

## 7-Bit Digital Step Attenuator

0.5dB LSB/7 Bit/0.5-6GHz

**Model: TLDA0.5G6G-63-7**

The TLDA0.5G6G-63-7 is an broadband digitally controlled electrical attenuator operating from 0.5 to 6 GHz. The attenuator exhibits 5 dB typical insertion loss and offers 63 dB nominal attenuation control range in 0.5 dB steps under a 7-bit digital control. The control speed of the attenuator is typically 500 ns. The RF input and output ports are female SMA mm coax connectors, and a male J30J-9ZKP port is employed for providing the control signal and DC bias.

### Features:

- Frequency range: 0.5-6GHz
- 7-Bit, 0.5 dB LSB, 63dB Range
- Low Insertion Loss
- High Attenuator Accuracy

### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	0.5		6	GHz
Insertion Loss		5	9	dB
Attenuation Range	0		63	dB
Control Bit TTL		7		Bit
Attenuation Step		0.5		dB
Switch Speed			500	ns
Input VSWR		1.8		:1
Output VSWR		1.8		:1
Input Max Power		30		dBm
DC Voltage		5		V DC
DC Supply Current		20		mA
Impedance		50		Ohms

### Mechanical Specifications:

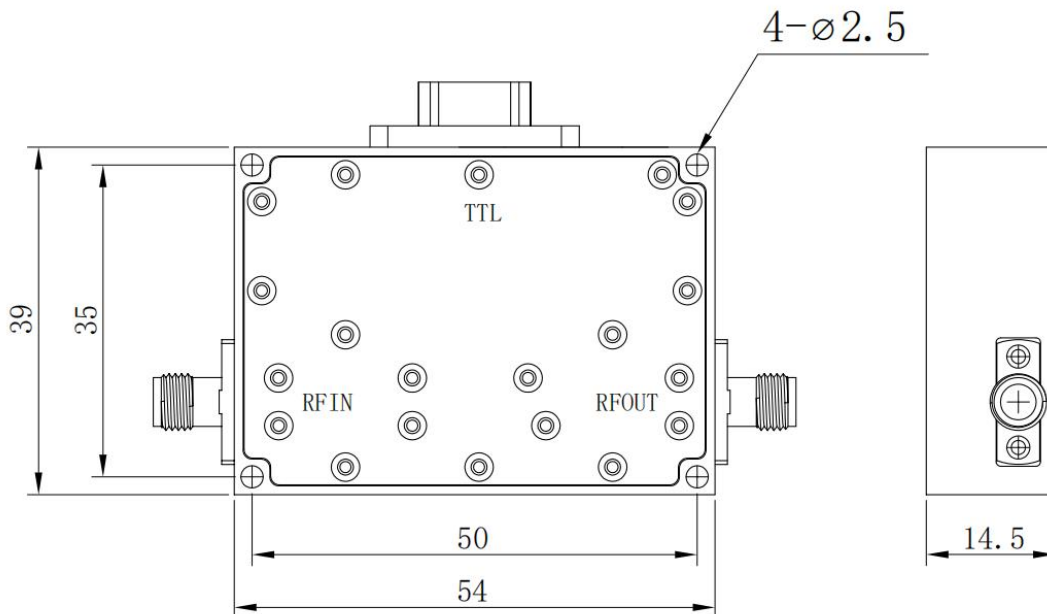
Description	Parameter	Units
Input /Output Connector	SMA Female/SMA Female	
DC control Connector	J30J-9ZKP	
Size	54*39*14.5	mm

### Absolute Maximum Ratings :

Description	Parameter	Units
Supply Bias Voltage	±5%	V
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.

## Truth Table&Supply Conector(J30J-9ZKP):

J30J-15ZKP			
Pin#	Function	Pin#	Function
1	+5V	6	GND
2	C1	7	C5
3	C2	8	C6
4	C3	9	C7
5	C4		

Truth Table							
TTL Control Input							Signal Path State
C1	C2	C3	C4	C5	C6	C7	
0	0	0	0	0	0	0	Reference
1	0	0	0	0	0	0	0.5dB
0	1	0	0	0	0	0	1dB
0	0	1	0	0	0	0	2dB
0	0	0	1	0	0	0	4dB
0	0	0	0	1	0	0	8dB
0	0	0	0	0	1	0	16dB
0	0	0	0	0	0	1	31.5dB
1	1	1	1	1	1	1	63dB

## Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

## Ordering Information:

Base Number	Description	Revision
TLDA0.5G6G-63-7	7-Bit Digital Step Attenuator,0.5-6GHz,SMA Female	Rev.1.0