

D-SS-12-T series Optical Delay Line & Optical Simulator



Abstract

Depended on Microwave- photonic technology, D-SS-12-T series optical delay line & optical simulator delivers unmatched performance for radar testing, signal processing, phased antenna array, antenna simulation and phase noise testing. It works effectively in the whole L/S/C/X bandwidth, with less insertion loss, high dynamic range, strong electro- magnetic isolation and triple transit signals that are immeasurable.

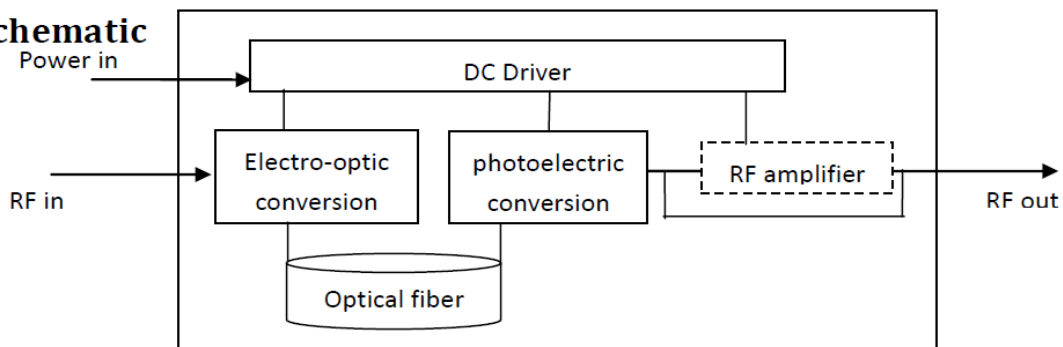
Features

- ✧ **Bandwidth to 12GHz**
- ✧ **High dynamic range**
- ✧ **Wide temperature application**
- ✧ **Low amplitude response**

Applications

- ✧ **Radar testing/calibration**
- ✧ **Signal processing**
- ✧ **Electronic war**
- ✧ **Phased antenna array**
- ✧ **Antenna simulation**

