



Absorptive Digital Control Attenuator 8-12GHz



Features

- Wide Band Operation 8-12GHz
- 1dB LSB Steps to 63dB
- Single Positive Control Line Per Bit
- Customization available upon request

Electrical Specifications, TA = +25° C, Vdd = +5V, Vss = -5V & VCTL = 0 / +5V

| Description | PN: RFDAT0812G6A | | | |
|--|--------------------------------|---------|-----|--------|
| | Absorptive Digital Attenuator | | | |
| Parameters | Min | Typ | Max | Units |
| Frequency Range | 8 | | 12 | GHz |
| Attenuation Range | | | 63 | dB |
| Attenuation Flatness: (Referenced to Insertion Loss) | | ±2 | | dB |
| Control Bits | | | 6 | Bit |
| Control Step size | 1 | | | dB |
| Insertion Loss | | 5.0 | 6.5 | dB |
| Insertion Loss Temperature Coefficient | | 0.005 | | dB/°C |
| Input VSWR (All States) | | 1.4 | 1.8 | : 1 |
| Output VSWR (All States) | | 1.4 | 1.8 | : 1 |
| Input 0.1 dB Compression Point | | 30 | | dBm |
| IP ₃ Input | | 45 | | dBm |
| Switching Speed | | 150 | | ns |
| Weight | | 1.41 | | ounces |
| Impedance | | 50 | | Ω |
| Bias Current (+5V/-5V) | | 130/130 | | mA |
| Input / Output Connectors | SMA - Female | | | |
| Interface and Control Connector | MICRO-D9(Female) | | | |
| Finishing | Gold Plating | | | |
| Material | Aluminum | | | |
| Sealing | Hermetically Sealed (optional) | | | |



Absolute Maximum Ratings

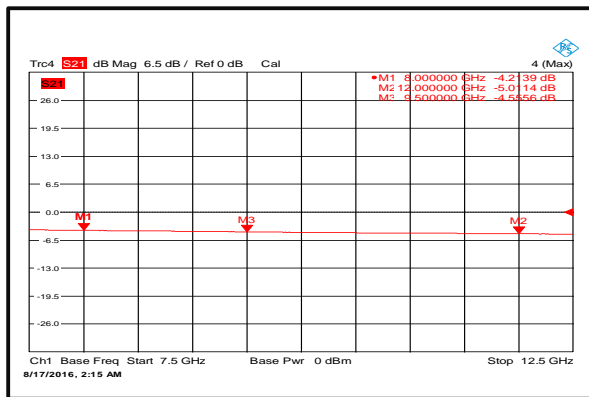
| | |
|---------------------|-----------------|
| Biassing | +5V±10%/-5V±10% |
| TTL Control Voltage | 0~0.8V / 2~5V |
| RF Input Power | +30dBm |

Ordering Information

| Part No. | ECCN | Description |
|--------------|-------|------------------------------------|
| RFDAT0812G6A | EAR99 | 8-12GHz Digital Control Attenuator |

