

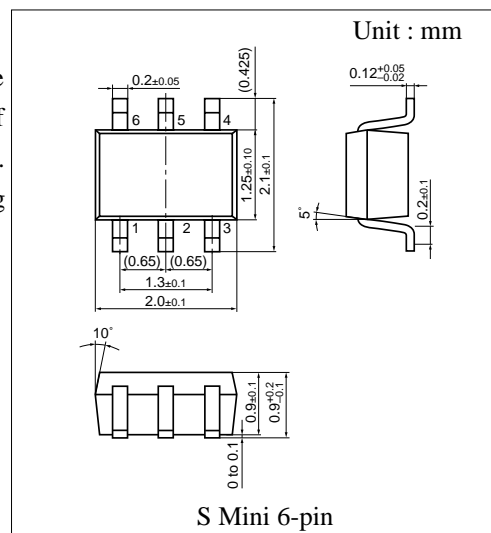
## High-power SPDT Switch GaAs MMIC for Cellular phones

### Overview

GN04017N/04022N are MMICs for high-power SPDT (Single Pole Double Throw) switches in antenna peripheral circuits of cellular phones. The use of Matsushita's proprietary circuits and device technologies offers minimal loss. This in turn results in reduced output of the transmission amplifier, contributing to cellular phone power consumption.

### Features

- Low loss GN04017N:0.25dB at 0.1 GHz to 2.0 GHz  
GN04022N:0.3dB at 2.0 GHz to 2.4 GHz
- Compact S Mini type 6-pin package (2125 size).



### Specifications

Parameter	GN04017N		GN04022N	
Operating Frequency	f=0.1 GHz to 2 GHz	Pin=26 dBm Vcont=3.0 V	f=2.0 GHz to 2.4 GHz	Pin=26 dBm Vcont=3.0 V
Insertion loss	0.25 dB	Vcont=3.0 V	0.3 dB	Vcont=3.0 V
Isolation	25 dB	Vcont=3.0 V	20 dB	Vcont=3.0 V
P0.1dB	31 dBm	Vcont=3.0 V	30 dBm	Vcont=3.0 V
Package	S Mini6-pin (2125 Size)			

### Applications

- Cellular phones (CDMA, TDMA, PCS, W-CDMA, etc)
- Communications equipment

The products and specifications are subject to change without any notice. Please ask for the latest product standards to guarantee the satisfaction of your product requirements.

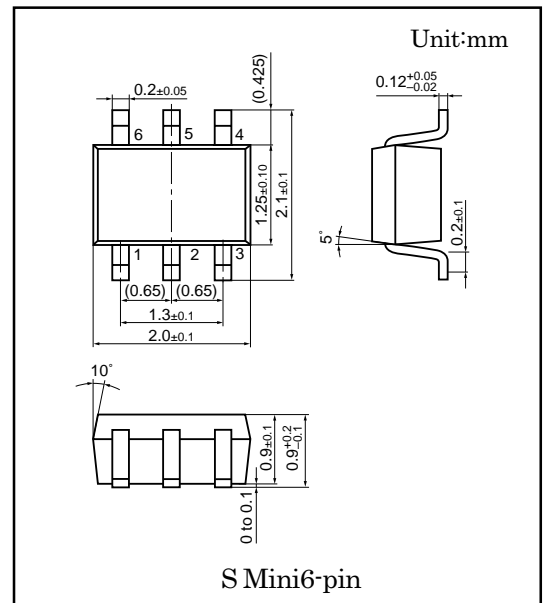
Semiconductor Company, Matsushita Electronics Corporation

# GN04017N

High Frequency Switching for Mobile Communication

## Absolute Maximum Ratings

Parameters	Symbol	Rating	Unit
Supply voltage	VDD	8	V
Control voltage	V <sub>ctrl(H)</sub> -V <sub>ctrl(L)</sub>	+6	V
Max. Input Level	P <sub>in</sub>	37	dBm
Operating ambient temperature	T <sub>opr</sub>	-30 to +90	°C
Storage temperature	T <sub>stg</sub>	-40 to +120	°C

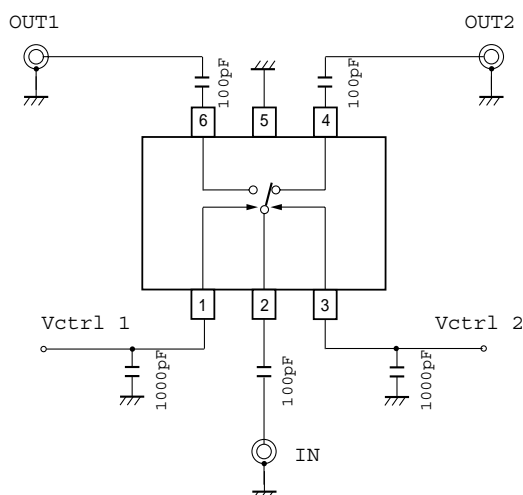


## Electrical Characteristics (T<sub>a</sub>=25 °C±3 °C, V<sub>cont</sub> (L) =0V, V<sub>cont</sub> (H) =3.0V, f=832MHz to 925MHz)