Schematic



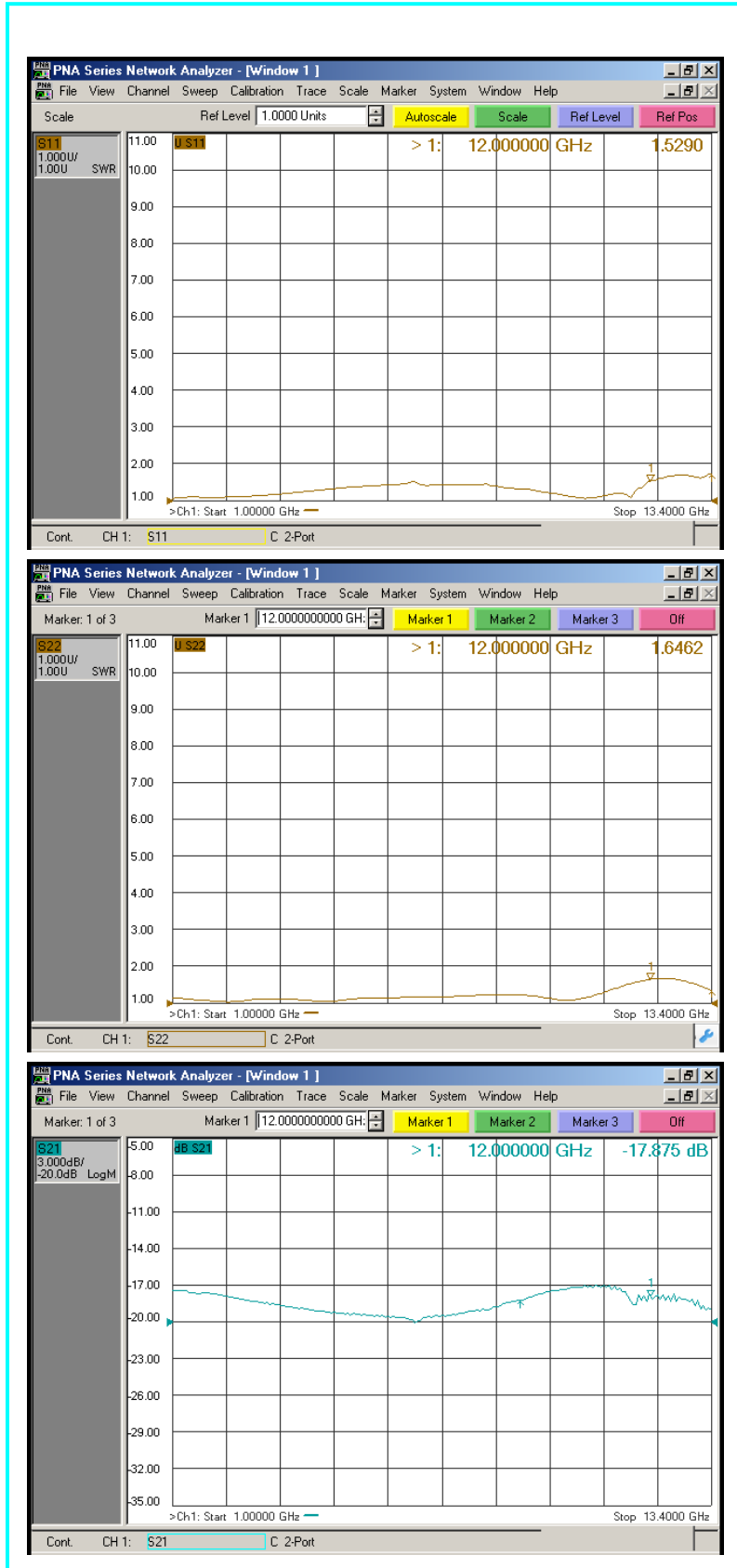
Electrical / Optical Characteristics

| Parameter | Parameter Values | | | Unit | Remark |
|---------------------------------|------------------|---------|------|--------|--------------------------|
| | Min | Typical | Max | | |
| Frequency Range | 1 | - | 12 | GHz | |
| Amplitude Flatness | - | ±2 | ±2.5 | dB | |
| Time Delay | 0.01 | - | 150 | us | Customized |
| Delay Accuracy | -5‰ | - | +5‰ | - | |
| Insertion Loss | 0 | 20 | 30 | dB | Customized |
| Input VSWR | - | 1.8 | 2 | - | |
| Output VSWR | - | 1.8 | 2 | - | |
| Impedance | - | 50 | - | Ω | |
| Input 1 dB Compression | - | +13 | +17 | dBm | |
| Spurious Signal Rejection Ratio | 60 | - | - | dBc | |
| Noise figure | - | 45 | 55 | dB | 5us, 25°C |
| Operate Temperature | -55 | - | +85 | °C | See Ordering Information |
| Storage Temperature | -55 | - | +85 | °C | |
| Relative Delay vs. Temperature | - | - | 7 | ppm/°C | |
| Insertion Loss vs. Temperature | - | 2 | 4 | %/°C | |

