

5-Bit Digital Attenuator

1dB LSB/5 Bit/ 0.1-40GHz

Model: TLDA0.1G40G-31-5

The TLDA0.1G40G-31-5 is an broadband digitally controlled electrical attenuator operating from 0.1 to 40 GHz. The attenuator exhibits 6 dB typical insertion loss and offers 31 dB nominal attenuation control range in 1 dB steps under a 5-bit digital control. The control speed of the attenuator is typically 100 ns. The RF input and output ports are female 2.92mm female coax connectors, and a male J30J-9ZKP port is employed for providing the control signal and DC bias.

Features:

- Frequency range: 0.1-40GHz
- 5-Bit, 1 dB LSB, 31 dB Range
- Low Insertion Loss
- High Attenuator Accuracy

Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	0.1-40			GHz
Insertion Loss		6		dB
Attenuation Range	31			dB
Control Bit TTL	5			Bit
Attenuation Step	1			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:

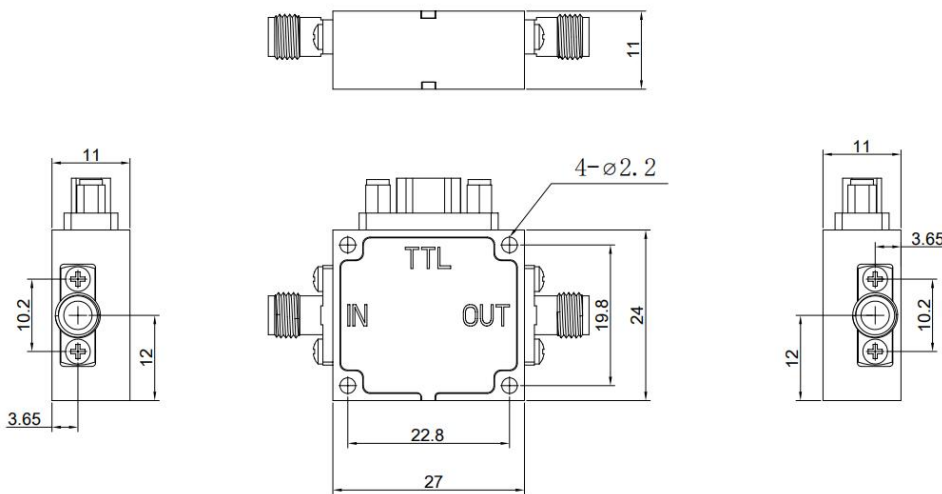
Description	Parameter	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC control interface	J30J-9ZKP	
Size	27*24*11	mm

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	
1	1	1	1	1	Reference
0	1	1	1	1	1
1	0	1	1	1	2
1	1	0	1	1	4
1	1	1	0	1	8
1	1	1	1	0	16
0	0	0	0	0	31



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Supply Conector(J30J-15ZKP):

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

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
TLDA0.1G40G-31-5	5-Bit Digital Digital Attenuator,0.1-40GHz,2.92mm Female	Rev.1.0