

TOSHIBA

TG2205F

TOSHIBA GaAs LINEAR INTEGRATED CIRCUIT GaAs MONOLITHIC

TG2205F

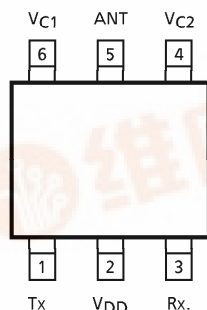
RF SPDT SWITCH

(APPLICATION : PHS)

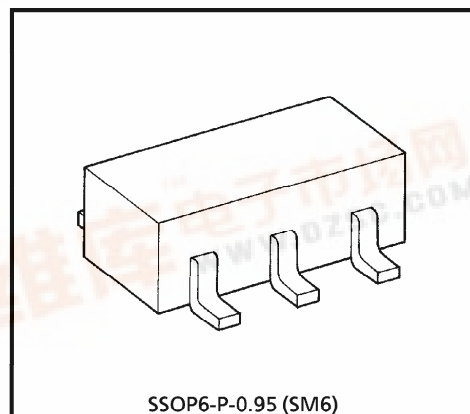
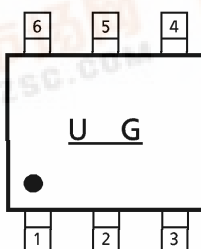
FEATURES

- LOW INSERTION LOSS : $L_{OSS} = 0.5\text{dB}$ (Typ.)
- HIGHT ISOLATION : $ISL = 25\text{dB}$ (Typ.)
- CONTROL VOLTAGE : $0\text{V} / 3\text{V}$

PIN CONNECTION (TOP VIEW)



MARKING



Weight : 0.014g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	5	V
Control Voltage	V_{C1}	5	V
	V_{C2}	5	V
Input Power	P_i	1	W
Operating Temperature Range	T_{opr}	- 40~85	°C
Storage Temperature Range	T_{stg}	- 55~125	°C

CAUTION

This device is electrostatic sensitivity. Please handle with caution.

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ELECTRICAL CHARACTERISTICS ($V_{DD} = 3V$, $f = 1.907GHz$, $T_a = 25^\circ C$, $Z_g = Z_l = 50\Omega$)

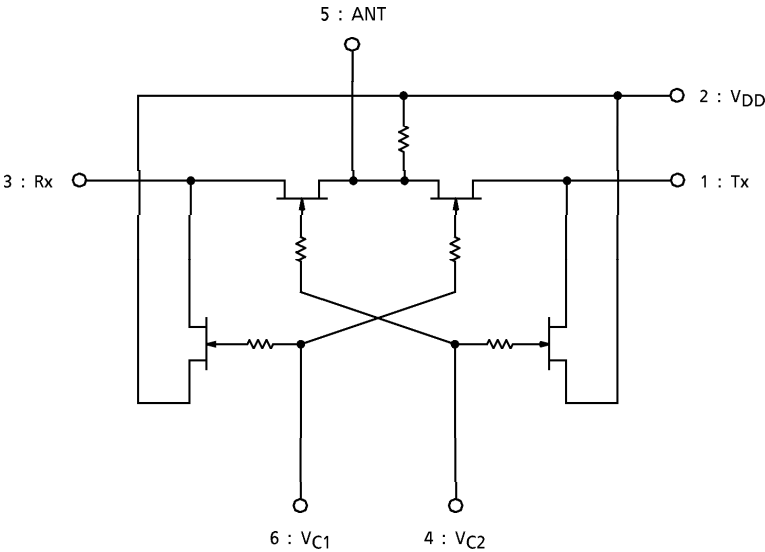
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Insertion Loss	$L_{OSS(1)}$	1	$V_{C1} = 3V$, $V_{C2} = 0V$, $P_i = 22dBmW$	—	0.5	1.0	dB
	$L_{OSS(2)}$	1	$V_{C1} = 0V$, $V_{C2} = 3V$, $P_i = 0dBmW$	—	0.5	1.0	dB
Isolation	$ISL(1)$	1	$V_{C1} = 3V$, $V_{C2} = 0V$, $P_i = 22dBmW$	20	25	—	dB
	$ISL(2)$	1	$V_{C1} = 0V$, $V_{C2} = 3V$, $P_i = 0dBmW$	20	25	—	dB
Switching Time	t_{sw}	—	$V_{C1} = 3V$, $V_{C2} = 0V$ or $V_{C1} = 0V$, $V_{C2} = 3V$	—	0.01	—	μs
Supply Current	I_{DD}	—		—	—	0.01	mA
Control Current	I_{C1}	—		—	—	0.01	mA
	I_{C2}	—		—	—	0.01	mA
Output Power at 1dB Gain Compression	P_{o1dB}	1	$V_{C1} = 3V$, $V_{C2} = 0V$	—	24	—	dBmW
Adjacent Channel Leakage Power Ratio	P_{adj}	1	$V_{C1} = 3V$, $V_{C2} = 0V$, $P_i = 22dBmW$ (Note), $\Delta f = 600kHz$	—	—	-60	dB

(Note) Input signal is modulated to $\pi/4QPSK$ ($\alpha = 0.5$). Bit rate is 384kbps.

