Power:
  - Low Temp (-55°C): 10 W Max.
  - Room Temp (+25°C): 12.5 W Max.
  - High Temp (+85°C): 10 W Max.
- Attenuation:
  - Logic TTL "0" - 0 dB Attenuation
  - Logic TTL "1" - 20 dB Attenuation
- Attenuation Flatness: ±1 dB Max. - Measured ±0.223 dB
- Attenuation Accuracy: ±1 dB Max. - Measured ±0.18 dB
- P1dB Limiting Threshold: +5 dBm Min. - Measured 6.3 dBm
- Flat Leakage:
  - Low Temp (-55°C): +20 dBm Max. @ 0 dB Attenuation and 100 W Max.
  - Room Temp (+25°C): +20 dBm Max. @ 0 dB Attenuation and 125 W Max.
  - High Temp (+85°C): +20 dBm Max. @ 0 dB Attenuation and 100 W Max.
- Switching Speed:
  - 90 ns @ 50% TTL to 10% RF Voltage Max. - Measured 20 ns
  - 90 ns @ 50% TTL to 90% RF Voltage Max. - Measured 50 ns
- Control Logic: TTL Compatible
- Phase Match: 15° Max. (Unit to Unit) - Measured -2.54/+1.41
- DC Consumption: 150 mA Max. each for +5 V and -15 V - Measured 32 mA and 26 mA
- VSWR: 2.0:1 Max. @ -10 dBm Input - Measured 1.942:1

5.0 PMI Model No. APD-8-10M-12V, 10 MHz, 8-Way Power Divider
PMI Model No. APD-8-10M-12V is an 8-Way Power Divider that operates at the frequency range of 10 MHz. It has a maximum VSWR of 2:1 and a maximum input power of +23 dBm. This unit is supplied with SMA female connectors and a 9-pin connector in a housing measuring 4.00" x 2.00" x 0.55".

- Frequency Range: 10 MHz
- Insertion Loss: 4 dB, ±1.5 dB Max. - Measured 3.03 dB
- VSWR: 2:1 Max. - Measured 1.25:1 Input/1.33:1 Output
- Input Power P1dB: +20 dBm Typ. - Measured 22.9 dBm
- Input Power: +23 dBm Max. (Survival)
- Output Port to Port Isolation: 25 dB Typ. - Measured 24.15 dB
- Power Supply: +12 V @ 750 mA Max.

PMI Website Link,
https://www.pmi-rf.com/product-details/apd-8-10m-12v

6.0 PMI Model No. P1T-8G40G-65-T-292FF-1NS-LVPECL, 8.0 to 40.0 GHz, SPST Absorptive Switch

PMI Model No. P1T-8G40G-65-T-292FF-1NS-LVPECL is a 8.0 to 40.0 GHz, Single Pole, Single Throw, Absorptive Switch. It has a minimum isolation of 55 dB and a maximum insertion loss of 6.8 dB. This switch is outfitted with 2.92 mm female connectors in a housing that measures 1.2" x 1.3" x 0.5".

- Frequency Range: 8.0 to 40.0 GHz
- Isolation: 65 dB Typ., 55 dB Min. - Measured 70 dB
- Insertion Loss: 5.5 dB Typ., 6.8 dB Max. - Measured 5.83 dB
- VSWR In/Out: 2.0:1 Typ., 2.2:1 Max. - Measured 2.1:1/2.1:1
- Input Power: +17 dBm CW Max.
- P1dB: +13 dBm Min. - Measured >+17 dBm
- Switching Speed: 5 ns Typ., 10 ns Max. - Measured 10 ns
- Rise/Fall Time: 0.9 ns Typ., 1 ns Max. - Measured <1.0 ns
- Control Signal: Single Ended LVPECL "1" = On
- DC Voltage:
  - +8 to +15 V @ 15 mA Typ. - Measured 26 mA
  - -8 to -15 V @ 40 mA Max. - Measured 27 mA

PMI Website Link,
https://www.pmi-rf.com/product-details/p1t-8g40g-65-t-292ff-1ns-lvpecl

7.0 PMI Model No. PE2-15-2R012R0-4R0-22-12-SFF, 2.0 to 12.0 GHz Low Noise Amplifier

PMI Model No. PE2-15-2R012R0-4R0-22-12-SFF is a Low Noise Amplifier operating over the frequency range of 2.0 to 12.0 GHz. It has a typical gain of 15 dB and a typical noise figure of 4.0 dB. This model is supplied with SMA female connectors in a housing measuring 1.08" x 0.71" x 0.29".

