

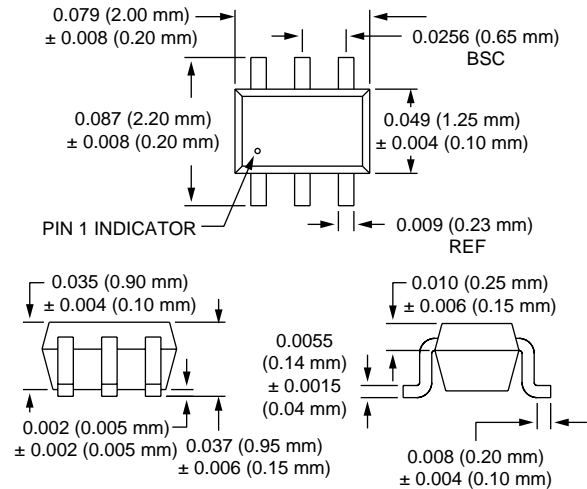
### Features

- P<sub>1 dB</sub> +30 dBm Typical @ +3 V
- IP3 43 dBm Typical @ +3 V
- Low Insertion Loss (0.3 dB @ 0.9 GHz)
- Low DC Power Consumption
- Ultra Miniature SC-70 6 Lead Package
- PHEMT Process

### Description

The AS179-92 is an IC FET SPDT switch in a low cost miniature SC-70 6 lead plastic package. The AS179-92 features low insertion loss and positive voltage operation with very low DC power consumption. This general purpose switch can be used in a variety of telecommunications applications.

### SC-70 6 Lead



### Electrical Specifications at 25°C (0, +3 V)

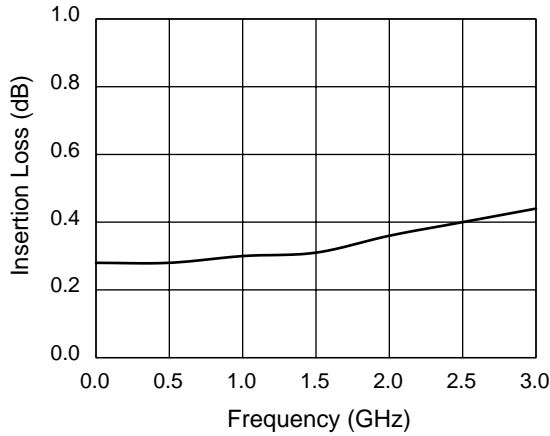
Parameter <sup>1</sup>	Frequency <sup>2</sup>	Min.	Typ.	Max.	Unit
Insertion Loss <sup>3</sup>	DC–1.0 GHz		0.3	0.4	dB
	DC–3.0 GHz		0.4	0.6	dB
Isolation	DC–1.0 GHz	22	25		dB
	DC–2.0 GHz	22	25		dB
	DC–3.0 GHz	20	23		dB
VSWR <sup>4</sup>	DC–1.0 GHz		1.2:1	1.4:1	
	DC–2.0 GHz		1.2:1	1.4:1	
	DC–3.0 GHz		1.3:1	1.4:1	

### Operating Characteristics at 25°C (0, +3 V)

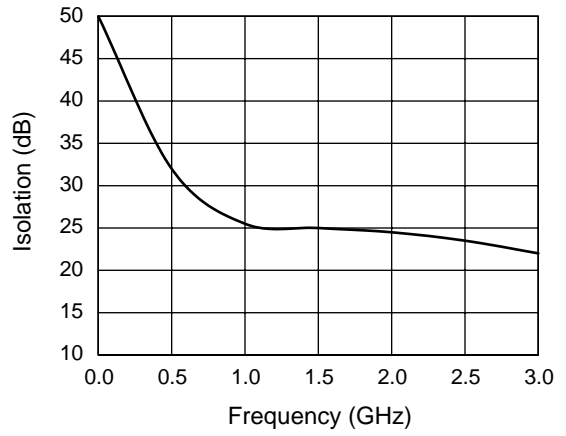
Parameter	Condition	Frequency	Min.	Typ.	Max.	Unit
Switching Characteristics <sup>5</sup>	Rise, Fall (10/90% or 90/10% RF)			10		ns
	On, Off (50% CTL to 90/10% RF)			20		ns
	Video Feedthru			25		mV
Input Power for 1 dB Compression	0/+3 V	0.5–3.0 GHz		+30		dBm
	0/+5 V	0.5–3.0 GHz		+34		dBm
Intermodulation Intercept Point (IP3)	For Two-tone Input Power +5 dBm					
	0/+3 V	0.5–3.0 GHz		+43		dBm
	0/+5 V	0.5–3.0 GHz		+50		dBm
Control Voltages	V <sub>Low</sub> = 0 to 0.2 V @ 20 µA Max. V <sub>High</sub> = +3 V @ 100 µA Max. to +5 V @ 200 µA Max.					

1. All measurements made in a 50 Ω system, unless otherwise specified.
2. DC = 300 kHz.
3. Insertion loss changes by 0.003 dB/°C.
4. Insertion loss state.
5. Video feedthru measured with 1 ns risetime pulse and 500 MHz bandwidth.

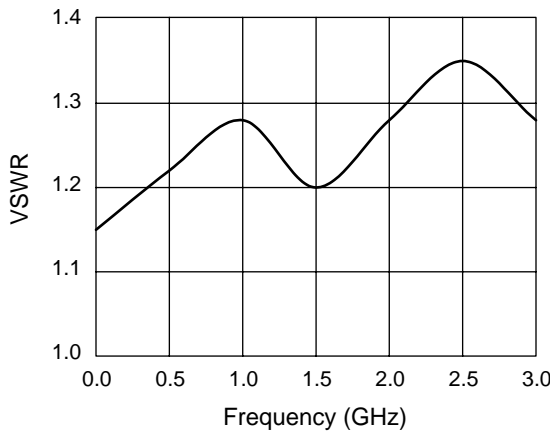
### Typical Performance Data (0, +3 V)



Insertion Loss vs. Frequency



Isolation vs. Frequency

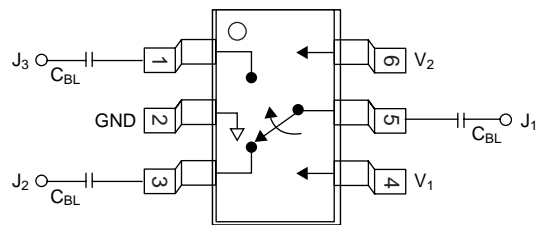


VSWR vs. Frequency

### Absolute Maximum Ratings

Characteristic	Value
RF Input Power	6 W > 500 MHz 0/+7 V Control
Control Voltage	-0.2 V, +8 V
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
$\theta_{JC}$	25°C/W

### Pin Out



DC blocking capacitors ( $C_{BL}$ ) must be supplied externally for positive voltage operation.  
 $C_{BL}$  = 100 pF for operation >500 MHz.

### Truth Table

$V_1$	$V_2$	$J_1-J_2$	$J_1-J_3$
$V_{High}$	0	Isolation	Insertion Loss
0	$V_{High}$	Insertion Loss	Isolation

$V_{High}$  = +3 to +5 V.