



TYPICAL CHARACTERISTICS ON SBA-218-6

PMI MODEL SBA-218-6 IS A SWITCHED BIT ATTENUATOR OPERATING FROM 2 TO 18 GHz. DESIGNED TO BE SWITCHED BETWEEN A LOW LOSS STATE (2 dB LOSS TYPICAL) AND HIGH LOSS STATE (20 dB LOSS TYPICAL). THE SETTINGS ARE SELECTED BY A SINGLE CONTROL BIT.



Designed By:
PMI Engineering

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Reported By:
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June 22, 2015



**TYPICAL CHARACTERISTICS
ON
SBA-218-6**

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TYPICAL CHARACTERISTICS ON SBA-218-6

| | | REVISIONS | | |
|------|------|------------------|----------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | 1 | ORIGINAL RELEASE | 03/25/15 | |
| | A1 | ECN # 15-0075 | 07/06/15 | |
| | A2 | ECN # 22-0146 | 11/15/22 | |

DESCRIPTION

PMI MODEL SBA-218-6 OPTION HERM IS A SWITCHED BIT ATTENUATOR OPERATING FROM 2 TO 18 GHz. DESIGNED TO BE SWITCHED BETWEEN A LOW LOSS STATE (2 dB LOSS TYPICAL) AND HIGH LOSS STATE (20 dB LOSS TYPICAL). THE SETTINGS ARE SELECTED BY A SINGLE CONTROL BIT.

SPECIFICATIONS

- FREQUENCY RANGE: 2 TO 18 GHz
- ATTENUATION: 20 dB ±2dB MAX
- INSERTION LOSS: 3 dB MAX
- SWITCHING SPEED: 100 ns MAX
- TTL CONTROL: "1" = 2 dB INSERTION LOSS
"0" = 20 dB INSERTION LOSS
- INPUT POWER: +20 dBm CW MAX
- VSWR: 2.0:1 MAX
- DC VOLTAGE: +5 VDC @ 50 mA
-5 VDC @ 50 mA
- CONNECTORS: SMA (F) REMOVABLE
- SIZE: 1.00" X 0.70" X 0.35"
- SEALING: HERMETIC
- FINISH: GOLD PLATED

Technical drawing showing dimensions and pin configurations for the SBA-218-6 Option Herm attenuator. Dimensions include: 0.69, 0.56, 0.44, 0.31, 1.00, 0.35, 0.26, 0.08, 0.35, 0.70, 0.81, 0.50, 0.19, 0.09, 0.26. Pin configurations: 4 PLACES of $\phi 0.020 \times 0.250$ PIN Typ. and 2 PLACES of $\phi 0.015 \times 0.065$ TYP RF PIN. Labels include: CTL -0V, END +5V, PLANAR MONOLITHICS INDUSTRIES, MADE IN USA, CASE DESIGN, SWITCHED BIT ATTENUATOR, MODEL NO. SBA-218-6 OPTION HERM, SERIAL NO. XXXXXX/XXXX, PART NO. XXXXXX/XXXX, and 2-56 HELICOIL X 0.110 DP TYPICAL (MIL SPEC PART NUMBER: MS21209C0215) (3) PLACES.

PMI CONFIDENTIAL AND PROPRIETARY

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -20 °C TO +70 °C (OPERATING)
-65 °C TO +125 °C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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ISO 9001 CERTIFIED

APPROVALS: _____ DATE: _____

DRAWN: *USR* DATE: 03/25/15

CHECKED: _____

REVISED: _____

TITLE: PRODUCT FEATURE
SBA-218-6 OPTION HERM

SIZE: PSOM NO. A 05X00 DWG NO. 27013491 REV. A2

SCALE: N:S SHEET 1 OF 1

ALL DIMENSIONS ARE IN INCHES
TOLERANCES:
XXX ±0.020
XXXX ±0.010



**TYPICAL CHARACTERISTICS
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| TEST. ITEM NO | PARAMETERS | SPECIFIED VALUE | TEST RESULT | QA QC |
|--------------------------|-------------------|---|--|------------------|
| 1 | Frequency Range: | 2 to 18 GHz | 2 to 18 GHz See Plot | |
| 2 | Attenuation: | 20 dB \pm 2 dB Nominal | 21.2 dB \pm0.6 dB See Plot | |
| 3 | Insertion Loss: | 3 dB Max | 2.7 dB See Plot | |
| 4 | Switching Speed: | 100 ns Max | < 30 ns See Plot | |
| 5 | TTL Control: | "1 = 2 dB Insertion Loss" "0 = 20 dB Insertion Loss" | Pass | |
| 6 | Input Power: | +20 dBm CW Max | Pass | |
| 7 | VSWR: | 2.0:1 Max | 1.7:1 See Plot | |
| 8 | DC Supply: | +5 VDC @ 300mA -5 VDC @ 300mA | +5 VDC @ 58mA -5 VDC @ 48mA | |