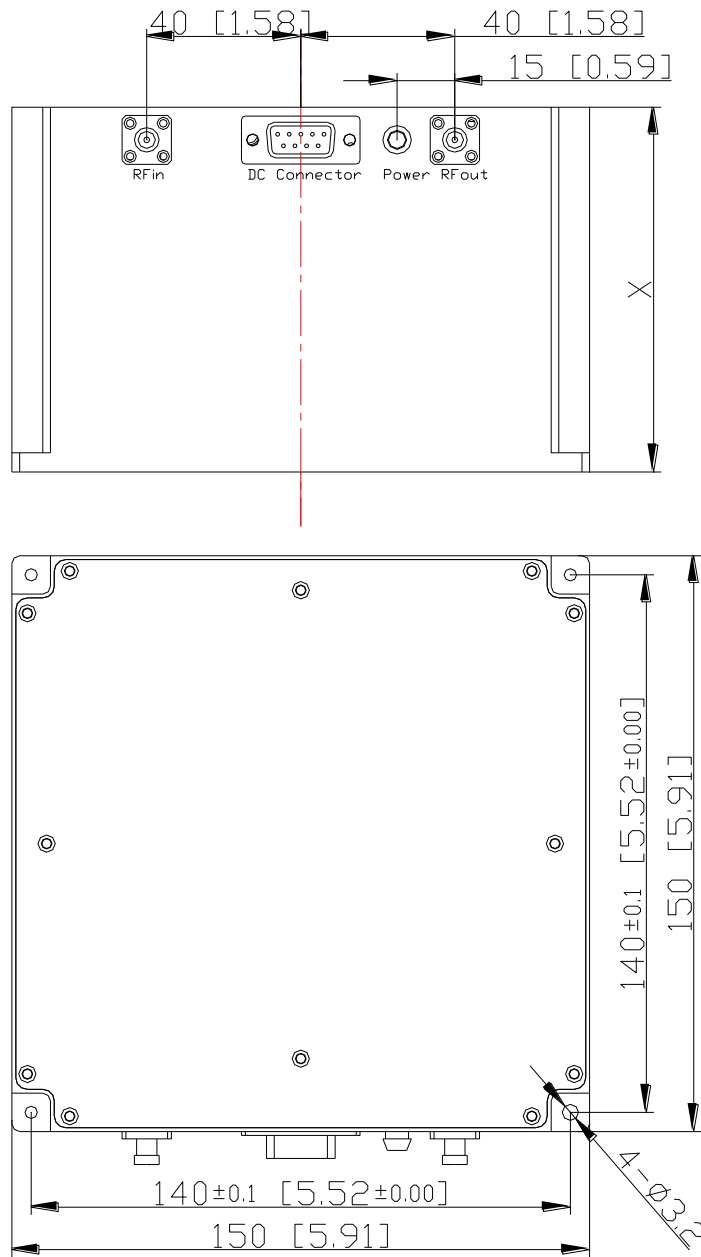
Connector Description & Power Supply

| | | | | |
|----------------|-----|-------|------|-----|
| Pin | 1、2 | 3、4、5 | 6、7 | 8、9 |
| Voltage | NC | GND | +12V | NC |
| Current Rating | - | - | 0.3 | - |
| Max Current | | | 1 | |

Typical Response Curves (25°C)



Dimension and Pins (Unit: inch)



RF Connector: SMA-K (Customized)

DC Connector: DE-9PS (Customized)

X:

| Product Type | D-SS-12-T-G | | | | | | Remark |
|-----------------|-------------|----|----|----|-----|-----|----------|
| Time Delay (us) | 8 | 20 | 35 | 50 | 60 | 80 | Standard |
| X (mm) | 37 | 52 | 70 | 85 | 98 | 120 | |
| Product Type | D-SS-12-T-P | | | | | | Remark |
| Time Delay (us) | 8 | 35 | 60 | 80 | 110 | 150 | Compact |
| X (mm) | 20 | 47 | 60 | 70 | 85 | 105 | |

Ordering Information

| Product Type | Packages | Quality Levels | Operate Temperature | Storage Temperature |
|---------------|----------|------------------------|---------------------|---------------------|
| D-SS-12-T-G-I | Standard | Industry-grade | -20°C~70°C | -40°C~80°C |
| D-SS-12-T-G-M | | Military-grade | -40°C~70°C | -50°C~80°C |
| D-SS-12-T-G-S | | Special Military-grade | -55°C~85°C | -55°C~85°C |
| D-SS-12-T-P-I | Compact | Industry-grade | -20°C~70°C | -40°C~80°C |
| D-SS-12-T-P-M | | Military-grade | -40°C~70°C | -50°C~80°C |
| D-SS-12-T-P-S | | Special Military-grade | -55°C~85°C | -55°C~85°C |