- Frequency Range: 2.0 to 12.0 GHz
PMI Website Link,
https://www.pmi-rf.com/product-details/pe2-15-2r012r0-4r0-22-12-sff

8.0 PMI Model No. DTA-13G14G-40-8-CD-1-20DBM, 13.0 to 14.0 GHz, 8-Bit Attenuator

PMI Model No. DTA-13G14G-40-8-CD-1-20DBM is an 8-Bit Programmable Attenuator that operates over the frequency range of 13.0 to 14.0 GHz. It has a minimum attenuation range of 40 dB, a maximum insertion loss of 5 dB, and a maximum VSWR of 2.0:1. This unit is outfitted with SMA female connectors and a 15-pin Micro-D female connector in a housing that measures 2.00" x 1.80" x 0.50".

- Frequency Range: 13.0 to 14.0 GHz
- Attenuation Range: 40 dB Min.
- Insertion Loss: 5 dB Max. - Measured 4 dB
- Step Size: 0.25 dB (LSB) - Measured 0.24 dB
- Adjustment Step Size Accuracy: ±0.125 dB - Measured ±0.078 dB
- Phase Variation vs. Attenuator Step Size: 1.5°/dB Typ., 2°/dB Max. 0 to 40 dB Attenuation - Measured 1.3°/dB
- Input 0.1 dB Compression Point: +20 dBm Min. - Measured >+20 dBm
- Monotonicity: Guaranteed
- VSWR: 2.0:1 Max. - Measured 1.6:1
- Switching Time:
  - On Time: 1.0 us Max. - Measured <0.5 us
  - Off Time: 0.5 us Max. - Measured <0.4 us
- Logic Input:
  - Logic "0" (Bit Off): -0.3 to +0.8 V
  - Logic "1" (Bit On): +2.0 to +5.0 V
- DC Power Supply: +12 V @ 150 mA Max. - Measured 149 mA

PMI Website Link,
https://www.pmi-rf.com/product-details/dta-13g14g-40-8-cd-1-20dbm

9.0 PMI Model No. PMTO-8R8G9R56G-CD-1, 8.8 to 9.56 GHz Gunn-Effect Oscillator
PMI Model No. PMTO-8R8G9R56G-CD-1 is a 8.8 to 9.56 GHz, Temperature Stabilized Output Medium Power X-Band Gunn-Effect Oscillator. It has a maximum temperature coefficient of 15 kHz/°C from 0°C to +50°C and a pulling factor of less than 50 kHz. This model is supplied with SMA female connectors in a housing measuring 3.50” x 3.50” x 3.00”.

- Frequency Range:
  - 8.8 to 9.56 GHz (Tuning)
  - 8.9 to 9.46 GHz (To Meet Specification)
- Tuning Sensitivity:
  - 65 MHz/360° Rotation Typ. - Measured 82.3093 MHz/360°
  - 80 MHz/360° Rotation Typ. - Measured 91.529 MHz/360°
- Output Frequency vs. Tuner Rotation (Deviation from a Straight Line):
  - ±10 MHz, 8.90 to 8.93 GHz - Measured +2.7 MHz
  - ±5 MHz, 8.93 to 9.43 GHz - Measured -9.9 MHz
  - ±10 MHz, 9.43 to 9.46 GHz - Measured +11.1 MHz
- Power Output (Any Frequency):
  - J1: +10 (+3, -0) dBm - Measured 10.27 to 10.93 dBm
  - J2: 0 (+3, -0) dBm - Measured 1.4 to 2.73 dBm
- Tuning Element:
  - Starting Torque: 25 Inch-Oz Max.
  - Withstanding Torque: 100 Inch-Oz Min. @ Stops
- Spurious Harmonic Signals:
  - 60 dBc Min. (In Band) - Measured >67.36 dBc
  - 45 dBc Min. (Out of Band) - Measured >57.20 dBc
  - 30 dBc Min. (Harmonics) - Measured >46.53 dBc
- Temperature Coefficient: 15 kHz/°C Max. from 0°C to +40°C - Measured 1 kHz/°C from 0°C to 40°C, 1500 kHz/°C from 40°C to 50°C
- Long Term Frequency Drift: 50 kHz/hr Max. @ Any Constant Temp from 0°C to +50°C
- Pulling Factor: Less than 50 kHz
- REG/OSC Power Supply: +24 ± 1 VDC @ 1.5 A Max., 2% Regulation, Ripple = 2 mVrms - Measured +24 ± 1 @ 0.172 A
- Heater Power Supply (Isolated): +24 ± 1 VDC @ 1.5 A Max., 2% Regulation, Ripple = 50 mVrms - Measured +24 ± 1 @ 1.16 A