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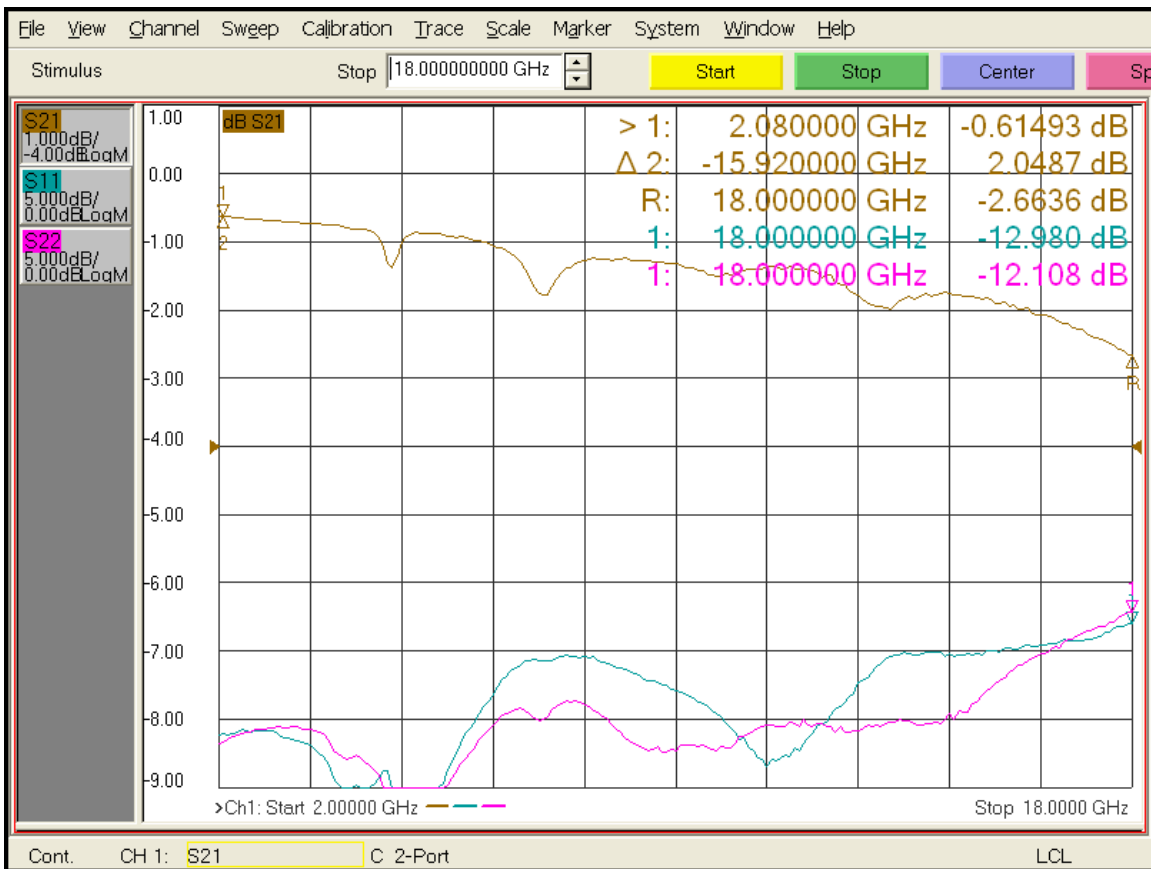
High Loss





