

TOSHIBA GaAs LINEAR INTEGRATED CIRCUIT GaAs MONOLITHIC

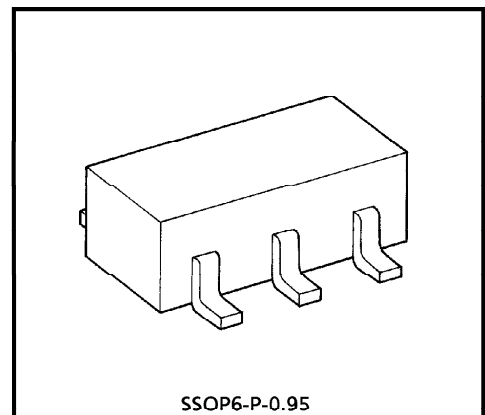
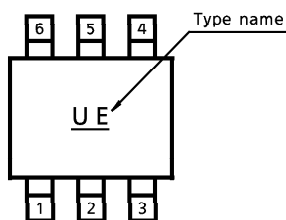
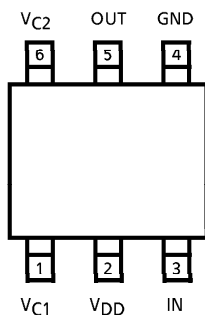
# TG2202F

## 1.9GHz BAND ATTENUATOR (PHS DIGITAL CORDLESS TELEPHONE)

### FEATURES

- ATTENUATION : ATT = 22dB (Typ.)
- CONTROL VOLTAGE : 0V / 3V

### PIN CONNECTION (TOP VIEW) MARKING



SSOP6-P-0.95  
Weight : 0.014g (Typ.)

### MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>DD</sub>	5	V
Control Voltage	V <sub>C1</sub>	5	V
	V <sub>C2</sub>	5	V
Input Power	P <sub>i</sub>	100	mW
Operating Temperature Range	T <sub>opr</sub>	-40~85	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

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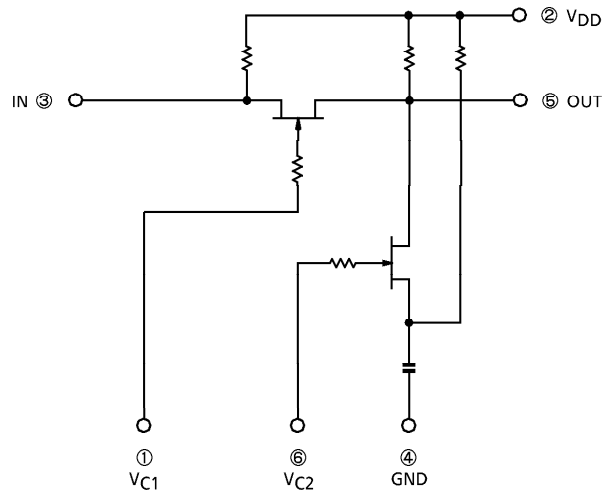
**ELECTRICAL CHARACTERISTICS** ( $V_{DD} = 3V$ ,  $T_a = 25^\circ C$ ,  $Z_g = Z_l = 50\Omega$ )

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Frequency Range	$f_{range}$	—	—	1895	—	1918	MHz
Insertion Loss	$L_{LOSS}$	1	$V_{C1} = 3V, V_{C2} = 0V, P_i = 0dBmW$	—	0.7	1.5	dB
Attenuation	ATT	1	$V_{C1} = 0V, V_{C2} = 3V, P_i = 0dBmW$	19	22	25	dB
Supply Current	$I_{DD}$	—	$V_{C1} = 3V, V_{C2} = 0V$ or $V_{C1} = 0V, V_{C2} = 3V$	—	—	0.1	mA
Control Current	$I_{C1}$			—	0.1	mA	
	$I_{C2}$			—	0.1	mA	
Input VSWR	$VSWR_{in}$	1	$V_{C1} = 3V, V_{C2} = 0V, P_i = 0dBmW$	—	1.4	2.0	—
Output VSWR	$VSWR_{out}$			—	1.4	2.0	—
Output Power at 1dB Gain Compression	$P_{o1dB}$			—	10	—	dBm W