PMI Website Link,
https://www.pmi-rf.com/product-details/pmto-8r8g9r56g-cd-1

10.0 PMI Model No. PEC-40-25-0R518-20-12-SFF-TTLVG, 0.5 to 18.0 GHz Dual Gain Amplifier

PMI Model No. PEC-40-25-0R518-20-12-SFF-TTLVG is a Dual Gain Amplifier operating over the frequency range of 0.5 to 18.0 GHz. It has a maximum VSWR of 2.0:1 and an input power of +20 dBm CW. This unit is outfitted with SMA female connectors in a housing that measures 2.54” x 1.00” x 0.383”.

- Frequency Range: 0.5 to 18.0 GHz
- Gain @ +25°C:
  - Max Gain Position: +38 dB ± 4 dB Max. - Measured +40.1 dB
  - Min Gain Position: +23 dB ± 4 dB Max. - Measured +24.7 dB
- Pout @ 1 dB Compression @ +25°C:
**PMI Website Link**

**11.0 PMI Model No. P16T-100M52G-100-T-DEC, 0.1 to 52.0 GHz, SP16T Absorptive Switch**

PMI Model No. P16T-100M52G-100-T-DEC is a Single Pole, Sixteen Throw, Absorptive Switch that operates over the frequency range of 0.1 to 52.0 GHz. It has a maximum input power of 20 dBm and a maximum switching speed of 100 ns. This switch is supplied with 2.4 mm female connectors in a housing measuring 8.00" x 3.00" x 0.67".

- **Frequency Range:** 0.1 to 52.0 GHz
- **Insertion Loss:**
  - 8.0 dB Typ. (0.1 to 18.0 GHz) - Measured 7.40 dB
  - 12.5 dB Typ. (18.0 to 40.0 GHz) - Measured 13.62 dB
  - 18.0 dB Typ. (40.0 to 52.0 GHz) - Measured 17.22 dB
- **VSWR On (In/Out):**
  - 2.5:1 Typ. (0.1 to 18.0 GHz) - Measured 2.70:1
  - 3.0:1 Typ. (18.0 to 40.0 GHz) - Measured 3.20:1
  - 3.5:1 Typ. (40.0 to 52.0 GHz) - Measured 3.62:1
- **VSWR Off (Out):**
  - 2.5:1 Typ. (0.1 to 18.0 GHz) - Measured 2.60:1
  - 3.0:1 Typ. (18.0 to 40.0 GHz) - Measured 3.30:1
  - 3.5:1 Typ. (40.0 to 52.0 GHz) - Measured 3.68:1
- **Isolation:**
  - 70 dB Typ. (0.1 to 1.0 GHz) - Measured 104.64 dB
90 dB Typ. (1.0 to 18.0 GHz) - Measured 104.64 dB
80 dB Typ. (18.0 to 40.0 GHz) - Measured 75.03 dB
70 dB Typ. (40.0 to 52.0 GHz) - Measured 83.07 dB

- Input Power: 20 dBm CW Max.
- Switching Speed: 100 ns Max.
- Control Signal: TTL Logic - See Logic Table
- DC Voltage:
  - +5 V @ 1100 mA Max. - Measured 1005 mA
  - -12 V @ 720 mA Max. - Measured 324 mA

**PMI Website Link,**
https://www.pmi-rf.com/product-details/p16t-100m52g-100-t-dec

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