Typical Performance Plots

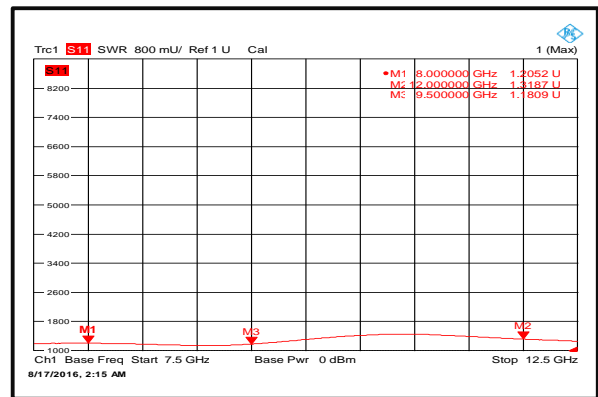
Insertion Loss



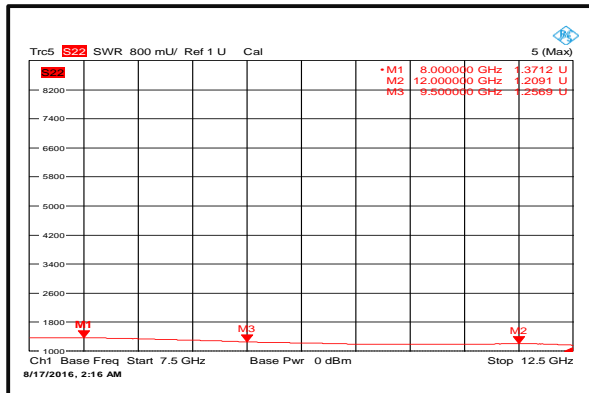
Environmental Specifications

| | |
|------------------------------|--|
| Operational Temperature (°C) | -45 ~ +85 |
| Storage Temperature (°C) | -50 ~ +125 |
| Altitude | 30,000 ft. (Epoxy Sealed Controlled environment) |
| | 60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional) |
| Vibration | 25g RMS (15 degree 2KHz) endurance, 1 hour per axis |
| Humidity | 100% RH at 35c, 95%RH at 40 deg c |
| Shock | 20G for 11msec half sine wave, 3 axis both directions |

