

4-Steps Program Controlled Attenuator

1dB LSB/4 Steps/ DC-50GHz

Model: TLDADC50G-11-4

The TLDADC50G-11-4 is an broadband Program controlled electrical attenuator operating from DC to 50 GHz. The attenuator exhibits 3 dB maximum insertion loss and offers 11 dB nominal attenuation control range in 1 dB steps under a 4 steps digital control. The control speed of the attenuator is 20 ms. The RF input and output ports are female 2.4 mm coax connectors.

Features:

- Frequency range: DC-50GHz
- 4 steps, 1 dB LSB, 11 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	DC-50			GHz
插损 Insertion Loss(@0dB)			3.0	dB
衰减范围 Attenuation Range	11			dB
衰减精度 Attenuation Accuracy	±1 dB (1dB); ±1 dB (2dB); ±1 dB (4dB); ±2 dB (11dB)			dB
控制级数 Control Step	4			Step
衰减步进 Attenuation Step	1			dB
切换时间 Switching Speed			20	ms
衰减稳定度 Attenuation Stability		0.05		dB
驻波 Input VSWR			1.7	:1
寿命 Operating Life (Per Switch)	1000000			cycles
最大输入功率 Input Max Power			30(CW)	dBm
直流电压 DC Voltage	20	24	28	V DC
直流电流 DC Supply Current	126(every step)			mA
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

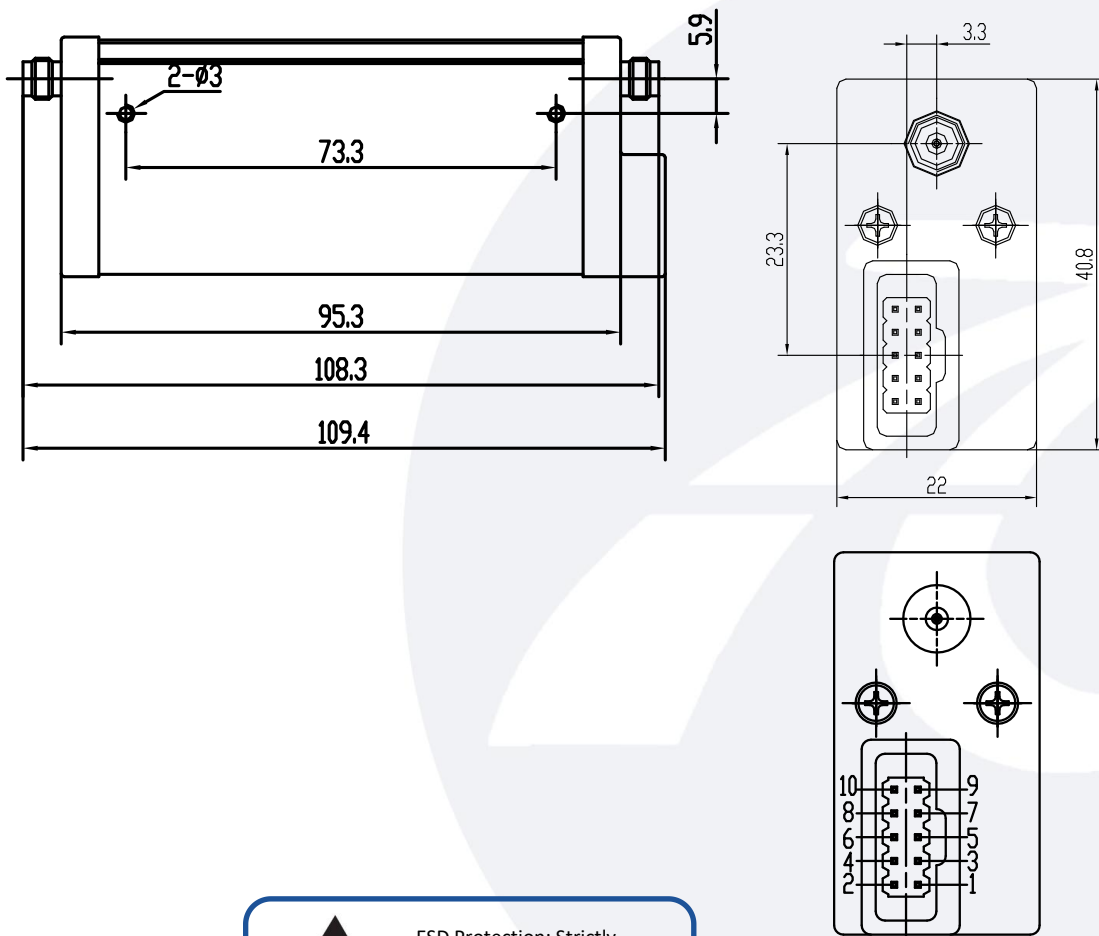
描述 Description	参数 Parameter	单位 Units
输入/输出接口 Input /Output Connector	2.4mm Female/2.4mm Female	
控制连接器 Control Connector	517.076.003.014	
尺寸 Size	109.4*40.8*22	mm
重量 Weight	≤350	g

绝对最大值 Absolute Maximum Ratings :

描述 Description	参数 Parameter	单位 Units
射频输入功率 RF Input Power	+30	dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V	

外形图 Outline Drawing:

Unit:mm



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

加电接口 Supply Conector(517.076.003.014):

引脚Pin#	功能Function
1	Step1 Straight-through
2	Step1 1dB attenuation
3	Ground
4	Step2 Straight-through
5	Step3 Straight-through
6	Step4 Straight-through
7	Step4 4dB attenuation
8	Step3 2dB attenuation
9	Step2 4dB attenuation
10	+20~+28V DC

Note: At same step, if the voltage of this pin drops from TTL high level to low level (0V to +1.0Vdc) and the low level lasts for more than 20ms, while other pins (except pins 3 and 10) remain at TTL high level (+4.2V to +5Vdc), their respective functions will be implemented.

真值表 Truth Table				
Step1	Step2	Step3	Step4	衰减 Attenuation
○	○	○	○	0dB
X	○	○	○	1dB
○	○	X	○	2dB
X	○	X	○	3dB
○	X	○	○	4dB
X	X	○	○	5dB
○	X	X	○	6dB
X	X	X	○	7dB
○	X	○	X	8dB
X	X	○	X	9dB
○	X	X	X	10dB
X	X	X	X	11dB

Note: ○ represents signal transmission through a straight-through patch, X represents signal transmission through an attenuating patch.

For example, to achieve a 50dB attenuation, the connector should be powered as follows:

- Pin 1: TTL high level
- Pin 2: TTL high level changes to low level and the low level lasts for more than 20ms
- Pin 3: Ground
- Pin 4: TTL high level
- Pin 5: TTL high level changes to low level and the low level lasts for more than 20ms
- Pin 6: TTL high level changes to low level and the low level lasts for more than 20ms
- Pin 7: TTL high level
- Pin 8: TTL high level
- Pin 9: TTL high level changes to low level and the low level lasts for more than 20ms
- Pin 10: +24Vdc

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-55		+75	°C
存储温度 Non-operating Temperature	-55		+85	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	5g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	10G for 6msc 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
TLDADC50G-11-4	4-Steps Program Controlled Attenuator, DC-50GHz,11 dB, 1 dB Step Size,2.4mm Female	Rev.1.1