

## 8-Bit Digital Attenuator

### 0.25dB LSB/8 Bit/ 0.1-18GHz

**TLDA0.1G18G-63.7-8**

The TURDA0.1G18G-63.78 is an broadband digitally controlled electrical attenuator operating from 0.1 to 18 GHz. The attenuator exhibits 8 dB typical insertion loss and offers 63.75 dB nominal attenuation control range in 0.25 dB steps under a 8-bit digital control. The control speed of the attenuator is typically 100 ns. The RF input and output ports are female SMA female coax connectors, and a male J30J-15ZKP port is employed for providing the control signal and DC bias.

#### Features:

- Ultra Wide Band: 0.1-18GHz
- 8-Bit, 0.25 dB LSB, 63.75 dB Range
- Low Insertion Loss
- High Attenuator Accuracy

#### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

#### 电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	0.1-18			GHz
插损 Insertion Loss		8	10	dB
衰减范围 Attenuation Range	63.75			dB
控制位数 Control Bit TTL	8			Bit
衰减步进 Attenuation Step	0.25			dB
切换速度 Switch Speed		100		ns
输入驻波 Input VSWR		2.0		:1
输出驻波 Output VSWR		2.0		:1
最大输入功率 Input Max Power	25			dBm
直流电压 DC Voltage	+5			V DC
直流电流 DC Supply Current		50		mA
阻抗 Impedance	50			Ohms

## 机械特性 Mechanical Specifications:

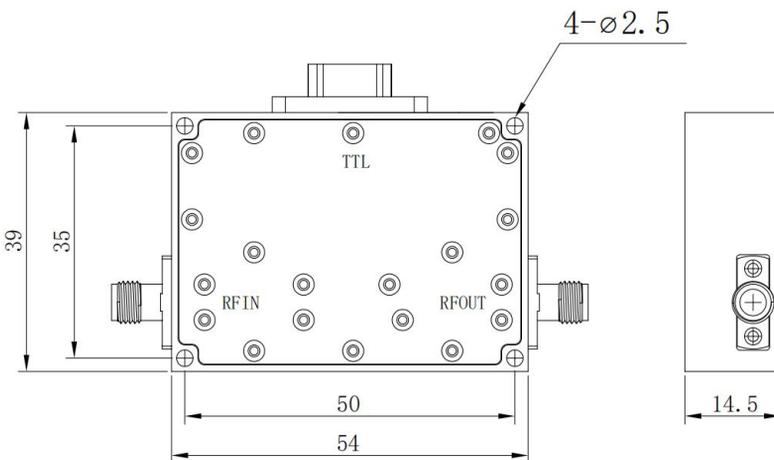
描述 Description	参数 Parameter	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
DC控制接口 DC control interface	J30J-15ZKP	
尺寸 Size	54*39*14.5	mm

## 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
射频输入功率 RF Input Power	+ 25	dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V	

## 外形图 Outline Drawing:

Unit:mm



真值表 Truth Table								
TTL Control Input								Signal Path State
C1	C2	C3	C4	C5	C6	C7	C8	
0	0	0	0	0	0	0	0	Reference
1	0	0	0	0	0	0	0	0.25
0	1	0	0	0	0	0	0	0.5
0	0	1	0	0	0	0	0	1
0	0	0	1	0	0	0	0	2
0	0	0	0	1	0	0	0	4
0	0	0	0	0	1	0	0	8
0	0	0	0	0	0	1	0	16
0	0	0	0	0	0	0	1	32
1	1	1	1	1	1	1	1	63.75



## 加电接口 Supply Conector(J30J-15ZKP):

J30J-15ZKP			
引脚Pin#	功能Function	引脚Pin#	功能Function
1	+5V	9	+5V
2	GND	10	GND
3	C1	11	C7
4	C2	12	C8
5	C3	13	NC
6	C4	14	NC
7	C5	15	NC
8	C6		

## 温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-10		+65	°C
存储温度 Non-operating Temperature	-45		+85	°C
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
TURDA0.1G18G-63.78	8-Bit Digital Digital Attenuator,0.1-18GHz,SMA Female	Rev.1.0