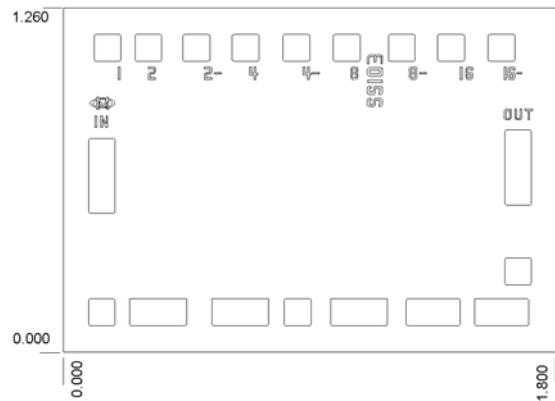


➤ **Features ver1.04**

- 5 Bits Digital Control Attenuator
- 1dB Steps, Maximum attenuation 31 dB
- Low Power Loss
- Passivation Protection

➤ **Description**

**SS103** is a GaAs MMIC 6 bits digital attenuation chip. 0.5dB steps, maximum attenuation 31.5 dB, With the features of low power loss, low insertion loss, in the voltage of 0/-5V, easy to use. It is adapt to various telecommunication systems including GSM/CDMA mobile phone, base station etc



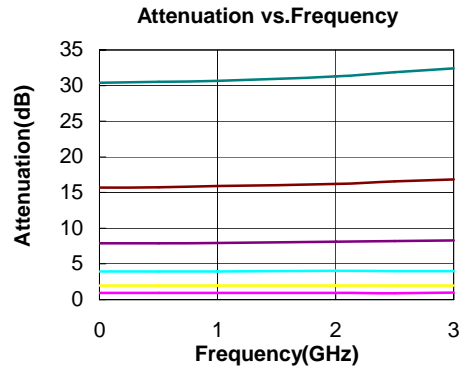
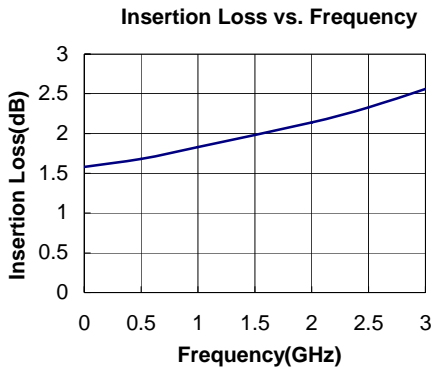
Unit: mm  
Dimension: 0.1mm×0.1mm, Height of Chip: 0.25mm.

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

Characteristic <sup>1</sup>		Frequency	Min.	Typ.	Max.	Unit
Insertion Loss		DC-1.0GHz		1.7	2.0	dB
		DC-2.0GHz		2.1	2.3	dB
		DC-3.0GHz		2.5	2.8	dB
Attenuation Range				31		dB
Attenuation Precision		DC-1.0GHz	±(0.2+3% Attenuation in dB)			dB
		DC-3.0GHz	±(0.4+5% Attenuation in dB)			dB
VSWR		DC-3.0GHz		1.3:1	1.5:1	
Switche Characteristic	Rise or Fall(10/90%or90/10 %RF)			20		ns
	On or Off(50%CTL to 90/10% RF)			20		ns
IP <sub>3</sub>	Two-tone, input power +5dBm	0.5-2.0GHz		45		dBm
P <sub>-1</sub>		0.5-2.0GHz		29		dBm
Control Voltage	V <sub>Low</sub> =0-0.2V@20 μ A Max. V <sub>High</sub> =-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.

### ➤ Typical Performance Curves



### ➤ Truth Table

J1-J2	V1	V2	V3	V4	V5	V6	V7	V8	V9
	1	2dB	4dB	8dB	16dB				
参考态	-5	-5	0	-5	0	-5	0	-5	0
1dB	0	-5	0	-5	0	-5	0	-5	0
2dB	-5	0	-5	-5	0	-5	0	-5	0
4dB	-5	-5	0	0	-5	-5	0	-5	0
8dB	-5	-5	0	-5	0	0	-5	-5	0
16dB	-5	-5	0	-5	0	-5	0	0	-5
31 dB	0	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
$\theta_{JC}$	25°C/W

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

### ➤ Chip Picture

