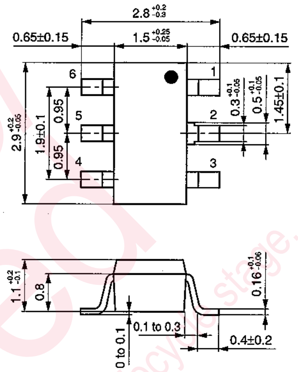
Panasonic

GN1025

GaAs N-Channel IC (with built-in ferroelectric)

For UHF low-noise amplifier with selective switch

Unit : mm



1 : RX1
2 : GND
3 : RX2
4 : SW2
5 : LNA OUT
6 : SW1

Mini Type Package (6-pin)

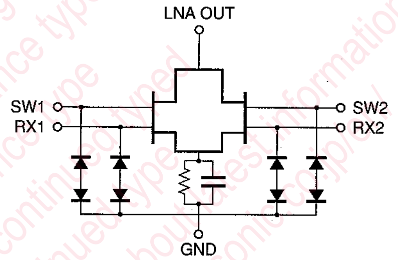
■ Features

- With diversity change-over function
- Large-capacitance capacitor built-in (external bypass capacitor not necessary)
- High gain : PG=15dB
- Low-noise characteristics : NF=3.0dB
- Small package : Mini-type 6-pin package

■ Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
LNA Drain-Source voltage	V_{LNAOUT}	5	V
RX1 and RX2 gate voltage	$V_{RX1,2}$	−3	V
SW1 and SW2 gate voltage	$V_{SW1,2}$	−3	V
LNA drain current	I_{LNAOUT}	10	mA
RX1 and RX2 gate current	$I_{RX1,2}$	1	mA
SW1 and SW2 gate current	$I_{SW1,2}$	1	mA
Allowable power dissipation	P_D	100	mW
Channel temperature	T_{ch}	150	℃
Storage temperature	T_{stg}	−55 to +150	℃

■ Equivalent Circuit

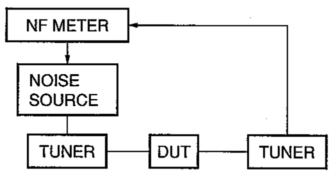


■ Electrical Characteristics (Ta=25℃)

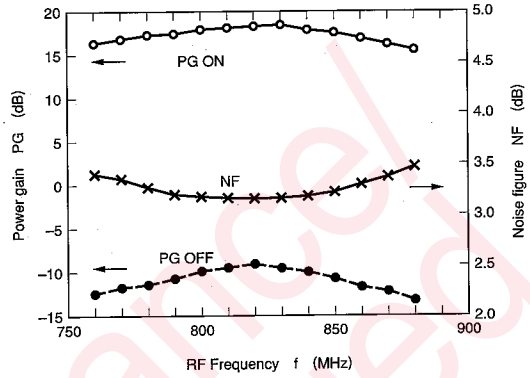
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain current 1	I_{DD1}	V_{LNAOUT}=3.7V, V_{SW1}=2.54V, V_{SW2}=0V	1.5	3	5	mA
Drain current 2	I_{DD2}	V_{LNAOUT}=3.7V, V_{SW1}=0V, V_{SW2}=2.54V	1.5	3	5	mA
Power gain 1	PG1*	V_{LNAOUT}=3.7V, V_{SW1}=2.54V, V_{SW2}=0V f_{RF2}=820MHz, P_{RF1}=−30dBm		15		dB
Power gain 2	PG2*	V_{LNAOUT}=3.7V, V_{SW1}=0V, V_{SW2}=2.54V f_{RF2}=820MHz, P_{RF1}=−30dBm		15		dB
Noise figure 1	NF1*	V_{LNAOUT}=3.7V, V_{SW1}=2.54V, V_{SW2}=0V f_{RF2}=820MHz, P_{RF1}=−30dBm		3		dB
Noise figure 2	NF2*	V_{LNAOUT}=3.7V, V_{SW1}=0V, V_{SW2}=2.54V f_{RF2}=820MHz, P_{RF2}=−30dBm		3		dB

GaAs MMICs

*PG, NF test circuit



PG, NF frequency characteristics



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