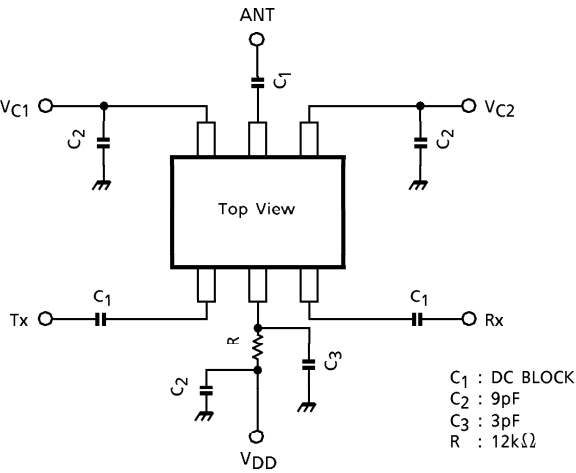
TRUTH TABLE

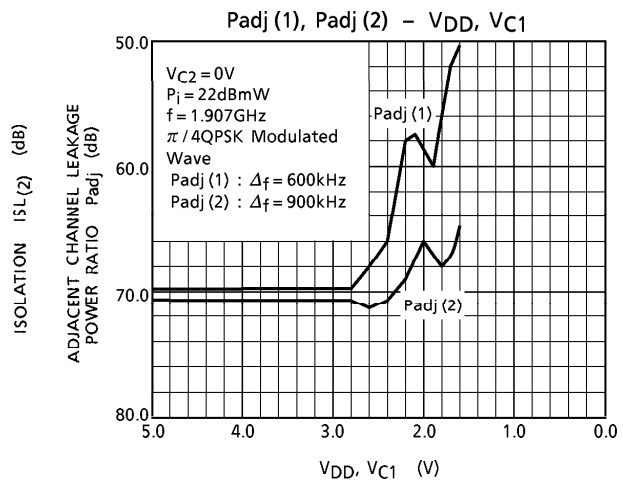
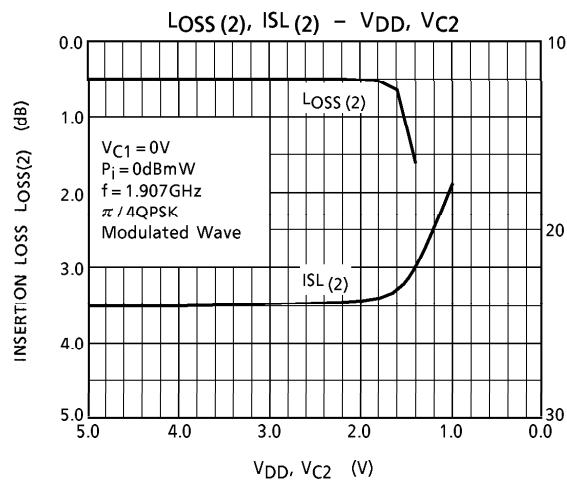
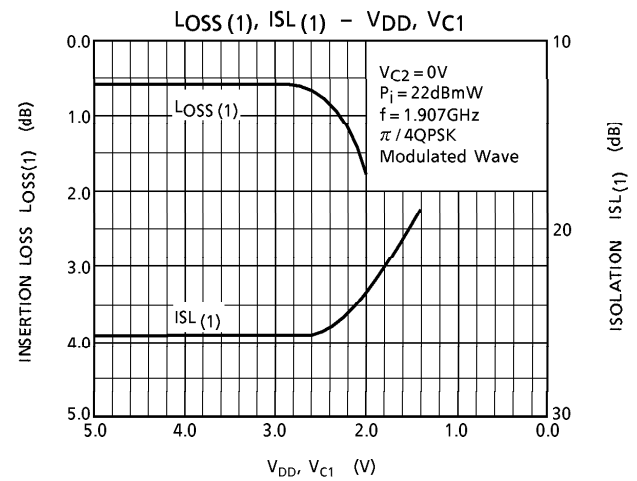
