Presenting...

New Product Releases from
Planar Monolithics Industries, Inc.
December 15, 2020

1.0 PMI Model No. P4T-100M52G-100-R-RD, 0.1 to 52.0 GHz, SP4T Reflective Switch

PMI Model No. P4T-100M52G-100-R-RD is a Single Pole, Four Throw, Reflective Switch that operates over the 0.1 to 52.0 GHz frequency range. It has a maximum insertion loss of 14 dB and a minimum isolation of 70 dB. This model is outfitted with 2.4 mm female connectors in a housing measuring 1.25" x 1.25" x 0.40".

- Frequency Range: 0.1 to 52.0 GHz
- Insertion Loss:
- 5.0 dB Max. (0.1 to 18.0 GHz) - Measured 4.03 dB
- 7.0 dB Max. (18.0 to 40.0 GHz) - Measured 6.33 dB
- 10.0 dB Max. (40.0 to 50.0 GHz) - Measured 9.37 dB
- 14.0 dB Max. (50.0 to 52.0 GHz)

**VSWR In/Out:**
- 2.0:1 Typ. (0.1 to 10.0 GHz) - Measured 1.82:1/1.91:1
- 2.2:1 Typ. (10.0 to 18.0 GHz)
- 2.5:1 Typ. (18.0 to 30.0 GHz) - Measured 2.48:1/2.46:1
- 3.0:1 Typ. (30.0 to 50.0 GHz)
- 3.5:1 Typ. (50.0 to 52.0 GHz)

**Isolation:**
- 80 dB Min. (0.1 to 1.0 GHz) - Measured 82.43 dB
- 85 dB Min. (1.0 to 18.0 GHz) - Measured 85.54 dB
- 70 dB Min. (18.0 to 40.0 GHz) - Measured 78.91 dB
- 70 dB Min. (40.0 to 50.0 GHz) - Measured 72.62 dB
- 70 dB Typ. (50.0 to 52.0 GHz)

**Insertion Loss Flatness (Variation from a Best Fit Straight Line):**
- ±1 dB Max. (0.1 to 18.0 GHz) - Measured ±0.67 dB
- ±1.2 dB Max. (18.0 to 40.0 GHz) - Measured ±1.13 dB
- ±2.0 dB Max. (40.0 to 50.0 GHz) - Measured ±1.68 dB
- ±5.0 dB Typ. (50.0 to 52.0 GHz) - Measured ±4.44 dB

**Amplitude Balance:**
- ±1.0 dB Max. (0.1 to 18.0 GHz) - Measured ±0.91 dB
- ±1.5 dB Max. (18.0 to 40.0 GHz) - Measured ±1.3 dB
- ±1.5 dB Max. (40.0 to 50.0 GHz) - Measured ±1.02 dB
- ±1.5 dB Max. (50.0 to 52.0 GHz) - Measured ±0.82 dB

**Phase Balance:**
- ±10° Typ. (0.1 to 18.0 GHz)
- ±15° Typ. (18.0 to 40.0 GHz)
- ±15° Typ. (40.0 to 50.0 GHz)
- ±20° Typ. (50.0 to 52.0 GHz)

**Input Power:**
- +20 dBm CW Max. (0.1 to 40.0 GHz)
- *Theoretically it can handle +20 dBm up to 52.0 GHz

**Switching Speed:**
- 50 ns Max. - Measured 3.30 ns Rise Time, 7.80 ns Fall Time, 34.40 ns Speed On, 37.70 ns Speed Off

**Video Transients:**
- 1 V Peak to Peak Typ.

**DC Voltage:**
- +5 V @ 200 mA Max. - Measured 145 mA
- -5 V @ 200 mA Max. - Measured 75 mA

**PMI Website Link,**
https://www.pmi-rf.com/product-details/p4t-100m52g-100-r-rd

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**2.0 PMI Model No. PE2-19-6G18G-1R6-16-12-SFF, 6.0 to 18.0 GHz, Low Noise Amplifier**

PMI Model No. PE2-19-6G18G-1R6-16-12-SFF is a Low Noise Amplifier that operates over the 6.0 to 18.0 GHz frequency range. It has a typical gain of 19 dB and a maximum noise figure of 2.5 dB. This model is outfitted with SMA female connectors in a housing measuring 1.08" x 0.71" x 0.29".

