

## 3-13GHz 180 Degree Analog Phase Shifter



### Description:

The AT-APS-0313-180 is an Analog Phase Shifter which is controlled via an analog control voltage from 0 to +13V.

It provides a continuously variable phase shift of 0 to 180 degrees from 3GHz to 13GHz with consistent insertion loss versus phase shift. The phase shift is monotonic with respect to control voltage.

### Feature

- ✓ Wide Band Operation 3-13GHz
- ✓ 180degree Phase Shift
- ✓ Low Insertion Loss
- ✓ Single Control Operation
- ✓ Customized Available

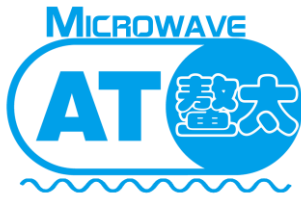
### Application

- ✓ Point to Point Radios
- ✓ VSAT Radios
- ✓ Test Equipment
- ✓ Fiber Optic
- ✓ Military and Space

### Electronical Specifications:

Parameter	Min	Typical	Max	Unit
Frequency Range		3-13		GHz
Phase Range		180	210	Degree
Insertion Loss		-2.5		dB
Return Loss		-15		dB
Control Voltage		0-13		V
Control Current		1		uA
Sensitivity		18		Deg/V
Response Time		0.14		us
Temperature Sensitivity		0.1		Degree/C
Spec Temp		25C		





# AT-APS-0313-180

Analog Phase Shifter, 3-13GHz, 180 degree

## Mechanical Information

Item	Description
Input Port	SMA Female
Output Port	SMA Female
Case Material	Copper
Finish	Gold Plated
Package Sealing	Epoxy Sealed
Weight	80g
Size:	See outline

## Absolute Maximum Ratings Table

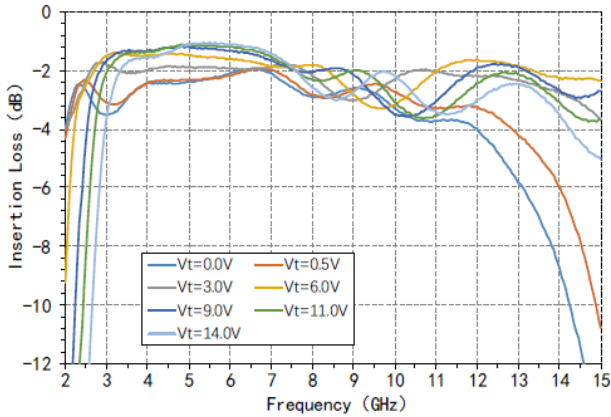
Parameter	Value
Control Voltage	-0.5 to +18V
RF Input Power	+15dBm
Operating Temperature	-40 to +85C
Storage Temperature	-65 to +150C
ESD Sensitive(HBM)	Class 1B

### Notes:

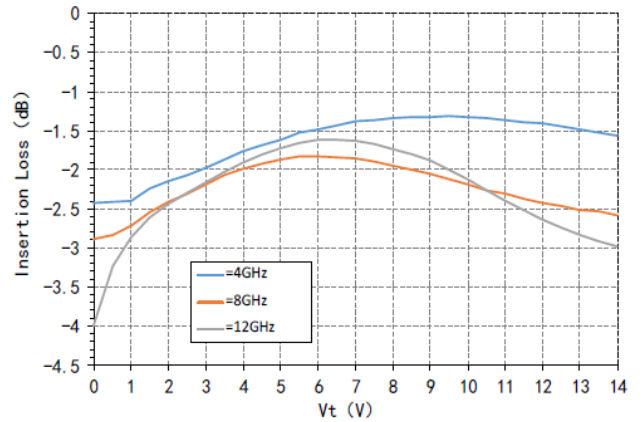
- ✓ Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
- ✓ This data is only for reference, not for guaranteed specifications.
- ✓ Please contact AT Microwave team to make sure you have the most current data.
- ✓ Always pay attention to the temperature of the case, heatsink and fan are required if case temperature exceeds over 50C.



