

北京天华中威科技有限公司

TSP-020040G3-VD-6 宽带移相器

技术说明书



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特性

- 宽带: 2 ~ 4 GHz

同轴

数字移相器

TSP-020040G3-VD-6

50 Ω 2 to 4 GHz

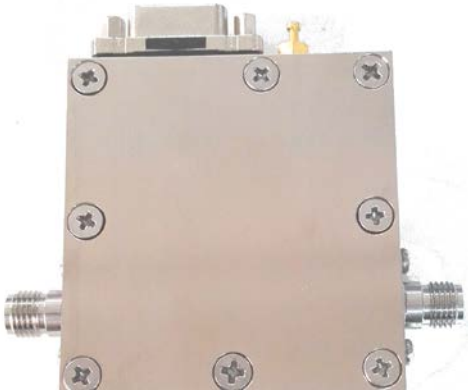
- 低插入损耗: 6dB
- 位数 6Bit
- 相位变化范围360°

应用

- 电子战接收机
- 气象及军用雷达
- 通讯卫星
- 波束形成模块
- 相取消

技术指标

TA=+25℃ Vdd=+5V Vc=0/+5V 50 Ohm System



指标参数	条件	最小值	典型值	最大值	单位
频率范围		2	-	4	GHz
插入损耗	全频率范围	-	6.0	-	dB
入口回波损耗	全频率范围	-	-	-10	
出口回波损耗	全频率范围	-		-10	
位相位误差	全频率范围	-	+/- 5.0		deg
RMS Phase Error		-5		+12	deg
P1dB			10		dBm
控制电压		L/0V		H/5 V	V
电压/电流	5 V	-	-	20	mA

外形尺寸图

控制图



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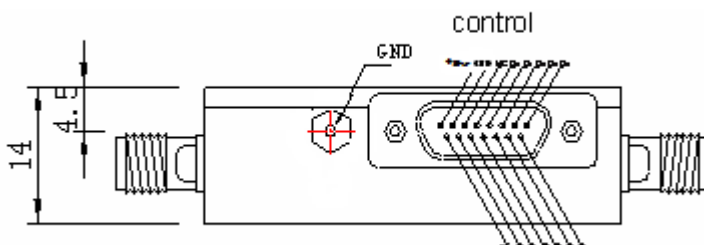
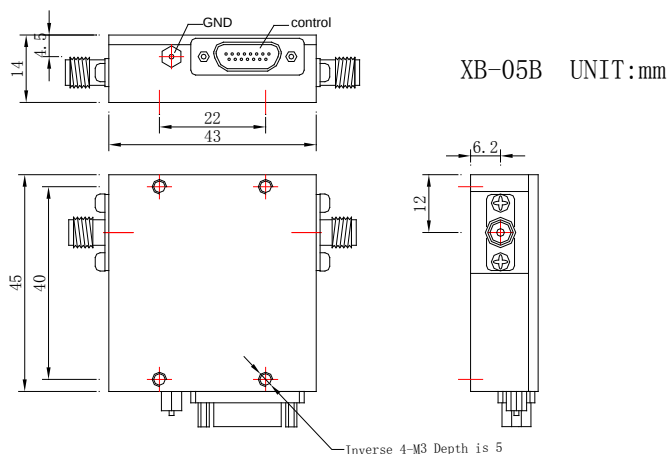
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极限参数

操作温度	-40°C to 70°C
储存温度	-55°C to 100°C
电源电压(max)	15V
控制电压(max)	
最大入口功率	23 dBm

State	Voltage
Low(0)	0 to +0.5V
High(1)	+3 to +5V(Note 5)

Note 5: 内置上拉电阻（约500 k Ω ），悬空时代表High

超出该极限值有可能对器件造成损坏！

典型曲线图

Control Voltage Input						Phase Shift (Degrees) RFIN - RFout
D5	D4	D3	D2	D1	D0	
1	1	1	1	1	1	Reference*
1	1	1	1	1	0	5.625
1	1	1	1	0	1	11.25
1	1	1	0	1	1	22.5
1	1	0	1	1	1	45.0
1	0	1	1	1	1	90.0
0	1	1	1	1	1	180.0
0	0	0	0	0	0	354.375