- Frequency Range: 6.0 to 18.0 GHz
- Gain: 19 dB Typ., 17 dB Min. - Measured 20.34 dB Max., 17.75 dB Min.
- Noise Figure: 2 dB Typ., 2.5 dB Max.
- Input Return Loss (VSWR): 2.0:1 Max. - Measured 1.8:1
- Output Return Loss (VSWR): 2.0:1 Max. - Measured 1.9:1
3.0 PMI Model No. SAA-218-6-093-013542 Opt. HERM, 2.0 to 18.0 GHz, Switchable RF Attenuator

PMI Model No. SAA-218-6-093-013542 Opt. HERM is a Switchable RF Attenuator that operates over the 2.0 to 18.0 GHz frequency range. It has a maximum VSWR of 2.0:1 and a minimum isolation of 50 dB. This model is outfitted with SMA female connectors and a 9-pin Micro-D connector in a housing measuring 1.959" x 4.000" x 0.810".

- Frequency Range: 2.0 to 18.0 GHz
- Logic High Voltage, VH: 2.0 V Min., 3.5 V Max.
- Logic Low Voltage, VL: 0 V Min., 0.8 V Max.
- Current at VH: 0 mA Min., 24 mA Max.
- Current at VL: 0 mA Min., 24 mA Max.
- Load Capacitance: 0 pF Min., 35 pF Max.
- Rise Time: 1.0 ns Min., 2.0 ns Typ., 10.0 ns Max.
- Fall Time: 1.0 ns Min., 2.0 ns Typ., 10.0 ns Max.
- Response Time: 100 ns Max. (50% Voltage of Input Logic Signal to 1 dB of Final Value of RF Attenuation) - Measured <40 ns
- Repetition Rate: Support Switching from DC to 500 kHz
- Insertion Loss (Low Loss Path): 1 dB Min., 4 dB Max.
- Insertion Loss (High Loss Path): 18 dB Min., 22 dB Max.
- Tolerance and Flatness:
  - Low Loss: +1 dB, -2 dB (IL of 1 dB to 4 dB)
  - High Loss: +2 dB, -2 dB (IL of 18 dB to 22 dB)
- VSWR: 2.0:1 Max. - Measured 1.9:1
- Output 1 dB Compression: 18 dBm
- Isolation: 50 dB Min., Between any of the Six Outputs with any Switch Setting
- Stability: < -70 dBm Spurious Output Signal
- Video Spike Leakage: < 500 mV Peak to Peak (Measured with a Minimum Bandwidth of 200 MHz)
- Spectral Activity: -70 dBm Max. @ 500 kHz Switching Rate
- DC Voltage:
  - -5 ± 0.1 VDC @ 0.3 A Max. - Measured 0.295 A
  - +5 ± 0.1 VDC @ 0.3 A Max. - Measured 0.282 A
- AC Ripple: 120 mV Peak to Peak Max.

PMI Website Link,
https://www.pmi-rf.com/product-details/pe2-19-6g18g-1r6-16-12-sff

4.0 PMI Model No. GMDA-D1006, 2.0 to 6.0 GHz, DLVA

PMI Model No. GMDA-D1006 is a 2.0 to 6.0 GHz, DLVA. It has a minimum TSS of -65 dBm and a maximum input VSWR of 2.0:1. It has SMA female connectors in a housing measured at 3.5" x 3.2" x 0.5".

- Frequency Range: 2.0 to 6.0 GHz
- TSS: -65 dBm Min.
- Input VSWR (50 Ohms): 2.0:1 Max. - Measured 1.93:1
- Logging Range: -60 to +10 dBm
- Log Linearity:
• ±1.0 dB at Room Temperature
• ±1.5 dB Max. Over Temperature
• Logging Slope:
  • +25 ± 1 mV/db at Room Temperature
  • +25 ± 1.5 mV/db Over Temperature
  • +25 mV/db Typ.
• Flatness: 50 mV Max. - Measured 21 mV
• RF Safe Input Power: +23 dBm Max. CW (Without Damage)
• Maximum Output Voltage: +2.5 V Max.
• Video Load Impedance: 75 Ohms Typ.
• Video Rise Time: 30 ns Max. - Measured 13.21 ns
• Recovery Time: 1 usec - Measured 164 ns
• Throughout Time: 30 ns Max.
• Video Bandwidth: 10 MHz Typ.
• Offset Voltage: ±50 mV Max.
• Power Supply:
  • +12 to +15.5 VDC @ 400 mA Max. - Measured 136 mA
  • -12 to -15.5 VDC @ 165 mA Max. - Measured 74 mA

