泰莱微波
Talent Microwave

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6-Bit Digital Phase Shifter

Step:5.625°/0-360°/2.2-2.3GHz

Model: TLDPA2.2G2.3G-360-6

TLDPA2.2G2.3G-360-6 is a 6-bit digital phase shifter operating at 2.2–2.3 GHz, step size is 5.625°, providing phase shift from 0° to 360°, simultaneously features 10dB gain. This product is designed to deliver precise, rapid, and reliable phase control solutions for modern phased array radar, 5G communication system, and cutting-edge test equipment.

Features:

- Frequency range: 2-7GHz
- High Phase Shift Accuracy
- High Phase Shift Range
- Low Phase Error

Applications:

- Communications antennas
- Phased array radars

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	2.2		2.3	GHz
增益 Gain		10		dB
增益平坦度 Gain Flatness		±0.25		dB
增益随相位变化量 Gain Variation with Phase		±1.5		dB
移相范围 Phase Shift Range	0		360	°
最小步进 Lesat Significant Bit(LSB)		5.625		°
相位精度 Phase accuracy		3		°
回波损耗 Ruturn Loss		-12		dB
输入功率 Input Power	-70		-30	dBm
直流电压 DC Voltage		+5/-5		V DC
控制位数 Number of Bits		6		Bit
阻抗 Impedance		50		Ohms

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环境和机械特性 Envrionmental And Physical Characteristics:

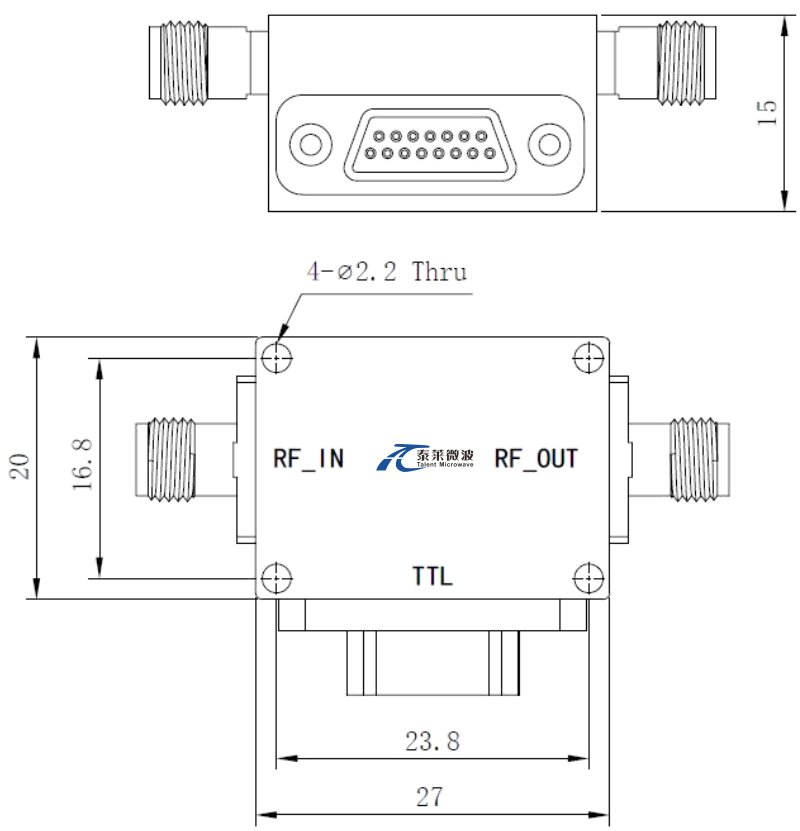
描述 Description	参数 Parameter	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流控制接口 DC and control interface	J30J-15ZKP	
尺寸 Size	27*20*15	mm

绝对最大值 Absolute Maximum Ratings :

描述 Description	参数 Parameter	单位 Units
供电偏置电压 Supply Bias Voltage	+5.5	V
TTL控制电压 TTL Control Voltage	0~+0.2V/+3.3~+5V	dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V	

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



真值表 Truth Table						
TTL Control Input						Signal Path State
Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	
0	0	0	0	0	0	Reference
1	0	0	0	0	0	5.625
0	1	0	0	0	0	11.25
0	0	1	0	0	0	22.5
0	0	0	1	0	0	45
0	0	0	0	1	0	90
0	0	0	0	0	1	180
1	1	1	1	1	1	354.375

Note：+5V is “1”； 0V is “0”

ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

Note: The outline drawing provided is a preliminary version, and the specific dimensions may be subject to change.

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TTL控制接口 TTL Control Connector(J30J-15ZKP):

引脚号 Pin	功能 Function
1~2	+5V
3~4	-5V
5	Bit 1
6	Bit 2
7	Bit 3
8	Bit 4
9	Bit 5
10	Bit 6
11~13	GND
14~15	NC

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	℃
存储温度 Non-operating Temperature	-55		+125	℃
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLDPA2.2G2.3G-360-6	6-Bit Digital Phase Shifter, 2.2-2.3GHz,SMA	Rev.1.0