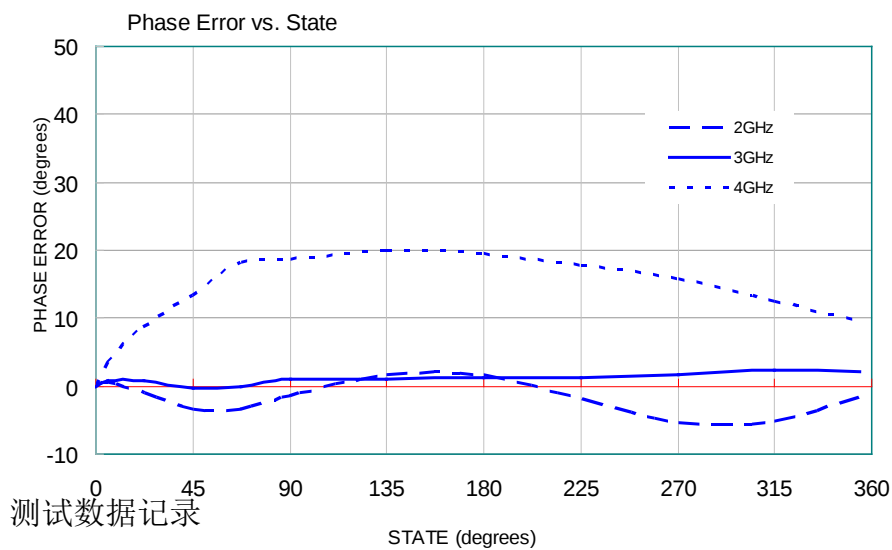
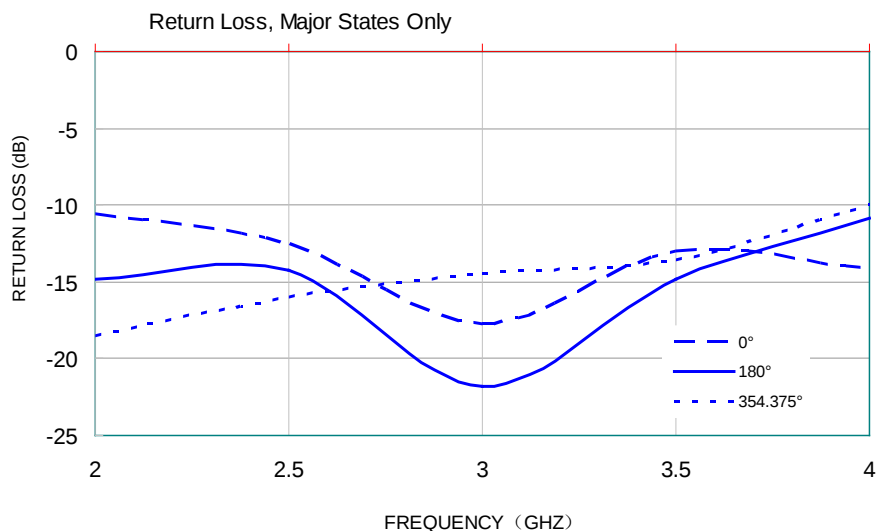
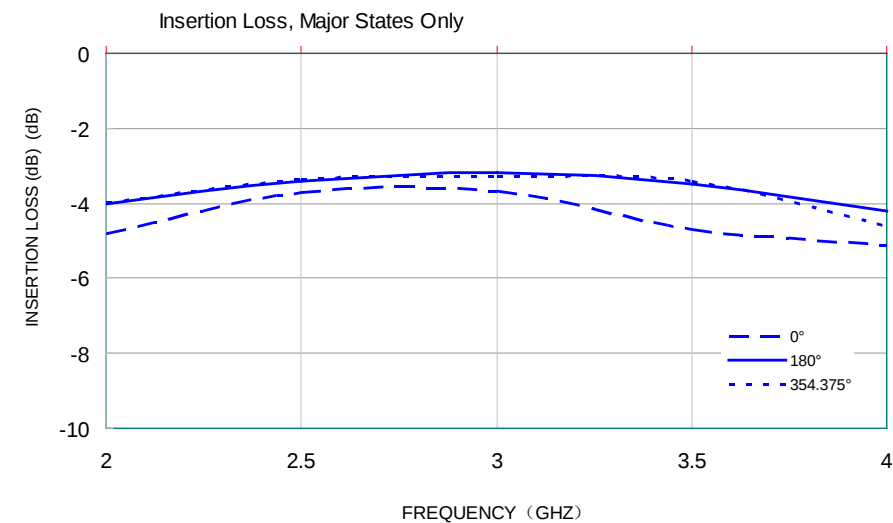
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测试数据记录



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Theoretical Phase (Degree)	input power (dBm)	Insertion Loss (dB) at middle Frequency	Return Loss (dB) at middle Frequency	Phase Degree		
				2GHz	3GHz	4GHz
Ref	0	-3.80	-19.60	Ref	Ref	Ref
5.625	0	-3.70	-22.40	8.8	9.2	12.6
11.25	0	-3.60	-24.70	14.2	15.1	20.4
22.50	0	-3.50	-32.00	24.7	26.4	35.1
45.00	0	-3.40	-27.20	44.7	48.1	61.9
90.00	0	-3.30	-17.60	91.7	95.2	117.1
180.00	0	-3.30	-22.90	186.7	186.2	209.8
354.375	0	-3.40	-19.80	359.8	362.6	376.6



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