PMI Website Link,

5.0 PMI Model No. BPF-11-14-SFF, 3.75 to 18.25 GHz, Band Pass Filter

PMI Model No. BPF-11-14-SFF is a Band Pass Filter that operates over the 3.75 to 18.25 GHz frequency range. It has a maximum insertion loss of 2.5 dB and a maximum VSWR of 2.0:1. This model is outfitted with SMA female connectors in a housing measuring 2.36" x 0.20" x 0.39".

• Frequency Range: 3.75 to 18.25 GHz
• Insertion Loss: 1.5 dB Typ., 2.5 dB Max. - Measured 0.31 dB
• VSWR: 1.5:1 Typ., 2.0:1 Max.
• Rejection @ DC to 2.75 GHz: 70 dB Typ.
• Rejection @ 20.25 to 23.25 GHz: 60 dB Typ.
• Input Power: 10 W Max.
• Impedance: 50 Ohms

PMI Website Link,

6.0 PMI Model No. FD-74M-10M-1212, 74 MHz, Frequency Discriminator

PMI Model No. FD-74M-10M-1212 is a Frequency Discriminator that operates at the 74 MHz frequency range. It has a maximum input VSWR of 2.0:1 and a maximum rise time of 50 ns. This model is outfitted with SMA female connectors in a housing measuring 4.625" x 1.500" x 0.470".

• Center Frequency: 74 MHz
• Peak to Peak Bandwidth: 30 MHz Min.
• Linear Bandwidth: 10 MHz Min.
• Sensitivity: 100 mV/MHz ± 5% into 93 Ohms
• Linearity: ±5% Max. - Measured 3.25%
• Input VSWR: 2.0:1 Max. - Measured 1.1:1
• Input Dynamic Range: -10 to 0 dBm Min.
• Rise Time: 50 ns Max. - Measured 49 ns
• DC Power Supply:
  ○ +12 V @ 200 mA Max. - Measured 90 mA
  ○ -12 V @ 100 mA Max. - Measured 61 mA

PMI Website Link,
https://www.pmi-rf.com/product-details/fd-74m-10m-1212

7.0 PMI Model No. LM-10M62G-20DBM-1W-24FF, 10 MHz to 62.0 GHz, Limiter

PMI Model No. LM-10M62G-20DBM-1W-24FF is a Limiter that operates over the 10 MHz to 62.0 GHz frequency range. It has a maximum insertion loss of 4.0 dB and a maximum recovery time of 100 ns. This model is outfitted with 2.4 female connectors in a housing measuring 0.53" x 0.70" x 0.26".

• Frequency Range: 10 MHz to 62.0 GHz
• Power Handling:
  ○ 1.5 W CW Max. (20 MHz to 12.0 GHz)
  ○ 1.0 W CW Max. (18.0 GHz)
• Peak Input Power:
  ○ 10 W Peak Max. (20 MHz to 1.0 GHz)
  ○ 6 W Peak Max. (4.0 to 8.0 GHz)
  ○ 4 W Peak Max. (12.0 to 18.0 GHz)
  ○ (Pw 1 us, 1% Duty Cycle)
• Insertion Loss (-10 dBm Input Power):
  ○ 1.5 dB Max. (10 MHz to 18.0 GHz) - Measured 0.95 dB
  ○ 2.3 dB Max. (18.0 to 40.0 GHz) - Measured 1.64 dB
  ○ 2.5 dB Typ. (40.0 to 50.0 GHz) - Measured 2.43 dB
  ○ 4.0 dB Typ. (50.0 to 62.0 GHz)
• VSWR In/Out (-10 dBm Input Power):
  ○ 1.8:1 Max. (10 MHz to 18.0 GHz) - Measured 1.67:1
  ○ 2.0:1 Max. (18.0 to 40.0 GHz) - Measured 1.93:1
  ○ 2.2:1 Max. (40.0 to 50.0 GHz) - Measured 2.1:1
  ○ 3.0:1 Typ. (50.0 to 62.0 GHz) - Measured 2.97:1
• Flat Leakage Power: +22 dBm Typ.
• P1dB: +16 dBm Typ.
• Recovery Time: 100 ns Max. - Measured 74 ns

