

# GN04063N

## GaAs N-Channel IC

Low handling power DPDT-SW IC for wireless LAN

### ■ Features

- Operating frequency band: 500 MHz to 6 GHz
- Low insertion LOSS: 0.35 dB (1.0 GHz), 0.4 dB (2.5 GHz), 0.75 dB (6 GHz)
- Ultra small package (1.72 mm × 1.52 mm × 0.4 mm)

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

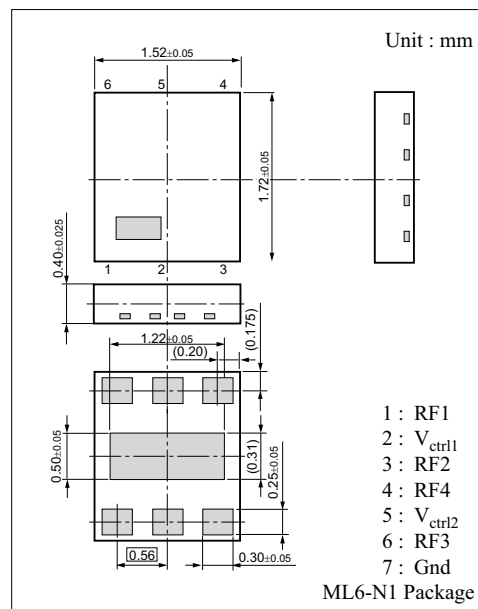
Parameter	Symbol	Rating	Unit
Power dissipation	$P_D$	150	mW
Control voltage	$V_{\text{ctrl(H)}} - V_{\text{ctrl(L)}}$	4	V
	$V_{\text{ctrl1}}$	4	V
	$V_{\text{ctrl2}}$	4	V
Maximum input power *	$P_{\text{IN}}$	27	dBm
Operating ambient temperature	$T_{\text{opr}}$	-30 to +80	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-40 to +120	$^\circ\text{C}$

Note) \*:  $V_{\text{ctrl(H)}} = 3.0\text{ V}$ ,  $V_{\text{ctrl(L)}} = 0\text{ V}$ ,  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$ ,  $f = 6\text{ GHz}$

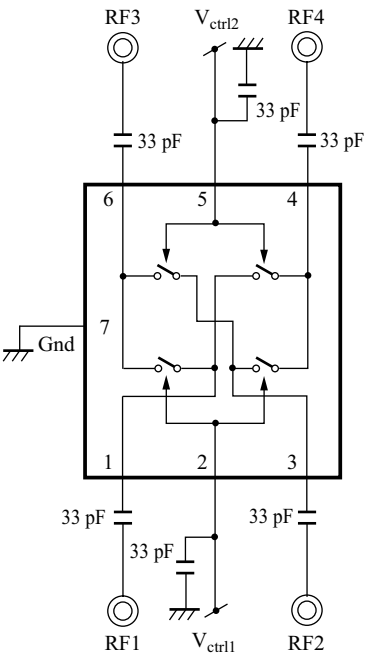
### ■ Electrical Characteristics $V_{\text{ctrl(H)}} = 3\text{ V}$ , $V_{\text{ctrl(L)}} = 0\text{ V}$ , $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$ , $Z_0 = 50\ \Omega$ , DC Block C = 33 pF

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Insertion loss *	LOSS	RF1 - RF3, RF1 - RF4 RF2 - RF3, RF2 - RF4	$f = 1.0\text{ GHz}$		0.35	dB
			$f = 2.5\text{ GHz}$		0.40	
			$f = 6.0\text{ GHz}$		0.75	
Isolation *	ISO	RF1 - RF3, RF1 - RF4 RF2 - RF3, RF2 - RF4	$f = 1.0\text{ GHz}$	31	35	dB
			$f = 2.5\text{ GHz}$	23	27	
			$f = 6.0\text{ GHz}$	15	19	
Input 0.1 dB compression *	$P_{\text{IN(0.1 dB)}}$	RF1 - RF3, RF1 - RF4 RF2 - RF3, RF2 - RF4	$f = 6.0\text{ GHz}$	23.0	28.5	dBm
Control current	$I_{\text{ctrl}}$	No RF Input	—	0.2	20.0	$\mu\text{A}$

Note) \*: Sampling specification



■ Test Circuit



■ Logic Table

$V_{ctrl1}$	$V_{ctrl2}$	RF1 - RF3	RF2 - RF3	RF1 - RF4	RF2 - RF4
$V_{ctrl1(H)}$	$V_{ctrl1(L)}$	ON	OFF	OFF	ON
$V_{ctrl1(L)}$	$V_{ctrl1(H)}$	OFF	ON	ON	OFF

Note)  $V_{ctrl(H)} = 3.0 \text{ V}$ ,  $V_{ctrl(L)} = 0 \text{ V}$   
ON : Insertion loss path, OFF : Isolation path

# Caution for Safety

 **DANGER**

## ■ This product contains Gallium Arsenide (GaAs).

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

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