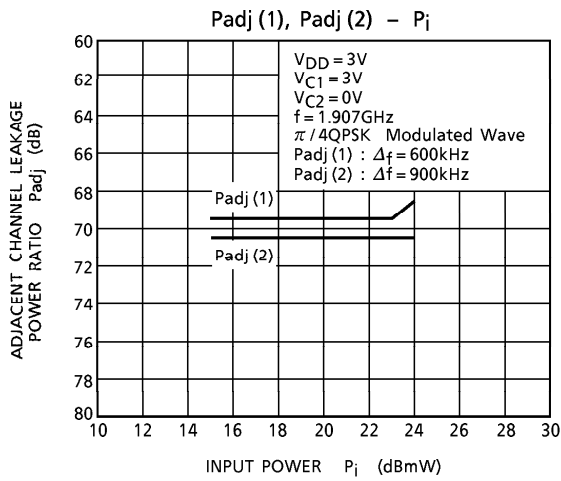
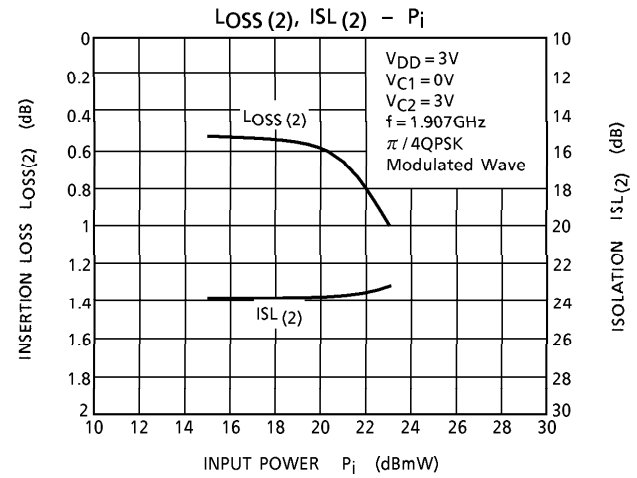
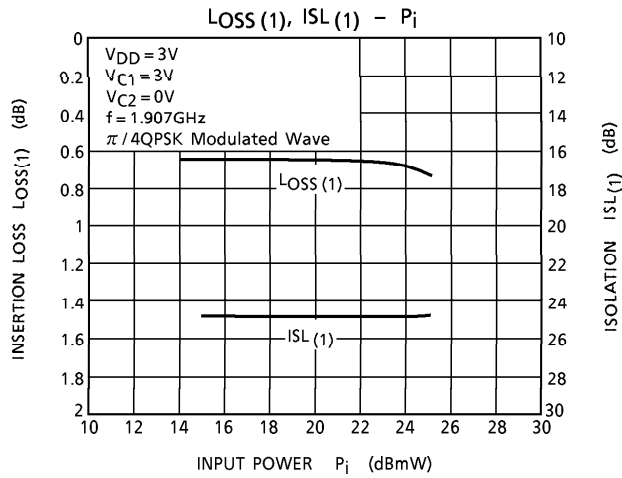
CONTROL VOLTAGE		SWITCH CONDITION	
V_{C1}	V_{C2}	ANT-Rx	ANT-Tx
3V	0V	OFF	ON
0V	3V	ON	OFF