PMI Website Link,
https://www.pmi-rf.com/product-details/lm-10m62g-20dbm-1w-24ff

8.0 PMI Model No. LM-10M18G-16-20W-AL, 10 MHz to 18.0 GHz, Limiter

PMI Model No. LM-10M18G-16-20W-AL is a Limiter that operates over the 10 MHz to 18.0 GHz frequency range. It has a maximum insertion loss of 2.0 dB and a maximum VSWR of 2.0:1. This model is outfitted with a SMA male input connector and a SMA female output connector in a housing measuring 0.90" x 0.38" x 0.38".

• Frequency Range: 10 MHz to 18.0 GHz
• RF Power Handling:
  ○ 20 W CW Max. @ -55°C to +85°C
  ○ 1 kW Peak Max. @ 1 us Pulse Width, 1% Duty Cycle
  ○ 100 W Peak @ 10 us Pulse Width, 10% Duty Cycle
• Insertion Loss: 2.0 dB Max. @ -10 dBm Input Power - Measured 1.6 dB
- Recovery Time (3 dB): 250 ns Max. @ 1000 W Peak Power - Measured 224.44 ns
- Leakage Power: +17 dBm Max. - Measured 15.46 dB
- Impedance: 50 Ohms
- VSWR: 2.0:1 Max. @ -10 dBm Input Power - Measured 1.96:1
- Limiting Threshold: +5 dBm Min. (1 dB Compression)

PMI Website Link,
https://www.pmi-rf.com/product-details/Im-10m18g-16-20w-al

**9.0 PMI Model No. LM-0R3G8G-14-100W-SFF, 0.3 to 8.0 GHz, Limiter**

PMI Model No. LM-0R3G8G-14-100W-SFF is a Limiter that operates over the 0.3 to 8.0 GHz frequency range. It has a maximum insertion loss of 2.2 dB and a maximum VSWR of 2:1. This model is outfitted with SMA female connectors in a housing measuring 1.00" x 0.68" x 0.35".

- Frequency Range: 0.3 to 8.0 GHz
- Power Handling:
  - +50 dBm CW Max. (100 W)
  - +50 dBm Peak, 25 us Pulse, 5% Duty Cycle (100 W)
- Insertion Loss: 2.2 dB Max. - Measured 2.09 dB
- VSWR In/Out: 2:1 Max. - Measured 1.94:1/1.93:1
- Flat Leakage Power: +15 dBm Typ.
- P1dB: +5 dBm Typ.
- Recovery Time: 100 ns Max. - Measured 61.11 ns

PMI Website Link,
https://www.pmi-rf.com/product-details/lm-0r3g8g-14-100w-sff

**10.0 PMI Model No. IFE-DRS-KIT, 9.0 to 10.0 GHz, Integrated Front End**

PMI Model No. IFE-DRS-KIT is an Integrated Front End that operates over the 9.0 to 10.0 GHz frequency range. It has an output flatness vs. frequency of ±1 dB and a maximum safe RF input of 0 dBm. This model is outfitted with a SMA female RF input connector and a BNC female video output connector in a housing measuring 11.0" x 7.0" x 3.0".