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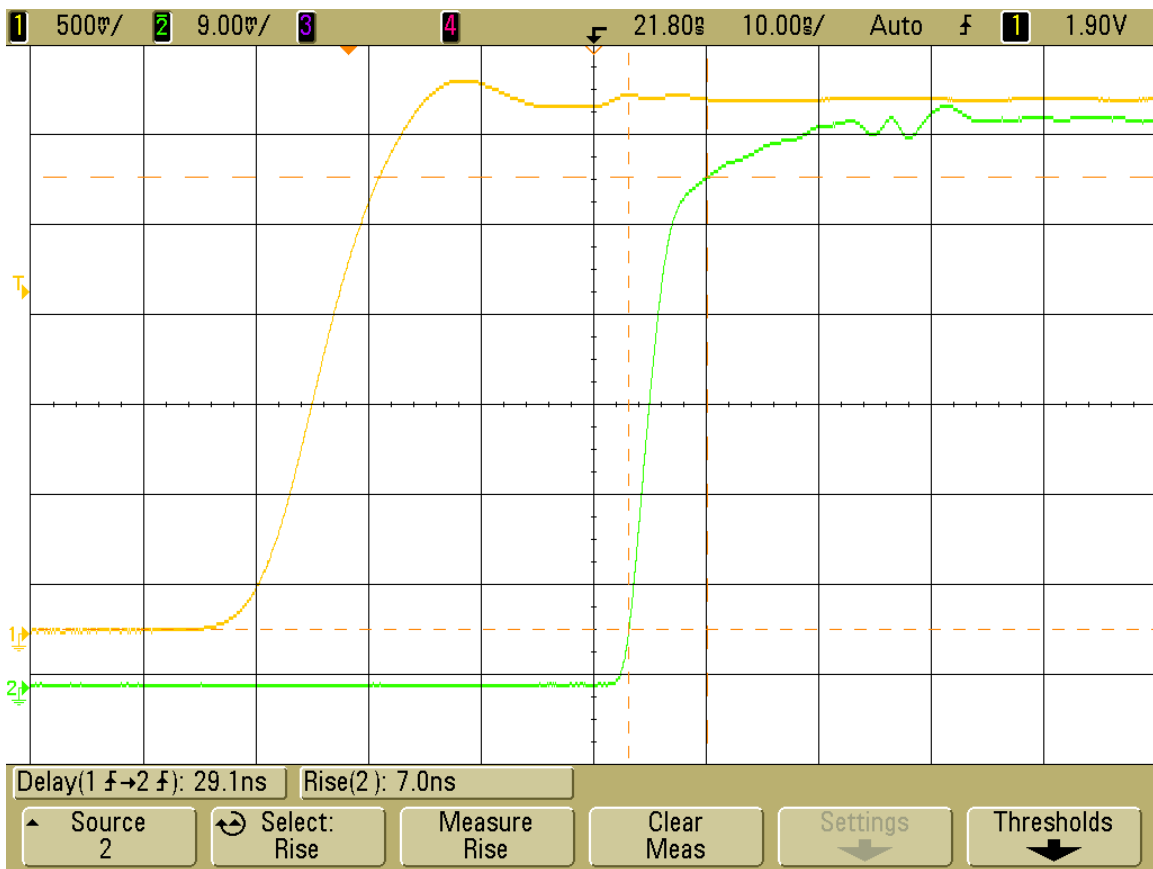
Low Loss





