03/07/2000 Ver 1
TENTATIVE

SP4T SWITCH GaAs MMIC

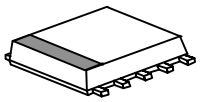
■GENERAL DESCRIPTION

NJG1519KC1 is a GaAs high power SP4T switch MMIC for antenna switch of dual mode cellular phone application such as GSM/DCS1800.

This switch is designed for an antenna switch between an antenna and one of two Tx ports or two Rx ports to control RF signals up to 2.5GHz.

The ultra small & ultra thin FLP10 package is applied.

■PACKAGE OUTLINE

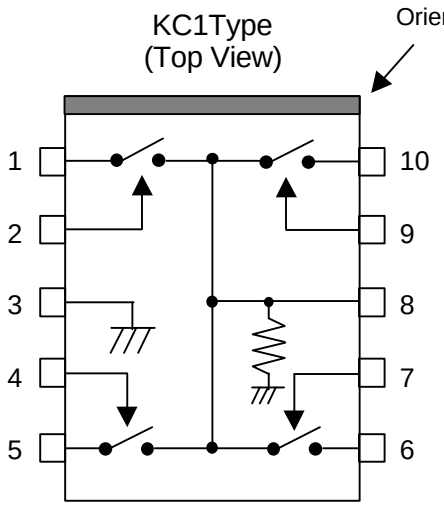


NJG1519KC1

■FEATURES

●Low insertion loss	0.6dB typ. @f=0.9GHz, Pin=34dBm
	0.85dB typ. @f=1.9GHz, Pin=32dBm
●High isolation	24dB typ. @f=0.9GHz
	18dB typ. @f=1.9GHz
●High handling power	$P_{-0.2dB}$=35dBm typ. @f=1.9GHz
●Low control voltage	$V_{CTL\ (H)}$=3.0V typ.
●Ultra small & ultra thin package	FLP10-C1 (Mount Size: 2.8x3.0x0.75mm)

■PIN CONFIGURATION



Pin Connection

1. P1
2. V_{CTL1}
3. GND
4. V_{CTL2}
5. P2
6. P3
7. V_{CTL3}
8. PC
9. V_{CTL4}
10. P4

■TRUTH TABLE

ON Pass	V_{CTL1}	V_{CTL2}	V_{CTL3}	V_{CTL4}
PC-P1	H	L	L	L
PC-P2	L	H	L	L
PC-P3	L	L	H	L
PC-P4	L	L	L	H

NOTE: Please note that any information on this catalog will be subject to change.

■ABSOLUTE MAXIMUM RATINGS

(T_a=+25°C, Z_s=Z_l=50Ω)