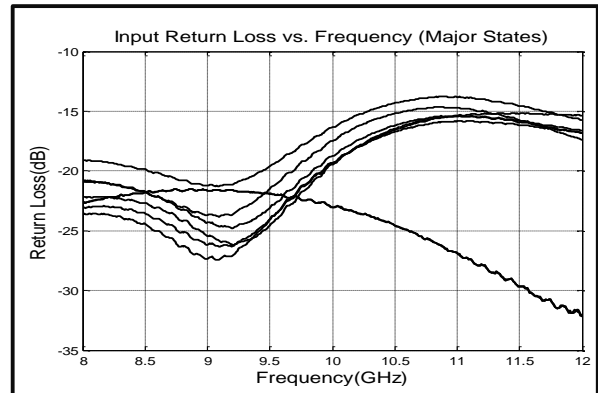
Input VSWR



Output VSWR

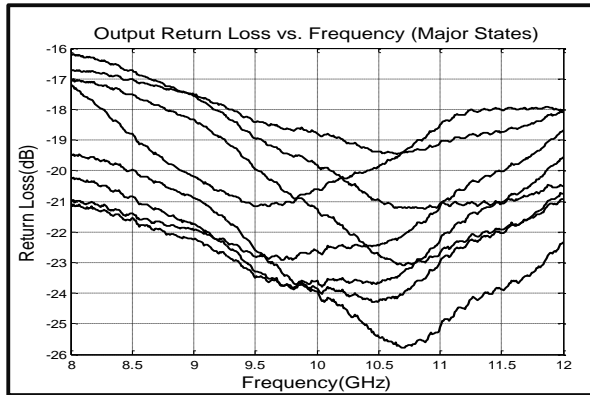


Input Return Loss vs. Frequency

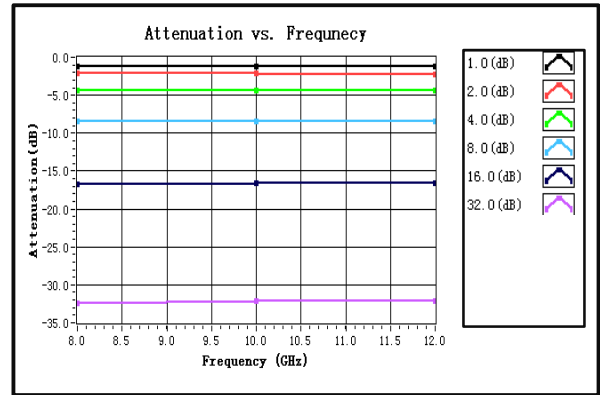




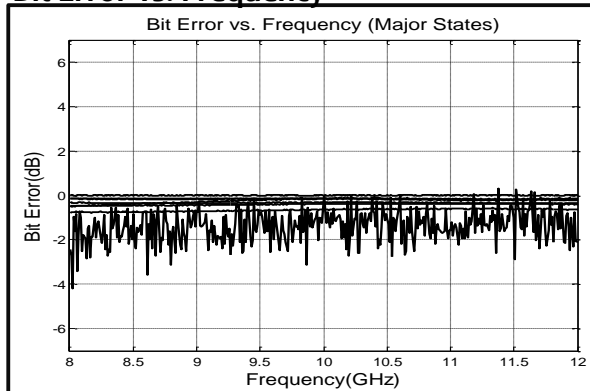
Output Return Loss vs. Frequency



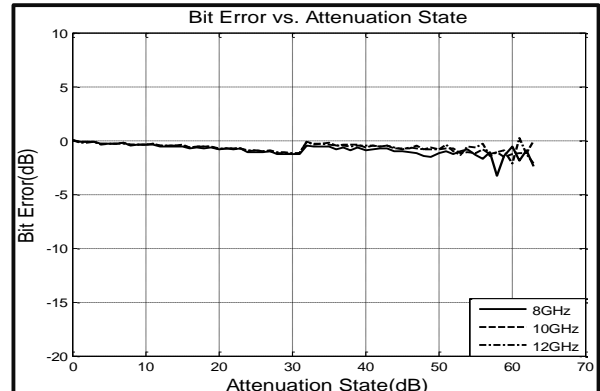
Attenuation Flatness vs. Frequency



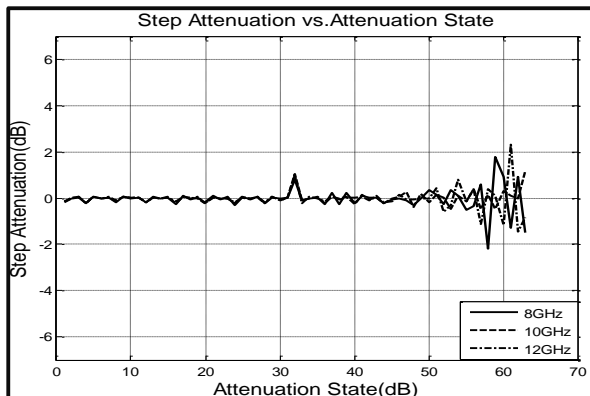
Bit Error vs. Frequency



