

Performance Characteristics:

- Frequency range: 0.5~18GHz
- Attenuation range: 0.5~15.5dB
- Insertion loss: 3.1dB
- Attenuation additional phase shift: $\pm 4^\circ$
- Chip size: 2.7mm x 1.5mm x 0.1mm

● Product Description:

CW-DAT239NC is a GaAs MMIC wideband 5-bit CNC attenuator with operating frequency covering 0.5~18GHz and insertion loss less than 3.4dB. Its basic attenuator is 0.5dB, 1dB, 2dB, 4dB, 8dB, and total attenuator is 15.5dB. This numerical control attenuator uses 0/-5V logic control, no power consumption. With excellent attenuation characteristics and port standing over the whole operating frequency range, it is very suitable for microwave hybrid integrated circuits and multi-chip modules as well as low power systems.

Electrical parameters: (TA=25°C, 0/-5V control)

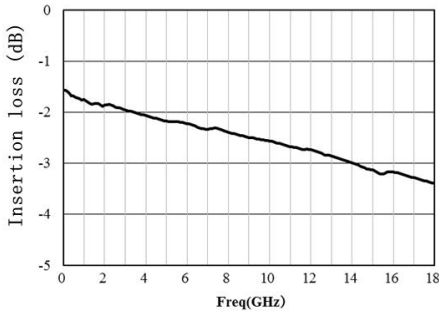
Indicators	Minimum	Typical value	Maximum value	Units
Frequency range	0.5~18			GHz
Insertion loss	-	3.1	-	dB
Attenuation range	0.5	-	15.5	dB
Attenuator attached phase shift	-	± 4	-	$^\circ$
Return loss	-	15	-	dB
Enter P1dB	-	24	-	dBm
Switching time	-	30	-	Ns

Use limiting parameters:

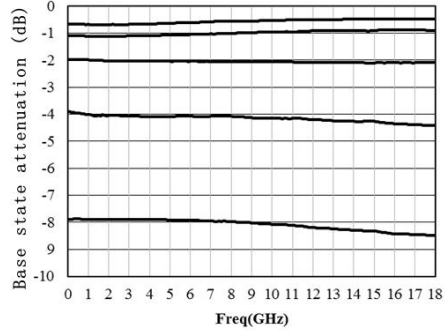
Maximum power	27 dBm
Storage temperature	-65°C~175°C
Service temperature	-55°C~125°C

Typical curve:

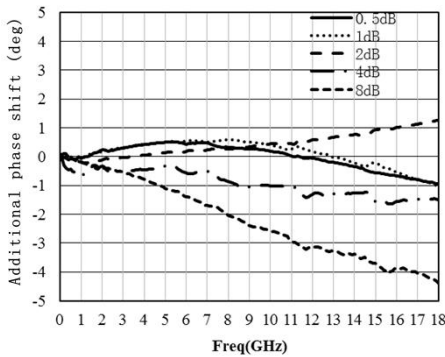
Insertion loss



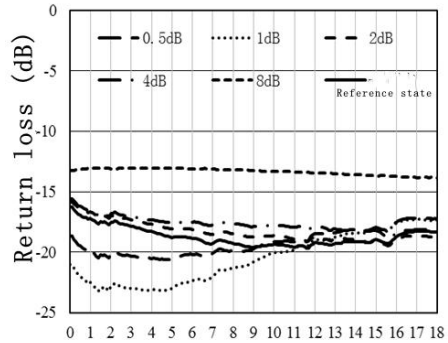
ground state attenuation amount



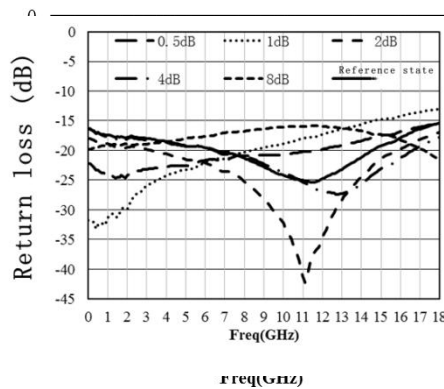
Attenuation additional phase shift



input return loss



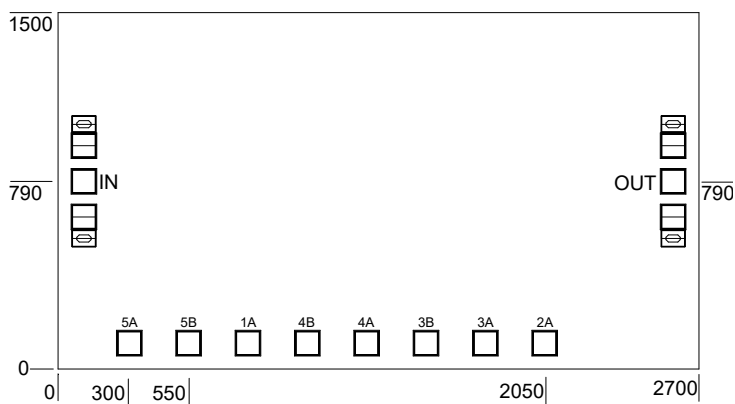
Output return loss

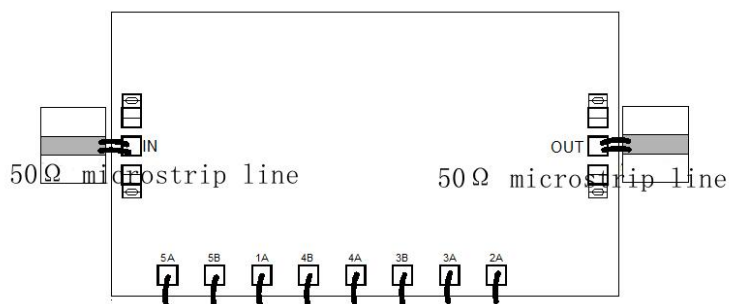


Truth table:

Decay state	1A	2A	3A	3B	4A	4B	5A	5B
	0.5dB	1dB	2dB		4dB		8dB	
Reference state	-5	-5	-5	0	-5	0	-5	0
0.5dB	0	-5	0	-5	0	-5	0	-5
1dB	-5	0	0	-5	0	-5	0	-5
2dB	-5	-5	0	-5	0	-5	0	-5
4dB	-5	-5	0	-5	0	-5	0	-5
8dB	-5	-5	0	-5	0	-5	0	-5

Physical size drawing: (unit μm)



Physical proposed assembly drawing:

Instructions:

- 1) For use in a purified environment, do not touch the surface of the chip when using.
- 2) Input and output with 2 (diameter of 25um gold wire) bonding wire, bonding wire length of about 300um is optimal.
- 3) I/O has divider capacitors.
- 4) This product belongs to electrostatic sensitive device, pay attention to anti-static during storage and use. It is stored in dry and nitrogen environment.