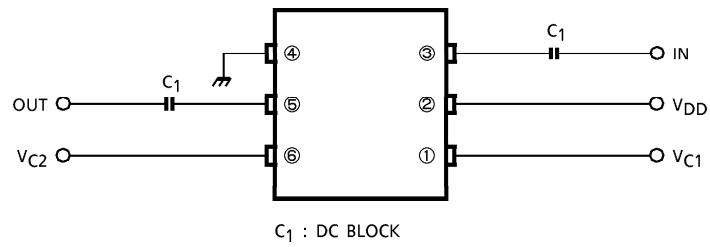
**TRUTH TABLE**

CONTROL VOLTAGE		ATTENUATOR CONDITION
$V_{C1}$	$V_{C2}$	IN-OUT
3V	0V	ATTENUATE OFF
0V	3V	ATTENUATE ON

**EQUIVALENT CIRCUIT**



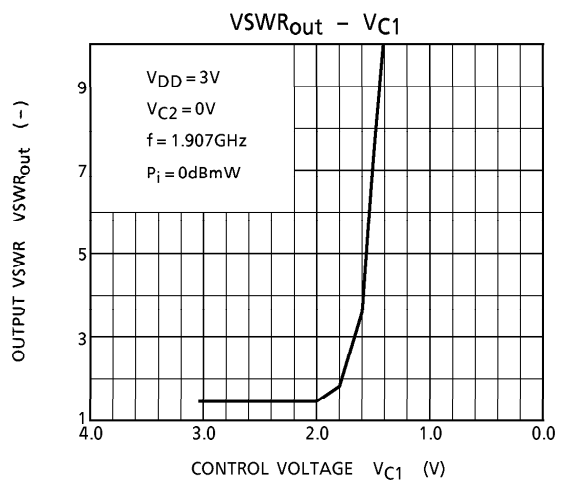
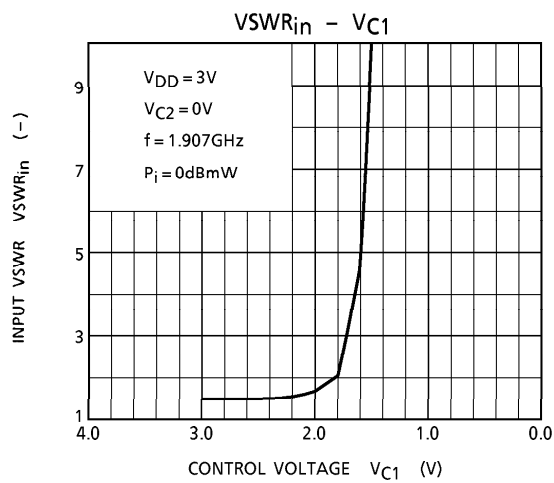
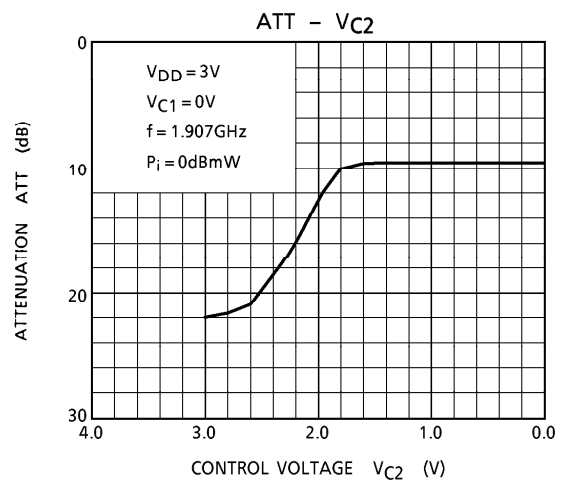
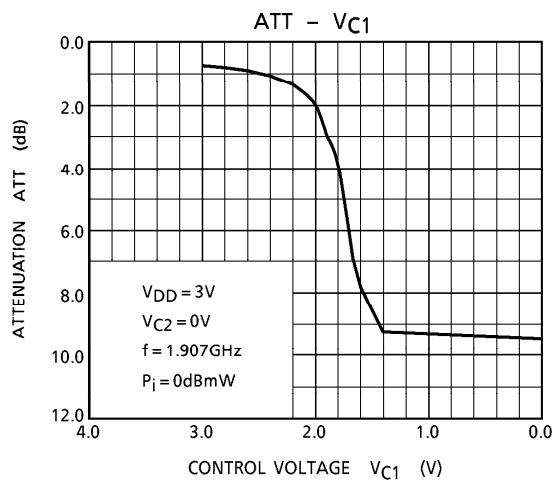
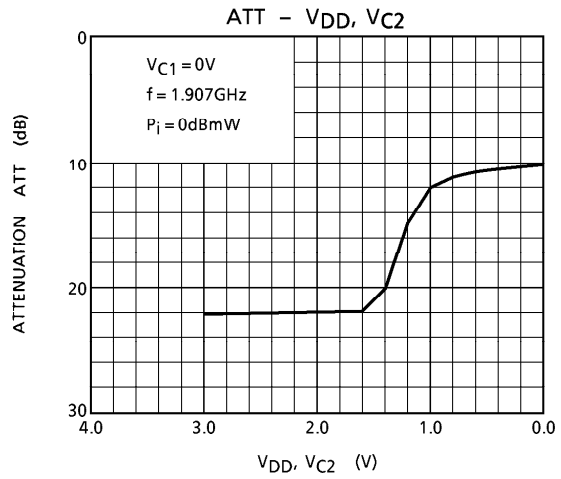
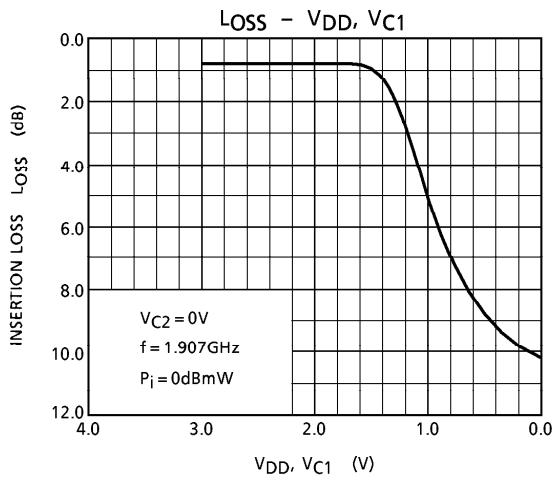
## TEST CIRCUIT 1

