泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range		DC-50		GHz
Insertion Loss(@0dB)			3.0	dB
Attenuation Range		11		dB
Attenuation Accuracy		±1 dB (1dB); ±1 dB (2dB); ±1 dB (4dB);±2 dB (11dB)		dB
Control Step		4		Step
Attenuation Step		1		dB
Switching Speed			20	ms
Attenuation Stability		0.05		dB
Input VSWR			1.7	:1
Operating Life (Per Switch)	1000000			cycles
Input Max Power			30(CW)	dBm
DC Voltage	20	24	28	V DC
DC Supply Current		126(every step)		mA
Impedance		50		Ohms

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Mechanical Specifications:

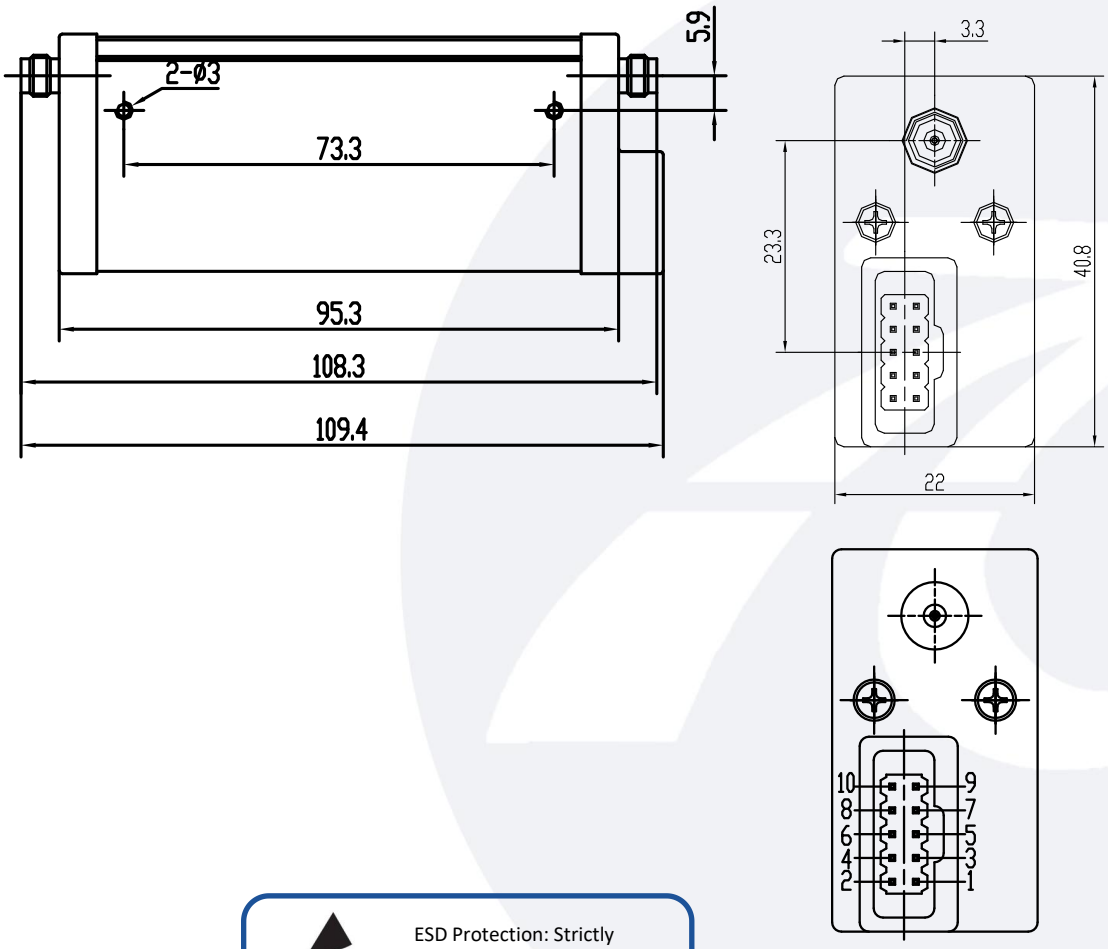
Description	Parameter	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
Control Connector	517.076.003.014	
Size	109.4*40.8*22	mm
Weight	≤350	g

Absolute Maximum Ratings :

Description	Parameter	Units
RF Input Power	+30	dBm
ESD sensitivity (HBm)	Class 0, passed 150V	

Outline Drawing:

Unit:mm



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

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Supply Conector(517.076.003.014):

Pin#	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.

Truth Table				
Step1	Step2	Step3	Step4	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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-55		+75	℃
Non-operating Temperature	-55		+85	℃
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	5g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	10G for 6msc half sin wave,3 axis both directions			

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Ordering Information:

Base Number	Description	Revision
TLDADC50G-11-4	4-Steps Program Controlled Attenuator, DC-50GHz,11 dB, 1 dB Step Size,2.4mm Female	Rev.1.1