TYPICAL CHARACTERISTICS ON SBA-218-6

Rise Time & Response Time



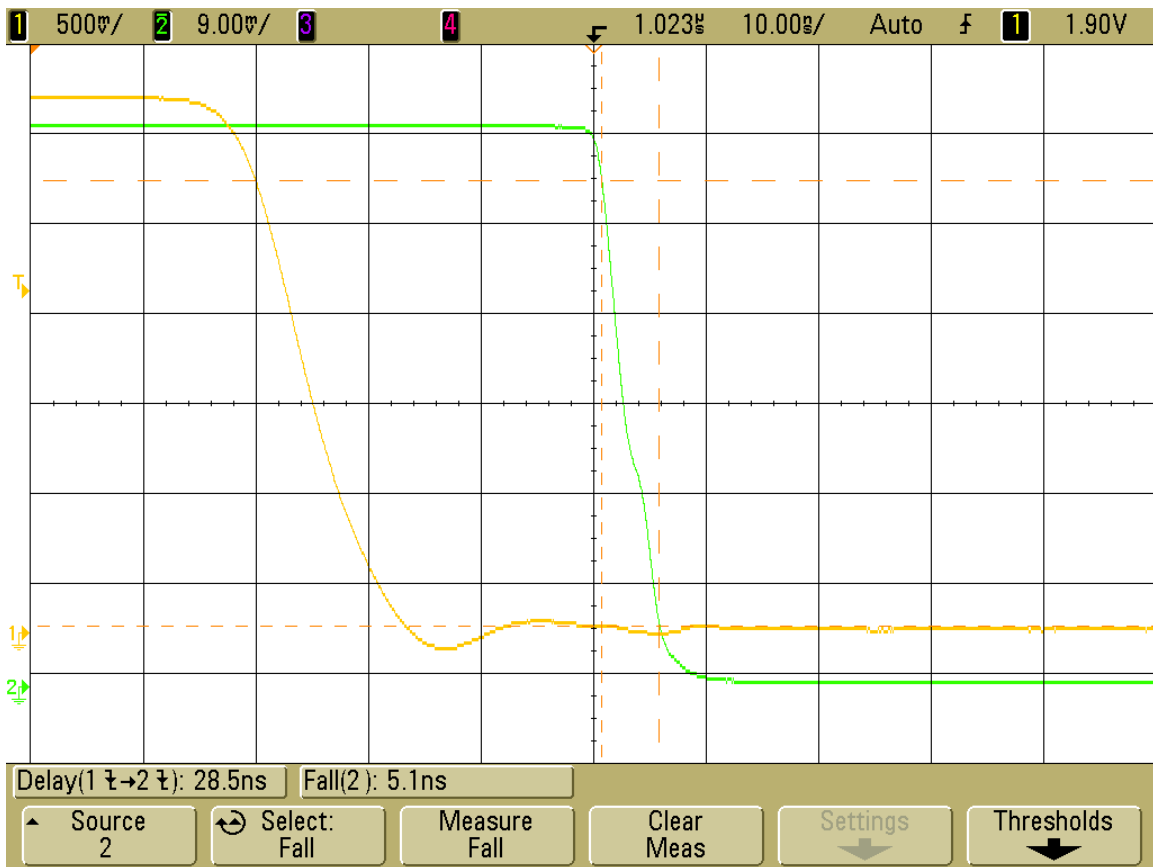
Yellow: TTL Input

Green: RF Output Measured with Crystal Detector



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Fall Time & Response Time



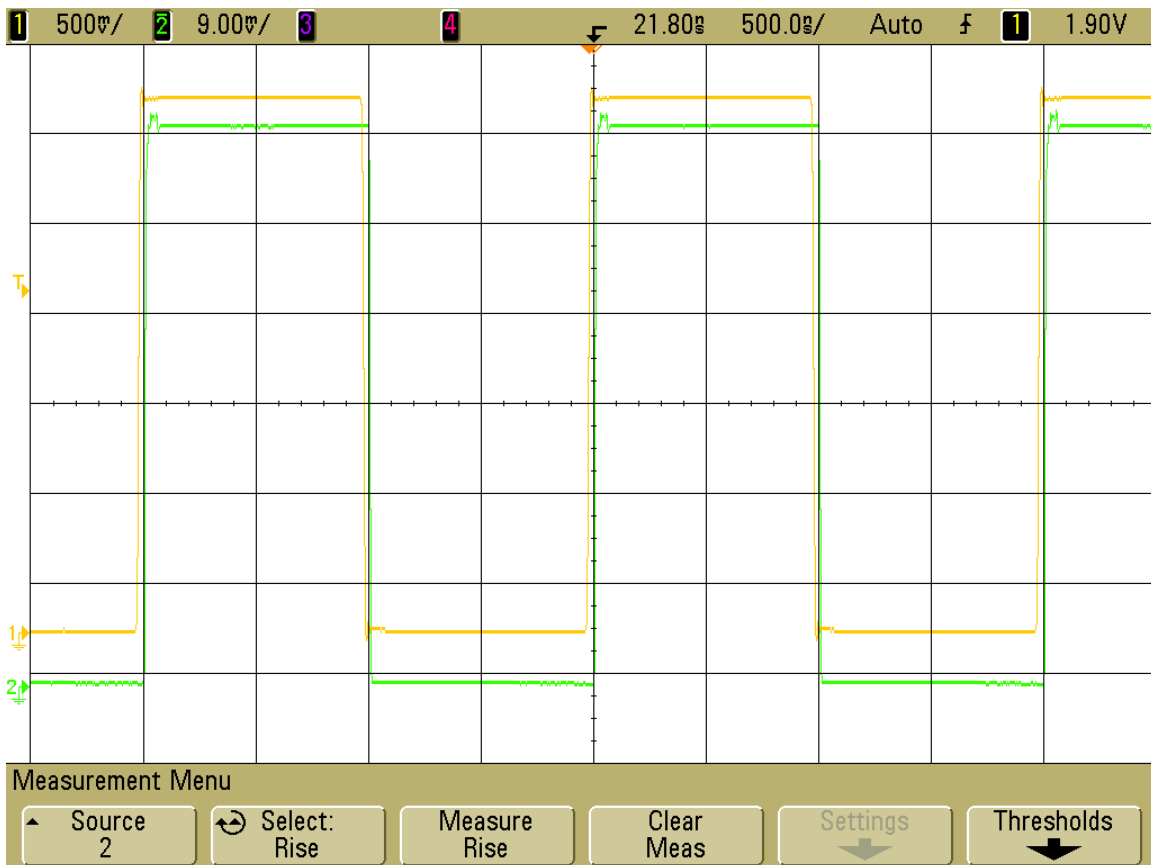
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