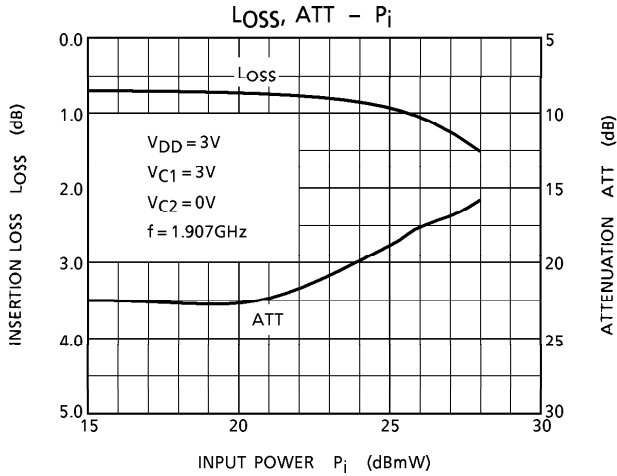
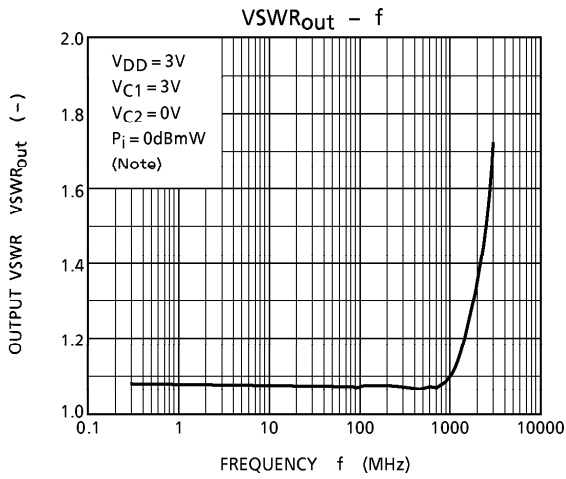
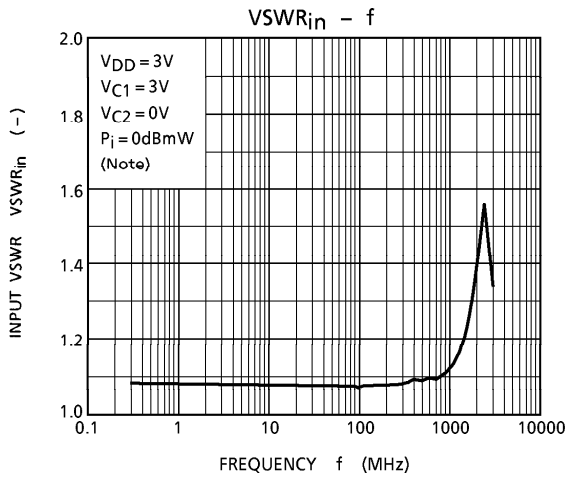
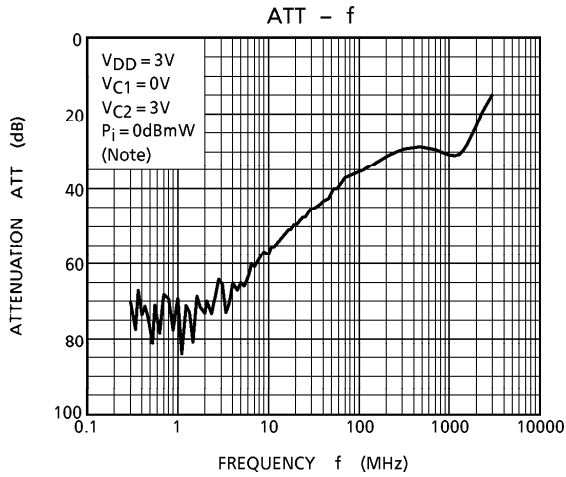
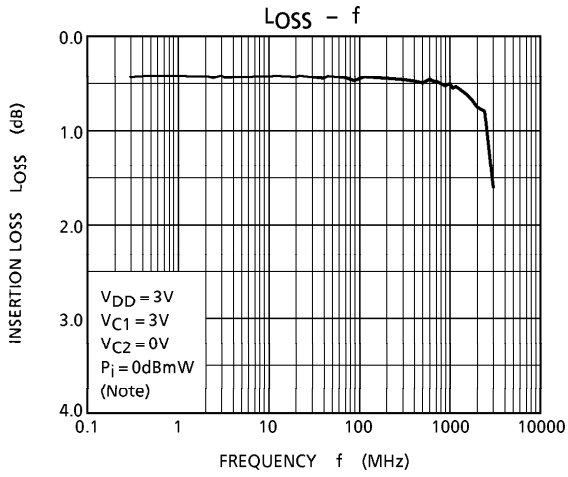


