

### Description

The PSI-3700-MOD Lithium Niobate Mach-Zehnder interferometer modulator provides intensity modulation of light in the 1550nm region for use in a variety of high performance photonic applications. Offering low drive voltage ( $V_{\pi}$ ) of <2.1V at 1GHz and low optical insertion loss, the PSI-3700-MOD provides reliable RF fiber optic link performance in demanding remote antenna, radar or high speed test systems with operational bandwidths up to 20 GHz.

The PSI-3700-MOD may be used in either a single RF drive or dual RF drive configuration. For most wideband applications, the single drive option is preferred as fewer external components are required. For application where lower optical drive voltage is required, however, the dual RF drive capability reduces  $V_{\pi}$  by approximately 30% with the addition of some external components (see RF Drive Examples).

### Features

- » Low  $V_{\pi}$  and Insertion Loss
- » Operational to 20 GHz
- » High Optical Power Handling

### Applications

- » High Performance RF Links
- » Antenna Remoting
- » Radar
- » ELINT/EW
- » High Speed Test Systems

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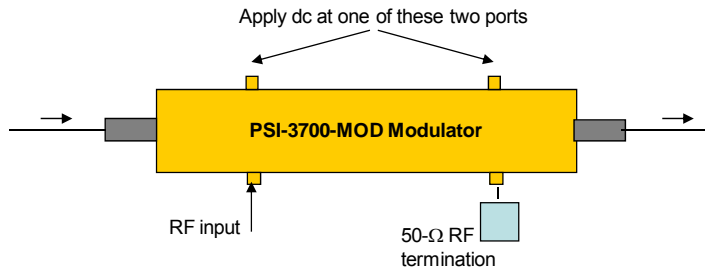
[www.photonicsinc.com](http://www.photonicsinc.com)

### Performance Characteristics

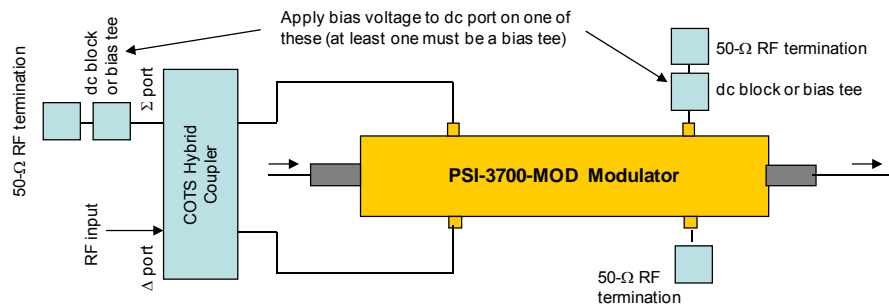
Parameter	Min	Typ	Max	Units
<b>Optical</b>				
Operating Wavelength	1525		1605	nm
Maximum Optical Input Power			2	W
Optical Insertion Loss		4.5		dB
Optical Return Loss	40			dB
Extinction Ratio	20			dB
<b>Electrical</b>				
Single Drive $V_{\pi}$ @ DC		1.65	2.0	V
$V_{\pi}$ @ 1 GHz		2.1		V
$V_{\pi}$ @ 6 GHz		2.5		V
$V_{\pi}$ @ 12 GHz		2.9		V
$V_{\pi}$ @ 18 GHz		3.8		V
<b>Mechanical</b>				
RF Connections	SMA Female			
Bias Connections	SMA Female			
Optical Fiber	Polarization Maintaining			
Optical Connectors	FC/APC aligned to slow axis typical			
<b>Environmental</b>				
Operating Temperature		0	70	°C
Storage Temperature		-40	85	°C

## RF Drive Examples

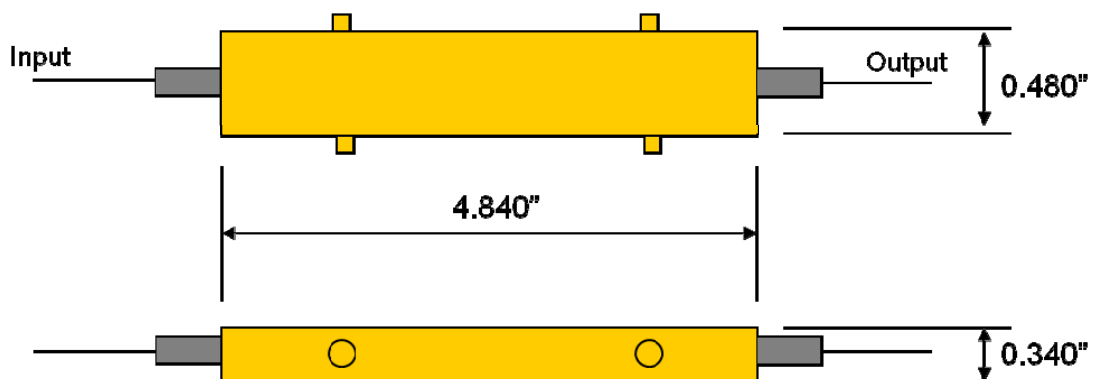
### Single RF Drive Configuration



### Dual RF Drive Configuration



## Mechanical Information



## Ordering Information

PSI Part Number	Description
PSI-3700-MOD	Broadband, Low Loss Modulator with FC/APC Optical Connectors