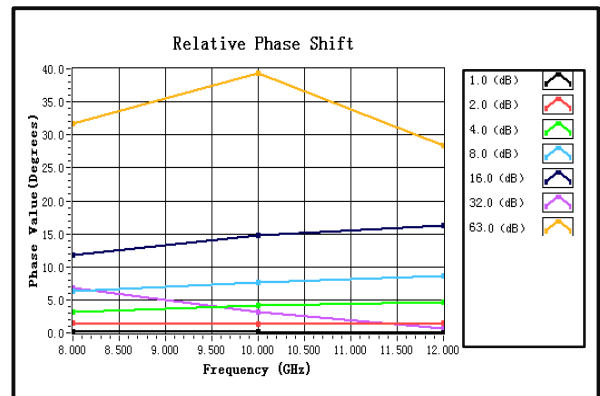
Bit Error vs. Attenuation State



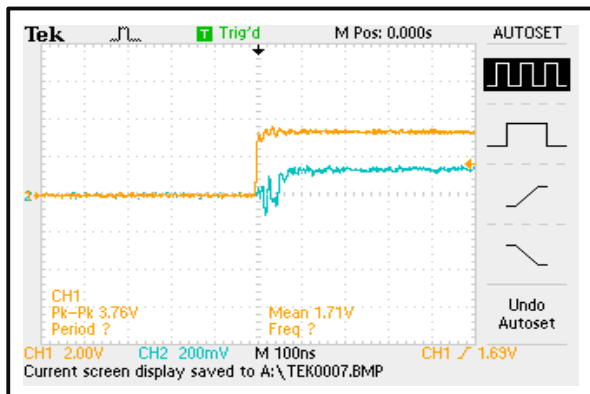
Step Attenuation vs. Attenuation State



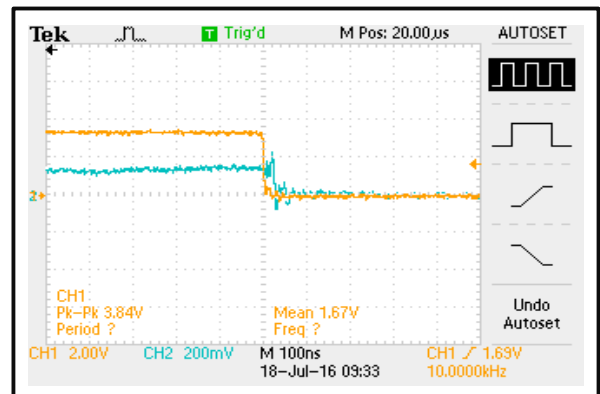
Relative Phase Shift



Speed



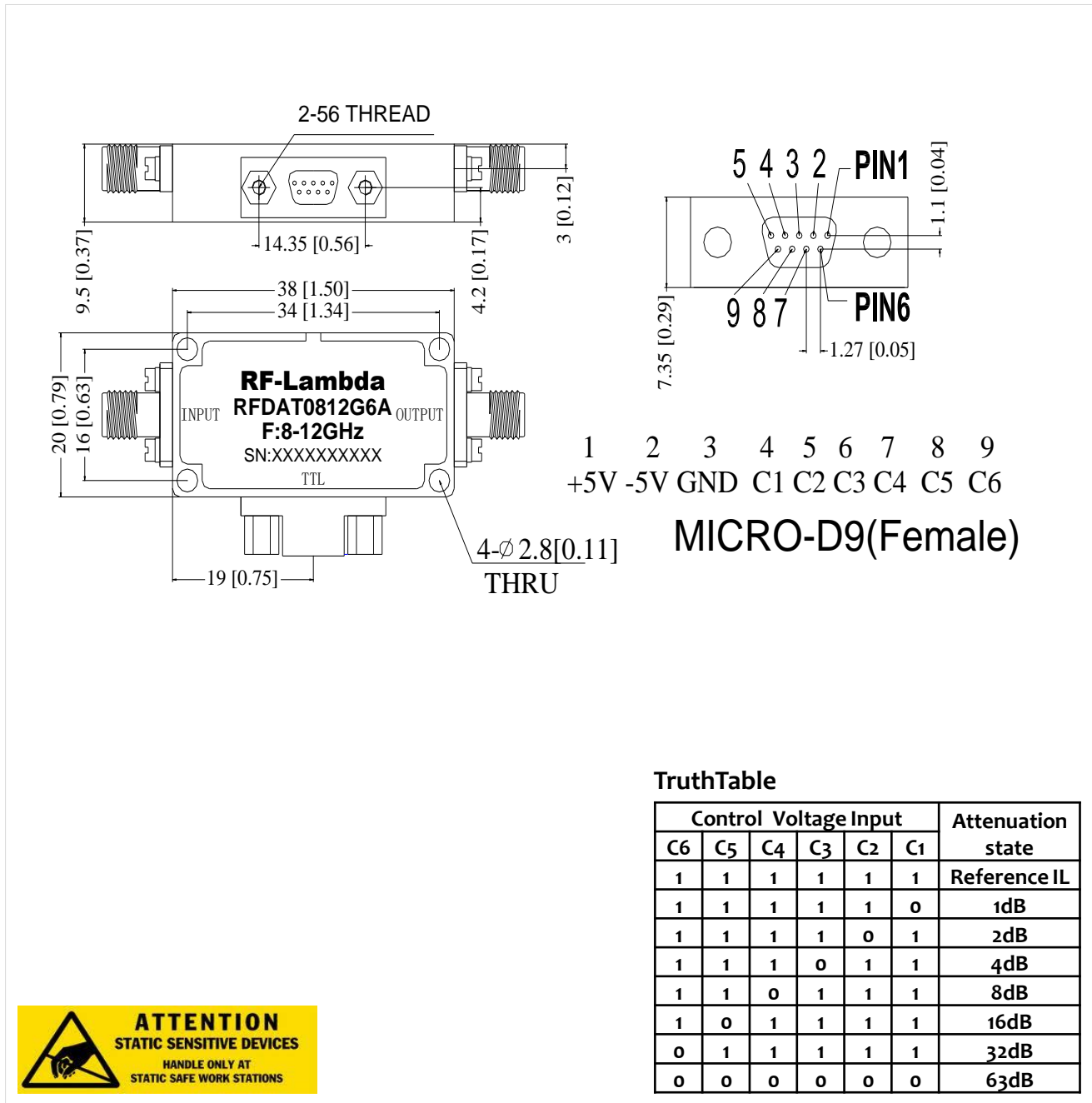
Speed





Outline Drawing:

All Dimensions in mm [inches]



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