Parameters	Symbol	Condition	min	typ	max	Unit
Insertion Loss	IL	IN-OUT1,Pin=-26dBm	-	0.20	0.45	dB
		IN-OUT2,Pin=-26dBm	-	0.20	0.45	dB
Isolation	ISO	IN-OUT1(IN-OUT2 ON)	23	28	-	dB
		IN-OUT2(IN-OUT1 ON)	23	28	-	dB
Voltage Standing Wave Ratio	VSWR	IN-OUT1	-	1.05	1.15	dB
		IN-OUT2	-	1.05	1.15	dB
Input 0.1dB Compression	P <sub>in</sub> (0.1dB)	V <sub>ctrl</sub> (H)=3V	30	32	-	dBm
Input 1dB Compression	P <sub>in</sub> (1.0dB)*1	V <sub>ctrl</sub> (H)=3V	32	34	-	dBm
Control Current	I <sub>ctrl</sub>		-	10	30	μA
Switching Time	t <sub>sw</sub>		-	0.2	1	μs

\*1)Designeg Specification

## Test Circuit



## Pin Descriptions

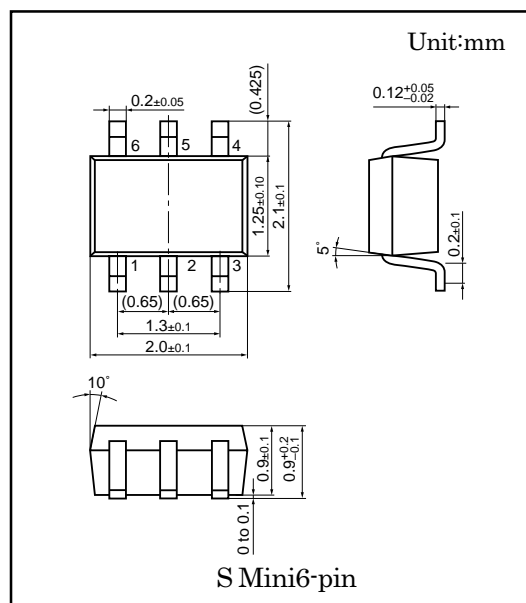
Pin No.	Function
1	Vctrl 1
2	IN
3	Vctrl 2
4	OUT 2
5	GND
6	OUT 1

# GN04022N

High Frequency Switching for Mobile Communication

## Absolute Maximum Ratings

Parameters	Symbol	Rating	Unit
Supply voltage	VDD	8	V
Control voltage	Vctrl(H)-Vctrl(L)	+6	V
Max. Input Level	Pin	37	dBm
Operating ambient temperature	Topr	-30 to +90	°C
Storage temperature	Tstg	-40 to +120	°C

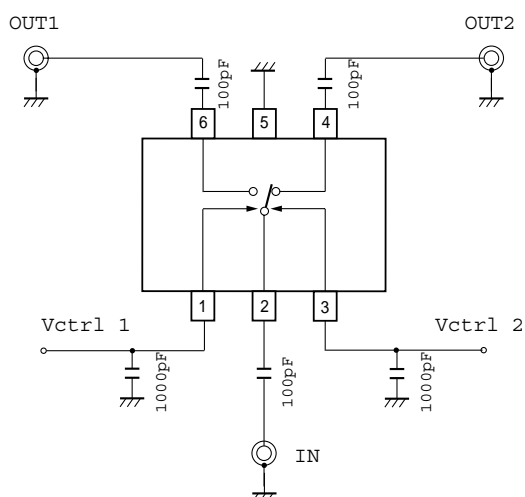


## Electrical Characteristics (Ta=25°C±3°C, Vcont(L)=0V, Vcont(H)=3.0V, f=1920MHz to 2170MHz)

Parameters	Symbol	Condition	min	typ	max	Unit
Insertion Loss	IL	IN-OUT1, Pin=-26dBm	-	0.25	-	dB
		IN-OUT2, Pin=-26dBm	-	0.25	-	dB
Isolation	ISO	IN-OUT1(IN-OUT2 ON)	-	23	-	dB
		IN-OUT2(IN-OUT1 ON)	-	23	-	dB
Voltage Standing Wave Ratio	VSWR	IN-OUT1	-	1.10	-	dB
		IN-OUT2	-	1.10	-	dB
Input 0.1dB Compression	Pin(0.1dB)	Vcorl(H)=3V	-	31	-	dBm
Input 1dB Compression	Pin(1.0dB)*1	Vcorl(H)=3V	-	33	-	dBm
Control Current	Ictrl		-	10	30	μA
Switching Time	tsw		-	-	-	μs

\*1)Designeg Specification

## Test Circuit



## Pin Descriptions

Pin No.	Function
1	Vctrl 1
2	IN
3	Vctrl 2
4	OUT 2
5	GND
6	OUT 1