(Note)  $V_{C1}$ ,  $V_{C2}$  and  $V_{DD}$  are connected to GND by capacitor (9pF) in order to measure dependence on frequency of  $L_{OSS}$  and ATT.

## CAUTION

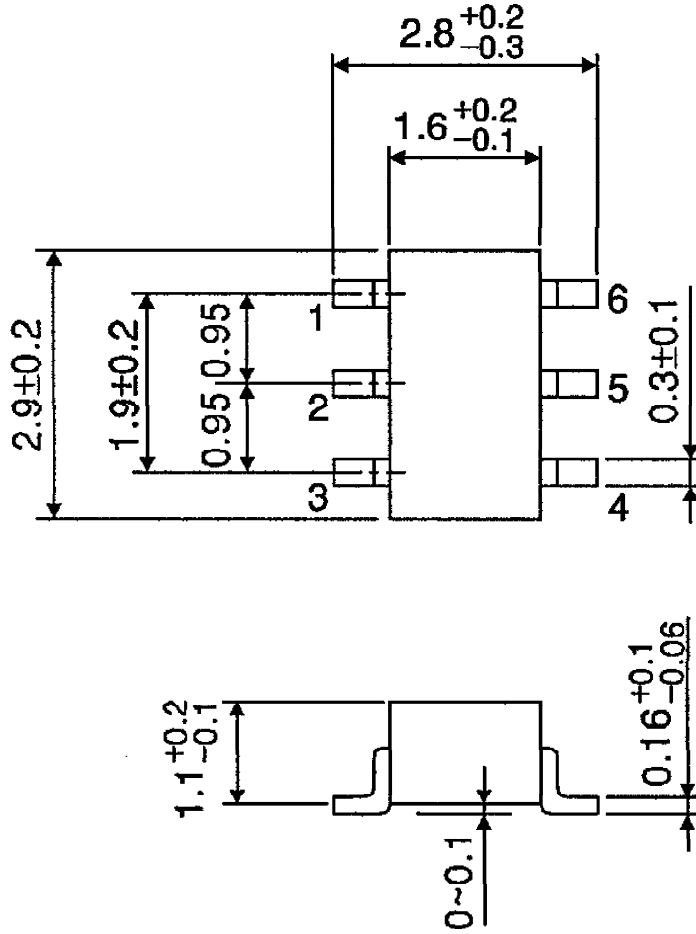
This device is electrostatic sensitivity. Please handle with caution.





OUTLINE DRAWING  
SSOP6-P-0.95

Unit : mm



Weight : 0.014g (Typ.)