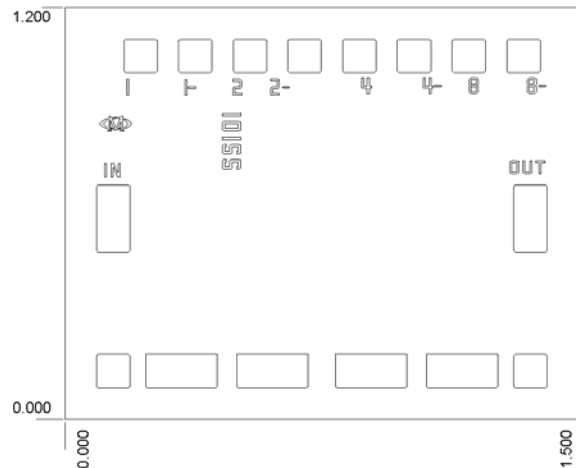


➤ **Features ver1.04**

- 4 Bits Digital Control Attenuator
- 1dB Step, Maximum Attenuate 15 dB
- Low Power Loss
- Passivation Protection

➤ **Description**

SS101 is a GaAs MMIC 4 bits digital control attenuator. 1dB steps, maximum attenuate 15 dB, With the features of low power loss, low insertion loss, in the voltage of 0/-5V, easy to use. It is adpt to various telecommunication systems including mobile phone, GSM/CDMA base station. Etc.



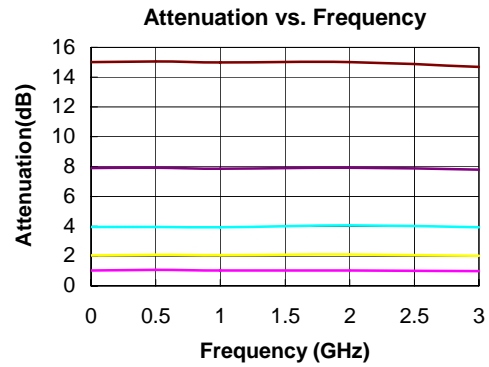
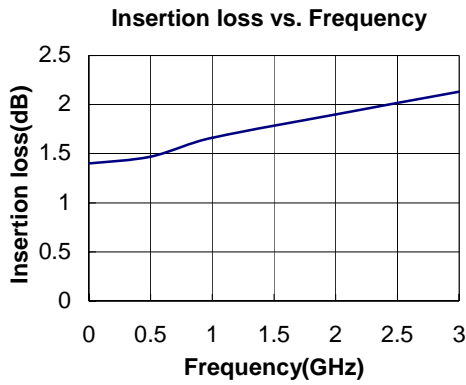
Unit: mm
Dimension: 0.1mm×0.1mm, Height of Chip: 0.25mm.

➤ **Typical Electrical Specification at 25°C**

Characteristic		Frequency	Min.	Typ.	Max.	Unit
Insertion Loss		DC-0.5GHz		1.3	1.6	dB
		DC-2.0GHz		1.7	2.1	dB
		DC-3.0GHz		1.9	2.4	dB
Attenuation		DC-3.0GHz		15		dB
Attenuation Precision		DC-3.0GHz	±(0.25+3% Attenuation in dB)			dB
VSWR		DC-1.0GHz			1.6:1	
Switch Characteristic	Rise or Fall(10/90% or 90/10 %RF)			20		ns
	On or Off (50%CTL to 90/10% RF)			20		ns
IP ₃	Two-tone, input power +5dBm	0.5-3.0GHz		45		dBm
P ₋₁	0/-5V	0.5-3.0GHz		28		dBm
Voltage Control	V _{Low} =0-0.2V@20 μ A Max. V _{High} =-5V@20 μ A Max. to -8V@100 μ A Max.					

1. All measurements in a 50-Ω system, unless otherwise specified.
2. Insertion Loss changes 0.3dB at 85°C.
3. Input or output state.

➤ **Typical Performance Curves**
(0, -5V)



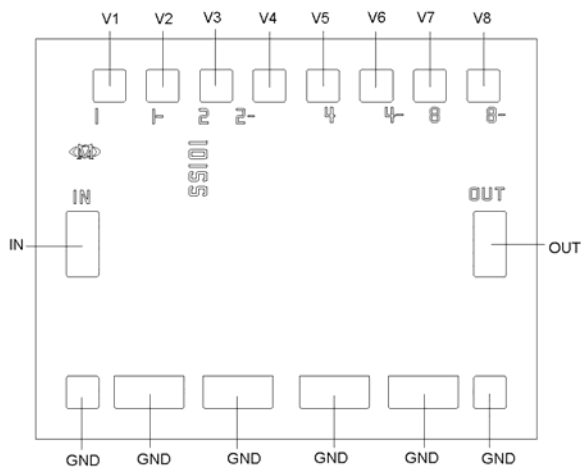
➤ **Truth Table**

J1-J2	V1	V2	V3	V4	V5	V6	V7	V8
	1dB		2dB		4dB		8dB	
Reference	-5	0	-5	0	-5	0	-5	0
1dB	0	-5	-5	0	-5	0	-5	0
2dB	-5	0	0	-5	-5	0	-5	0
4dB	-5	0	-5	0	0	-5	-5	0
8dB	-5	0	-5	0	-5	0	0	-5
15 dB	0	-5	0	-5	0	-5	0	-5

➤ **Absolute Maximum Ratings**

Item	Value
RF Input Power	2W, >500MHz, 0/-8V
Control Voltage	-0.2V, -10V
Operation Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
θ_{JC}	25°C/W

➤ **Chip Picture**



1. Operation of this device above any one of these parameters may cause permanent damage