

北京天华中威科技有限公司

TSP-170250M3-VD-6 宽带移相器

技术说明书



电话	86-010-84164383
传真	86-010-84164373
地址	北京市朝阳区望京东路8号锐创国际中心B座11层
网址	www.798techway.com

同轴

数字移相器

TSP-170250M3-VD-6

50 Ω

0.17 to 0.25 GHz

特性

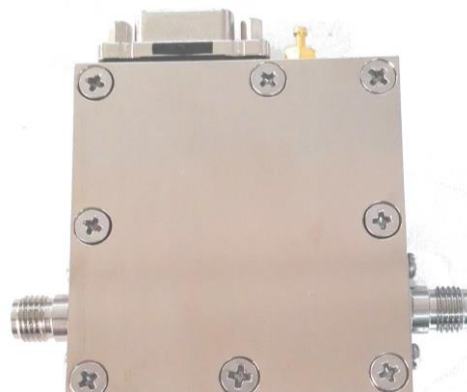
- 宽带: 0.17 ~ 0.25 GHz
- 低插入损耗: 6dB
- 抑制 6Bit
- 相位变化范围360°

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°C 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		170	-	250	MHz
插入损耗	全频率范围	-		-9	dB
入口/出口回波损耗	全频率范围	-		-15	dB
位相位误差	全频率范围	-	+/- 5.0	-	deg
均方值误差		-18		+20	deg
输入压缩 P1dB		-	10	-	dBm
控制电压		L/0V		H/5V	V
电压/电流	5 V	-	-	30	mA



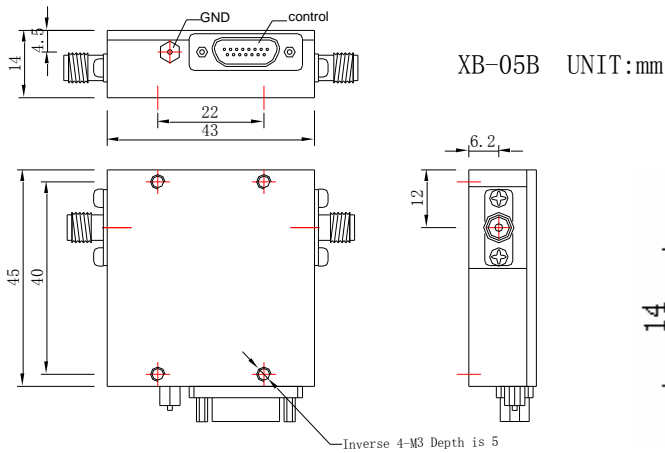
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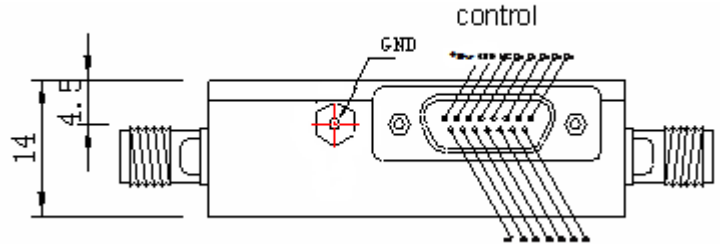
✉ Address F11, Building B, Ruichuang International Center, No. 8, Wangjing East Road, Chaoyang District, Beijing, Postal code 100102

50 Ω 0.17 to 0.25 GHz

外形尺寸图



控制图



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)	-0.3v to +5.6V
最大入口功率	27dBm

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 kΩ), 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