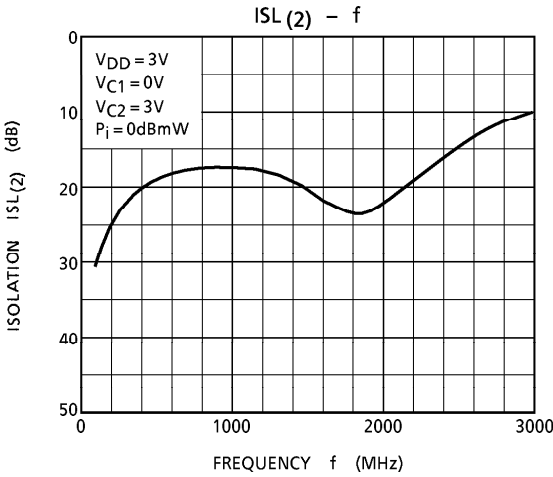
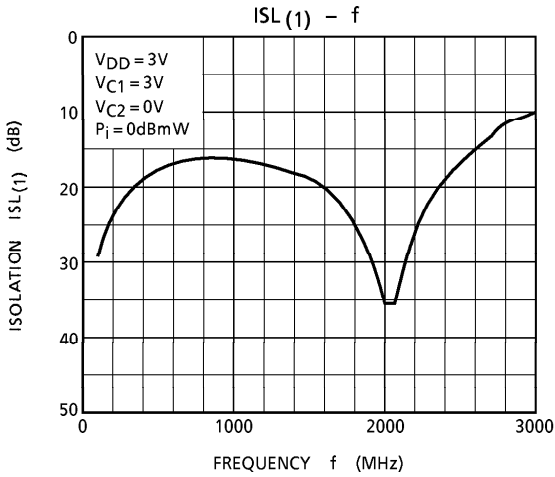
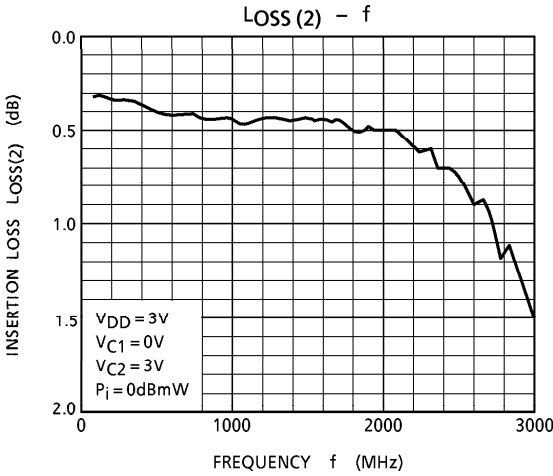
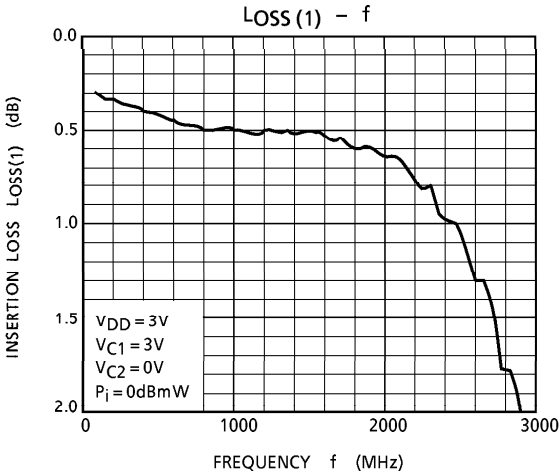
EQUIVALENT CIRCUIT



TEST CIRCUIT1 (RF TEST CIRCUIT)

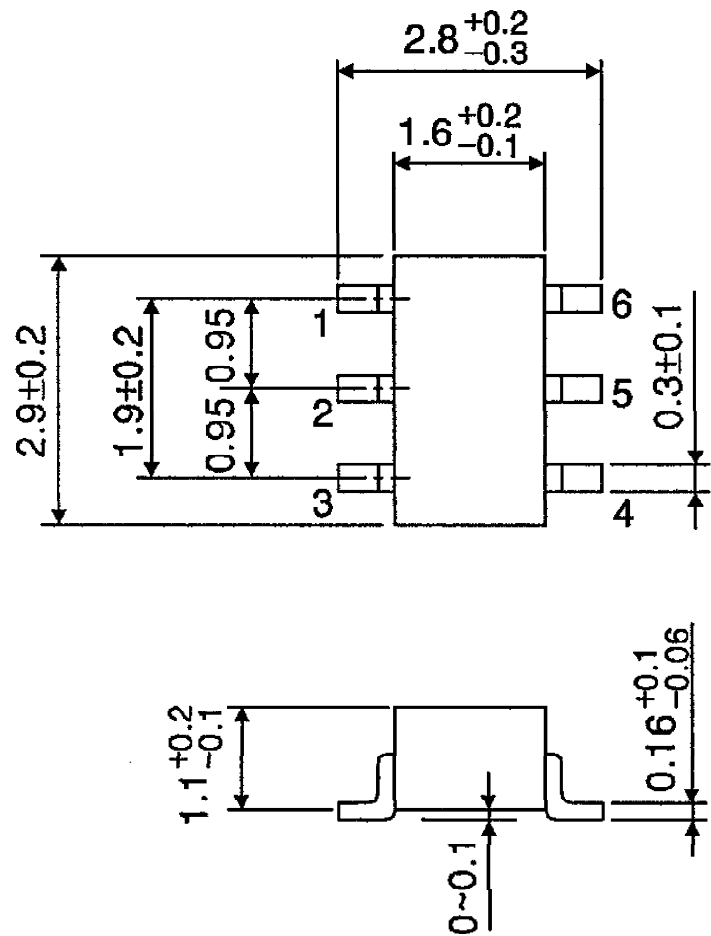






OUTLINE DRAWING
SSOP6-P-0.95

Unit : mm



Weight : 0.014g (Typ.)