DC-50Ghz 2.4mm60dB Programmable Step Attenuator P/N: YX-PSADC-50G-60-10P1

Overview:

The attenuator can realize a step decay of 0~60dB in a wide band range of DC~50GHz, with a minimum step amount of 10dB. The programmed step attenuator mainly used to control the signal level amplitude into the system, control the output signal power, adjust the match between the signal source and load, can also be used to simulate the loss of signal transmission pathway in the communication system.

Features:

- High attenuation accuracy
- Good repeatability
- Low insertion loss
- Long service life

Typical Applications:

- Broadband spectrometer
- Broadband vector network analyzer
- Broadband synthetic signal source
- Noise coefficient tester
- Microwave automatic test system
- Wireless communication system

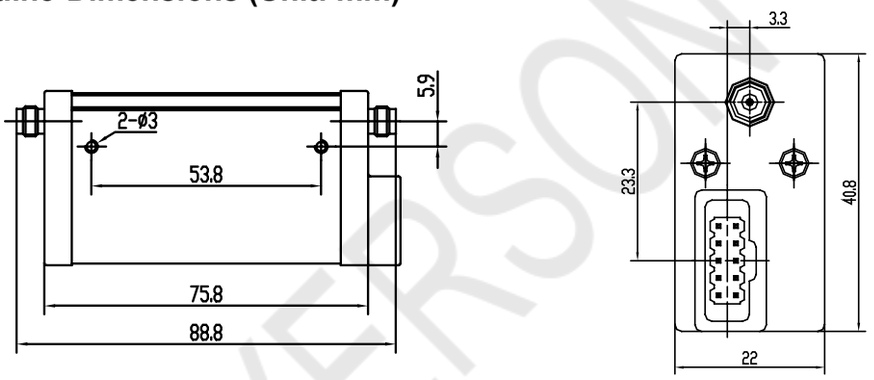
RoHS

Electrical &Mechanical Specification				
Frequency Range	DC~50GHz			
Attenuation	60dB			
Attenuation Accuracy	Attenuation	10	30	20
	Attenuation Accuracy	±1.0	±1.2	±1.2
VSWR	≤2.0			
Input Power (CW)	1W(Continouous Wave)			
Minimum Service Life	3million times(Per Stage)			
Insertion loss	≤4.0dB(At 0dB)			
Step Amount	10dB			
Connector Type	2.4mm			
Electrical Connector Type	Pitch：2.54mm×2.54mm； Straight pin section：0.64mm×0.64mm； Numbeer of cores：10； Recommended supporting connector:517.076.003.010 (Euro); recommended locking pin: 517.063.105.923.000 (selected, 2 / set. Manufacturer: Euro degree. Use with the matching connector to prevent the connector from falling off).			

Operational Temperature	-20℃~+75℃
Storage Temperature	-55℃~85℃
Repeatability	≤0.05dB(Typical)
Impact（Working State）	10g,6ms,Three-Axis Six-Direction
Vibration（Working State）	Acceleration 5g，50~2000Hz
Humidity Resistance	240h@40℃、95%RH

Environmental Specifications	
Weight	Max 0.28kg
Switching Speed	Max 20ms
Relay Drive Voltage	20V～28V Rated Voltage：24V
Relay Drive Current	126mA(At Rated Voltage at Normal Temperature,Per Level)

Outline Dimensions (Unit: mm)



Attenuation Composition

The programmed attenuator contains three parts, each of which can be switched between straight through and different attenuation pieces to switch between straight through and attenuation. If the first part contains a straight through and a 10dB attenuator, the second part contains a straight through and a 30dB attenuator, and the third part contains a straight through and a 20dB attenuator, the straight through and the ator decreases from 0 dB to 60dB.

The specific combination method is as follows:

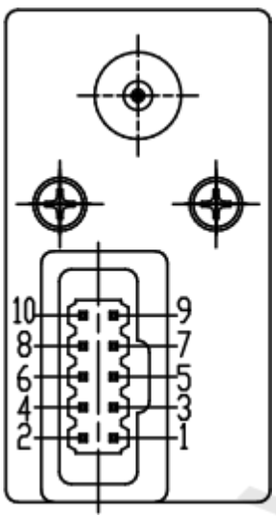
Attenuation	First Stage	Second Stage	Third Stage
0dB	○	○	○
10dB	×	○	○
20dB	○	○	×
30dB	○	×	○
40dB	×	×	○
50dB	○	×	×
60dB	×	×	×

Note: The transmission signal is transmitted through the direct chip, and the transmission signal is transmitted through the attenuation chip.

Control Mode:

The relay inside the drive step attenuator shall provide a DC voltage of 20 V ~ 28 Vdc and a drive current of 126 mA (at room temperature, 24V drive voltage). Relay with latch device, the internal drive circuit automatically cut off the power supply after the relay action, the power consumption is small. Relay switching time is 20ms. The control relay selection through sheet or attenuation sheet requires the TTL level to the corresponding connector, and the driving mode is the descending edge trigger (from high level to low level, and the effect of the low level duration shall be more than 20ms). The specific control relationship is as follows:

Power supply: the 10 feet of the connector is the positive electrode (+ 20~ + 28 Vdc), the rated voltage is + 24 Vdc, and the 3 feet is the negative electrode (ground). Control: If the foot changes from TTL high level to low level (0V~+1.0Vdc) and the low level duration is more than 20ms, the other feet (except 3 and 10 feet) are TTL high level (+ 4.2V~ + 5 Vdc) will realize their respective functions.



Pin 1	First stage pass-through
Pin 2	First stage 10dB attenuation
Pin 4	Second stage pass-through
Pin 5	Third stage pass-through
Pin 6	Unused
Pin 7	Unused
Pin 8	Third stage 20dB attenuation
Pin 9	Second stage 30dB attenuation

For example, to achieve 50dB attenuation, power the connector as follows:

Pin 1	TTLhigh level to low level and low level duration greater than 20ms
Pin 2	TTL High Level
Pin 3	Ground
Pin 4	TTL High Level
Pin 5	TTL High Level
Pin 8	TTL High level to low level and low level duration greater than 20ms
Pin 9	TTL High level to low level and low level duration greater than 20ms
Pin 10	+24Vdc

Cautions

1. When supplying power to the programmed step attenuator, the Pin3 must be well grounded, otherwise it may cause permanent damage to the internal devices of the programmed step attenuator.
2. To install the attenuator for better seismic performance, place the attenuator horizontally (i. e., the mounting screws of the attenuator are perpendicular to the horizontal plane).
3. The attenuator can only withstand a maximum power of 1W (CW), so do not input power over 1W (CW) into the attenuator port at this time.
4. The port of the programmed step attenuator is a precision cathode connector, which can only be connected with the matching connector. At the same time, attention should be paid to whether the size of the port to be connected meets the requirements of the national standard, so as to avoid damage to the connector and affect the index and service life of the device. In addition, the connector connection, disconnected with the best torque wrench. Cover the connector with dust cap to avoid excess entering the internal influence of the attenuator.
5. Programmed step attenuator is a sealed attenuator, please stored in dry dust-free environment.