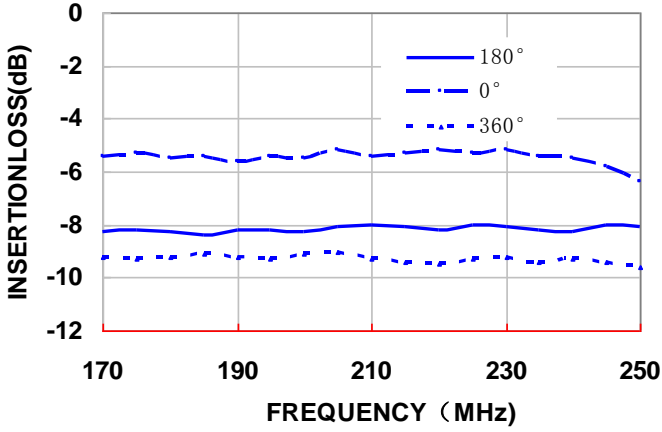


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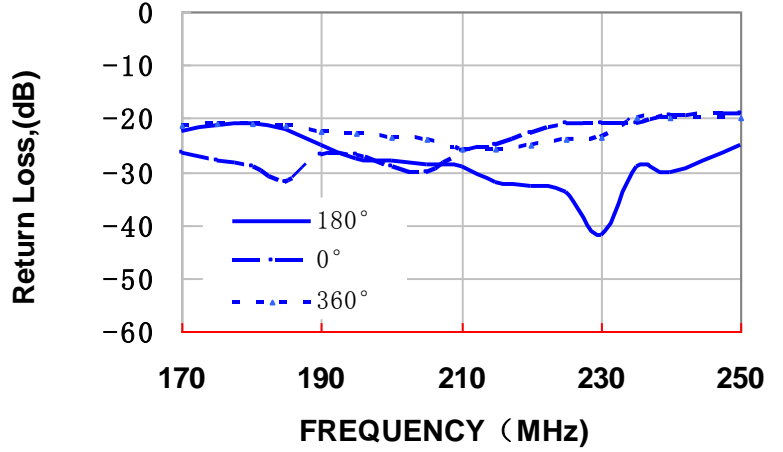
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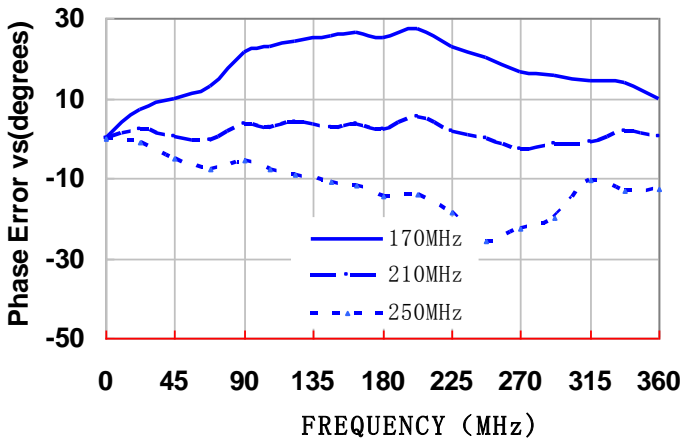
Insertion Loss, Major States Only



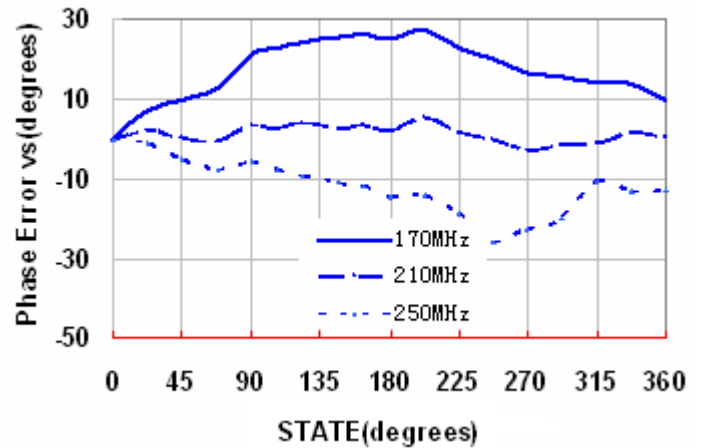
Input Return Loss, Major States Only



Phase Error vs.State



Phase Error vs.State



50 Ω

0.17 to 0.25 GHz

测试数据记录

Theoretical Phase (Degree)	Insertion Loss (dB) at middle Frequency	Return Loss (dB) at middle Frequency	Phase Degree		
			170MHz	210MHz	250MHz
Ref	-5.50	-25.70	Ref	Ref	Ref
5.625	-5.50	-25.70	6.10	5.00	4.3
11.25	-5.70	-25.50	17.60	14.00	12.1
22.50	-5.80	-24.70	29.70	24.60	21.5
45.00	-6.10	-22.70	55.40	46.10	40.7
90.00	-6.80	-20.50	113.80	94.40	85.7
180.00	-7.70	-25.80	207.00	183.80	166.4
354-375	-9.10	-26.80	370.60	360.90	347.8

Record test data

Theoretical Phase (Degree)	Insertion Loss (dB) at middle Frequency	Return Loss (dB) at middle Frequency	Phase Degree		
			170MHz	210MHz	250MHz
Ref					
5.625					
11.25					
22.50					
45.00					
90.00					
180.00					
354-375					



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