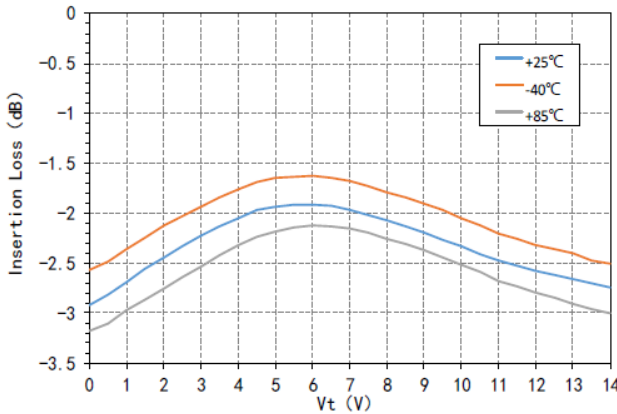
Insertion Loss VS Frequency @Pin=-10dBm



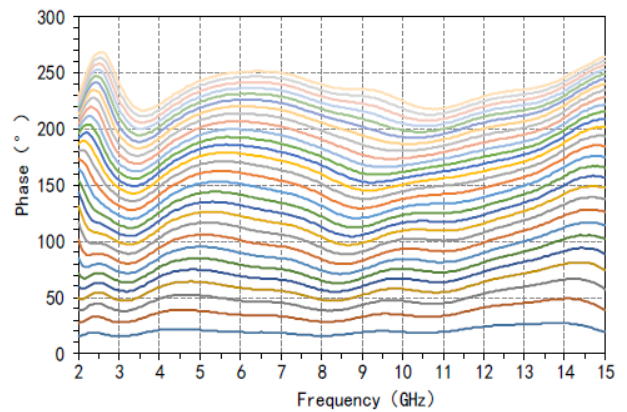
IL VS Vt@Pin=-10dBm



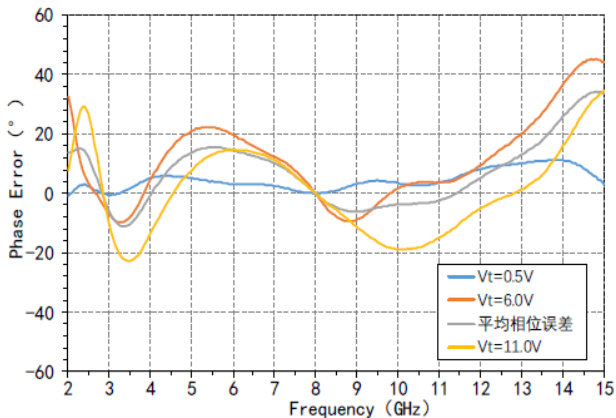
Insertion Loss VS Vt@8GHz



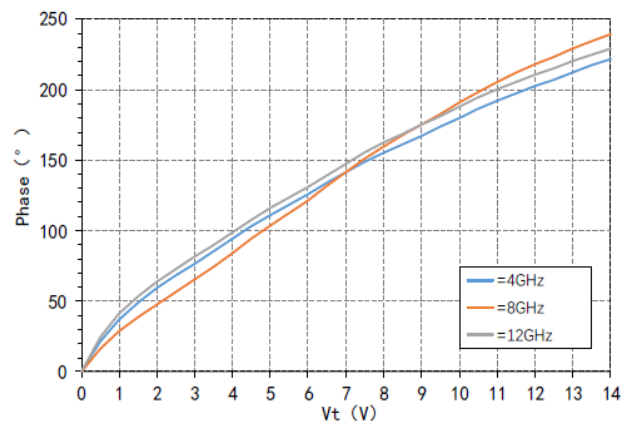
Phase VS Frequency@Pin=-10dBm (Vt=0.5V~14V)