- Frequency Range: 9.0 to 10.0 GHz
- Video Output (4 VDC): RF Input Signal Shall be Within the Range of -40 to -48 dBm
- Output Flatness vs. Frequency (@ 4 VDC Output): ±1 dB - Measured ±0.5 dB
- Safe RF Input: 0 dBm Max.
- Operating Temperature: 25 ± 5°C
- Power: 115 ± 10% VAC

PMI Website Link,

**11.0 PMI Model No. PS-2G18G-360-12D-TS, 2.0 to 18.0 GHz, 12-Bit Phase Shifter**

PMI Model No. PS-2G18G-360-12D-TS is a 2.0 to 18.0 GHz, 12-Bit Phase Shifter. It has a maximum insertion loss of 18 dB and a maximum VSWR of 2.2:1. The housing is measured at 4.25" x 3.50" x 1.00" and has SMA female connectors and a DB-37P Sub-D multipin connector.
• Frequency Range: 2.0 to 18.0 GHz
• Phase Range: 360°
• RF Input Power: +20 dBm CW, 1 W Max.
• Insertion Loss: 18 dB Max. - Measured 16.52 dB
• VSWR: 2.2:1 Max. (50 Ohm System) - Measured 1.99:1
• Phase vs. Frequency: ±15° Typ. - Measured ±11.76°
• Control Logic: 12-Bit TTL Compatible
• Control Slopes: Linear
• Switching Speed: 500 ns Max. - Measured 410 ns
• Power Supply:
  ○ +12 to +15 V @ 100 mA Max. - Measured 63 mA
  ○ -12 to -15 V @ 100 mA Max. - Measured 76 mA

PMI Website Link,
https://www.pmi-rf.com/product-details/ps-2g-18g-360-12d-ts

12.0 PMI Model No. TD-6G18G-CD-SFF, 6.0 to 18.0 GHz, Threshold Detector

PMI Model No. TD-6G18G-CD-SFF is a Threshold Detector that operates over the 6.0 to 18.0 GHz frequency range. It has a maximum flatness of ±1.5 dB and a maximum recovery time of 150 ns. This model is outfitted with SMA female connectors in a housing measuring 1.10" x 0.60" x 0.19".

• Frequency Range: 6.0 to 18.0 GHz
• Dynamic Range:
  ○ Setting: -30 to -10 dBm
  ○ Pulse Signal: -26 to +10 dBm
• Flatness: ±1.5 dB Max.
• Propagation Delay: 20 ns Typ., 30 ns Max. - Measured 15.085 ns
• Output: TTL Compatible
• Recovery Time (Or Pulse Stretching): 150 ns Max. - Measured 18 ns
• VSWR @ -20 dBm or Lower: 3.0:1 Max. - Measured 2.846:1
• Power Supply:
  ○ +12 or +15 V @ +110 mA Max., -40 mA Max. - Measured 75 mA
  ○ -12 or -15 V @ +110 mA Max., -40 mA Max. - Measured 32 mA
• Threshold Uncertainty: ±0.75 dB Max. - Measured ±0.4 dB
• Threshold Setting: 0 to 4 V, Resistive Setting is Optional

PMI Website Link,
https://www.pmi-rf.com/product-details/td-6g18g-cd-sff

13.0 PMI Model No. EQL-17D6G21D6G-4DB-292MF, 17.6 to 21.6 GHz, Equalizer

PMI Model No. EQL-17D6G21D6G-4DB-292MF is a 17.6 to 21.6 GHz, Passive Amplitude Equalizer. It has a maximum input power of 0.5 W CW and a maximum VSWR of 2.0:1. The housing is outfitted with a 2.92 mm male input connector and a 2.92 mm female output connector and is measured at 1.10" x 0.67" x 0.22".

• Frequency Range: 17.6 to 21.6 GHz
• Maximum Input Power: 0.5 W CW
• VSWR: 2.0:1 Max. - Measured 1.49:1
• Amplitude @ 17.6 GHz: -1 dB Min.
• Slope:
  ○ Amplitude @ 17.6 GHz
- Amplitude -4 dB @ 21.6 GHz
- Amplitude = -1 dB/GHz (Frequency Above 17.6 GHz in GHz) + (Amplitude @ 17.6 GHz)
- Linearity: ±0.5 dB

**PMI Website Link**, 
https://www.pmi-rf.com/product-details/eql-17d6g21d6g-4db-292mf1

**DC to 50 GHz Components, Modules, and Sub-Systems**

PMI offers just about any RF/Microwave component, module, or sub-system for both industrial and military based requirements. Please click on the product types below to be directed to our web site catalog. Components and modules can be modified to meet your exact requirement. (Click on links below to be directed to the web listings)

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We truly value your interest in our company and our products. We appreciate your feedback. Please feel free to contact us with any requirements or questions that you may have.

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