

8-Bit Digital Attenuator

0.25dB LSB/8 Bit/ 0.1-18GHz

Model: TLDA0.1G18G-63.7-8

The TLDA0.1G18G-63.7-8 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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	0.1-18			GHz
Insertion Loss		8	10	dB
Attenuation Range	63.75			dB
Control Bit TTL	8			Bit
Attenuation Step	0.25			dB
Switch Speed		100		ns
Input VSWR		2.0		:1
Output VSWR		2.0		:1
Input Max Power	25			dBm
DC Voltage	+5			V DC
DC Supply Current		50		mA
Impedance	50			Ohms

Mechanical Specifications:

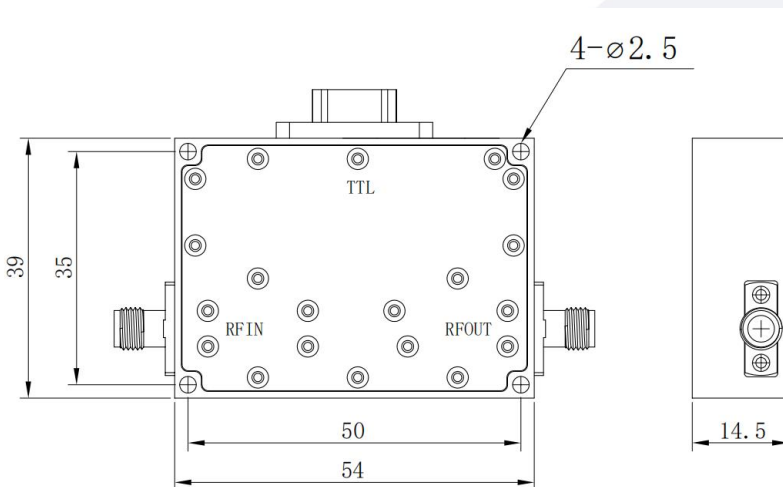
Description	Parameter	Units
Input /Output Connector	SMA Female/SMA Female	
DC control interface	J30J-15ZKP	
Size	54*39*14.5	mm

Absolute Maximum Ratings :

Description	Parameter	Units
Supply Bias Voltage	+5 (±5%)	V
RF Input Power	+ 25	dBm
ESD sensitivity (HBm)	Class 0, passed 150V	

Outline Drawing:

Unit:mm



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



Supply Conector(J30J-15ZKP):

J30J-15ZKP			
Pin#	Function	Pin#	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		

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
TLDA0.1G18G-63.7-8	8-Bit Digital Digital Attenuator,0.1-18GHz,SMA Female	Rev.1.0