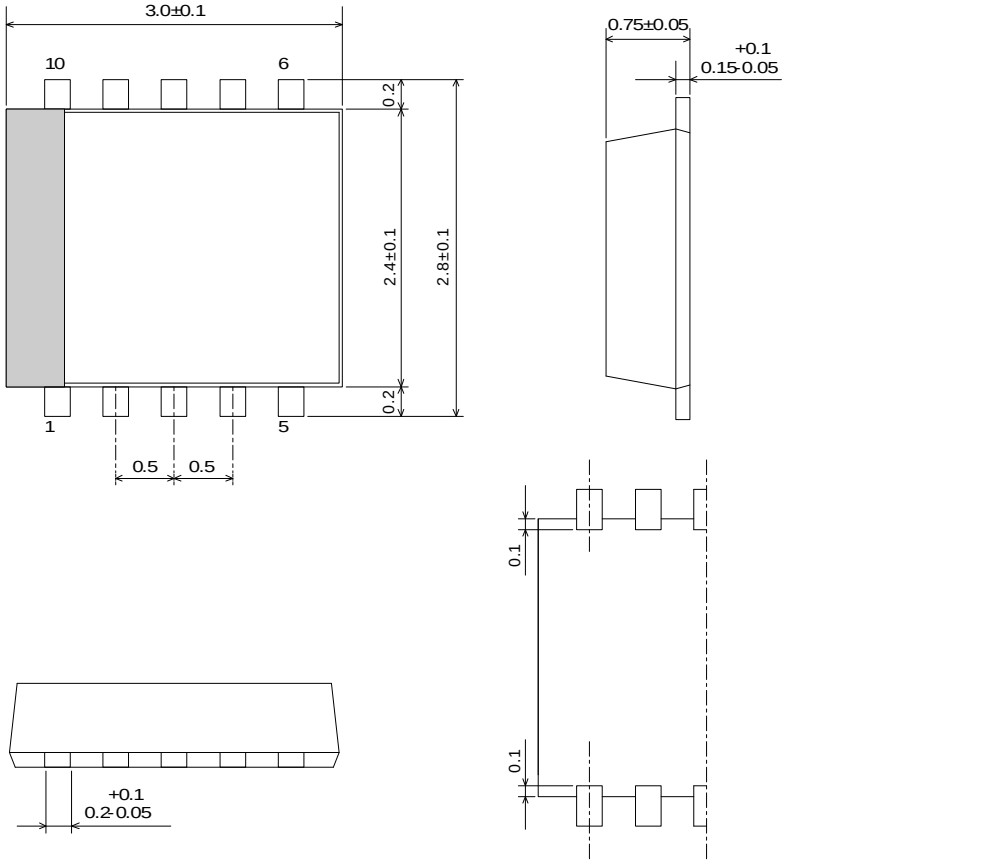
PARAMETER	SYMBOL	CONDITIONS	RATINGS	UNITS
RF Input Power	P_{in}	$V_{CTL(L)}$=0V, $V_{CTL(H)}$=3V	38	dBm
Operating Voltage	V_{CTL}	$V_{CTL(H)}$-$V_{CTL(L)}$	12	V
Power Dissipation	P_D		550	mW
Operating Temp.	T_{opr}		-40~+85	°C
Storage Tempe.	T_{stg}		-55~+125	°C

■ELECTRICAL CHARACTERISTICS

General Conditions: T_a=+25°C, Z_s=Z_l=50Ω, $V_{CTL\ (L)}$=0V, $V_{CTL\ (H)}$=3V

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Control Voltage (Low)	$V_{CTL(L)}$	f=0.01~2.5GHz	-0.2	0	0.2	V
Control Voltage (High)	$V_{CTL(H)}$	f=0.01~2.5GHz	2.5	3.0	6.5	V
Control Current	I_{CTL}	f=0.9GHz, P_{in}=34dBm	-	10	30	uA
Insertion loss 1	LOSS1	f=0.9GHz, P_{in}=34dBm	-	0.6	0.8	dB
Insertion loss 2	LOSS2	f=1.9GHz, P_{in}=32dBm	-	0.85	1.0	dB
Isolation 1	ISL1	f=0.9GHz, P_{in}=34dBm	22	24	-	dB
Isolation 2	ISL2	f=1.9GHz, P_{in}=32dBm	16	18	-	dB
Pin at 0.2dB compression point	$P_{-0.2dB}$	f=1.9GHz	34	35	-	dBm
VSWR	$VSWR_i$	on-state ports, f=1.9GHz	-	1.2	1.4	
Switching time	T_{SW}	f=0.1~2.5GHz	-	60	100	ns

■PACKAGE OUTLINE (FLP10-C1)



Lead material	: Copper
Lead surface finish	: Solder plating
Molding material	: Epoxy resin
UNIT	: mm
Weight	: 14mg

Cautions on using this product

This product contains Gallium-Arsenide (GaAs) which is a harmful material.

- Do NOT eat or put into mouth.
- Do NOT dispose in fire or break up this product.
- Do NOT chemically make gas or powder with this product.
- To waste this product, please obey the relating law of your country.

This product may be damaged with electric static discharge (ESD) or spike voltage. Please handle with care to avoid these damages.