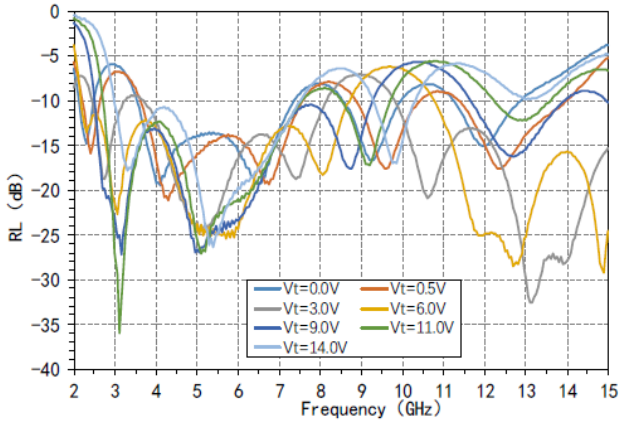
Phase Error VS Frequency @Pin=-10dBm



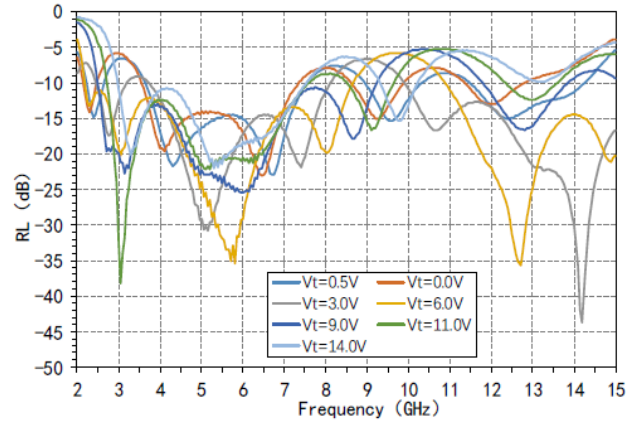
Phase VS Vt@Pin=-10dBm



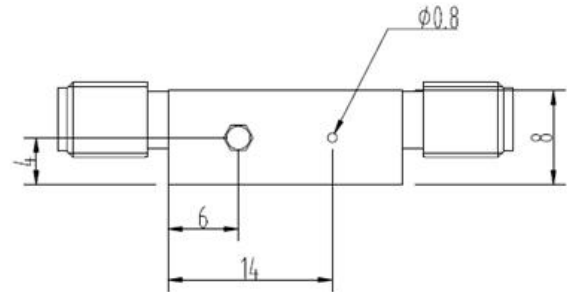
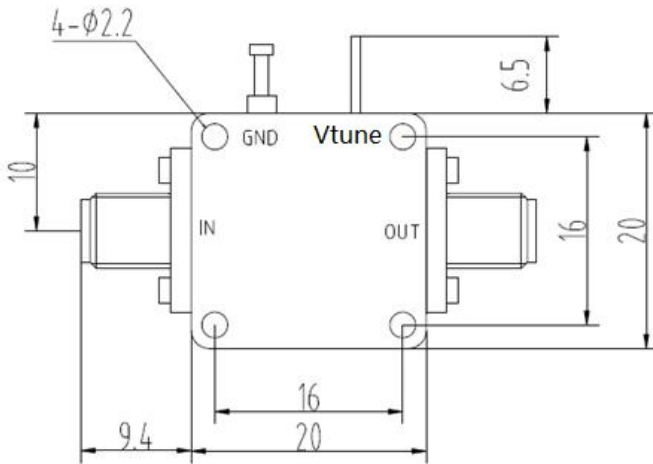
Input Return Loss@Pin=-10dBm



Output Return Loss@Pin=-10dBm



### Dimension: (unit in mm)



	<26.5GHz	<40GHz	<50GHz	<67GHz
Connector	SMA	2.92mm	2.4mm	1.85mm
Lenth of a	9.4mm	9.5mm	10.8mm	11.3mm

Note: Female Default. Contact with us for other types.

