

GN01034N (Tentative)

GaAs IC

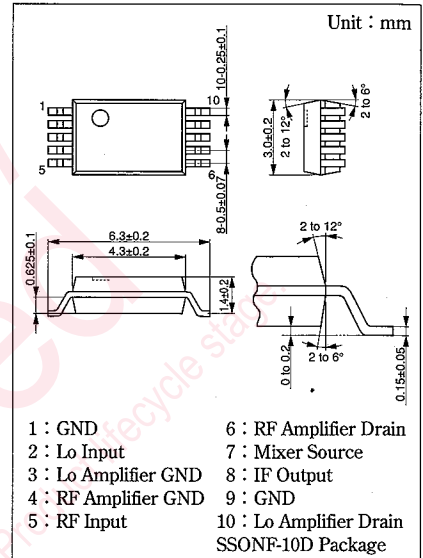
For receiving front-end amplifier of cellular phone

■ Features

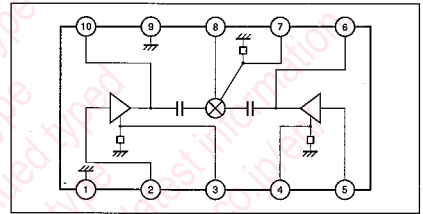
- Low-voltage, positive power supply operation
- Low current operation
- Low noise

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

Parameter	Symbol	Rating	Unit
Power supply voltage	V_{DD}	5	V
Circuit current	I_{DD}	10	mA
Max input power	P_{in}	10	dBm
Allowable power dissipation	P_D	50	mW
Operating temperature	T_{opr}	-30 to +90	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +90	$^\circ\text{C}$



■ Circuit-function Block Diagram

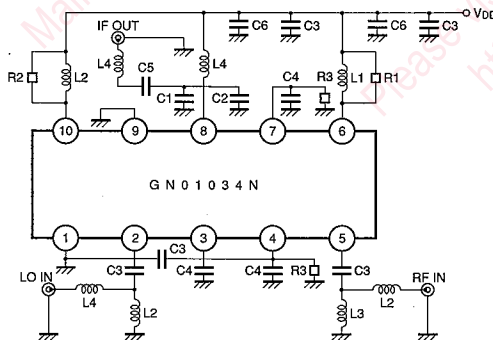


■ Electrical Characteristics ($V_{DD}=3.7\text{V}$, $T_a=25\pm 2^\circ\text{C}$)

Parameter	Symbol	Test method	Condition	Min	Typ	Max	Unit
Circuit current	I_{DD}			3.5	5.5	8	mA
Conversion gain	CG	(1)	$f_{LO}=0.79\text{GHz}$, $P_{LO}=-15\text{dBm}$ $f_{RF}=0.88\text{GHz}$, $P_{RF}=-35\text{dBm}$	13	18		dB
Noise figure	NF	(1)	$f_{LO}=0.79\text{GHz}$, $P_{LO}=-15\text{dBm}$ $f_{RF}=0.88\text{GHz}$, $P_{RF}=-35\text{dBm}$		4.5	6	dB

Test method (1) : Design-guaranteed value

For measurement, use the circuit shown below.

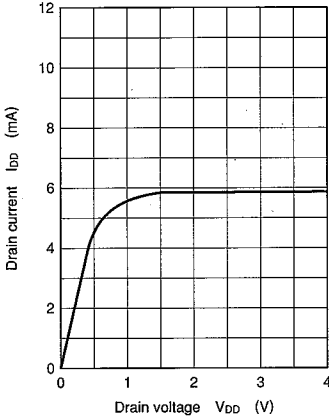


<Value of each part>

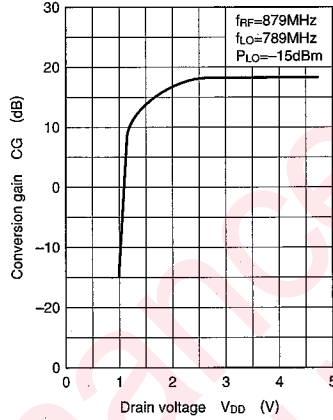
$R1=120\ \Omega$	$L1=15\text{nH}$	$C1=4.5\text{pF}$
$R2=470\ \Omega$	$L2=22\text{nH}$	$C2=7\text{pF}$
$R3=2.2\text{k}\ \Omega$	$L3=27\text{nH}$	$C3=100\text{pF}$
	$L4=39\text{nH}$	$C4=1000\text{pF}$
	$L5=390\text{nH}$	$C5=2000\text{pF}$
		$C6=1\ \mu\text{F}$

Note : This is the tentative development specification and may be changed without notice.
Refer to the update product specification when final design is to be established.

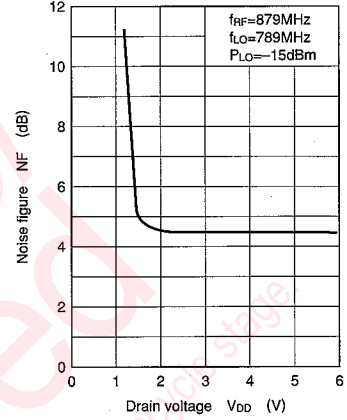
$I_{DD} - V_{DD}$



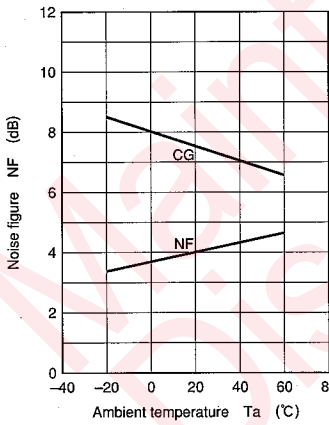
$CG - V_{DD}$



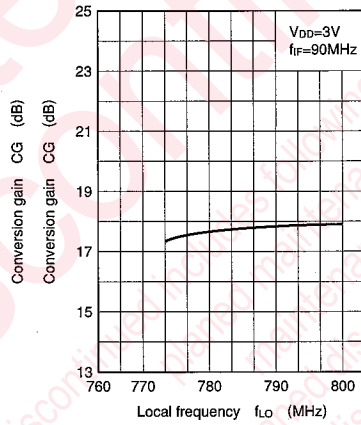
$NF - V_{DD}$



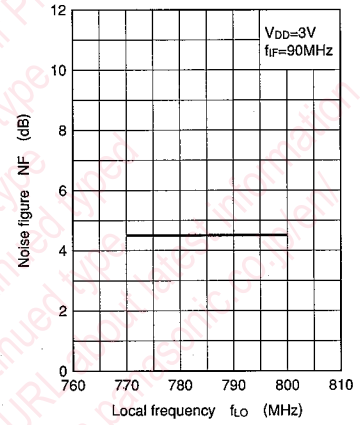
$CG, NF - T_a$



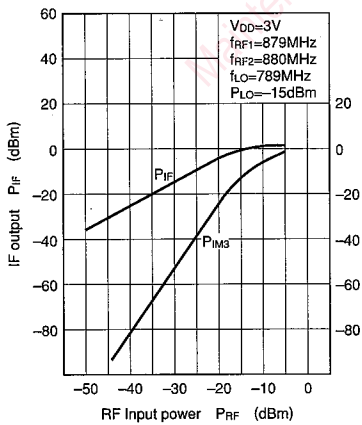
$CG - f_{LO}$



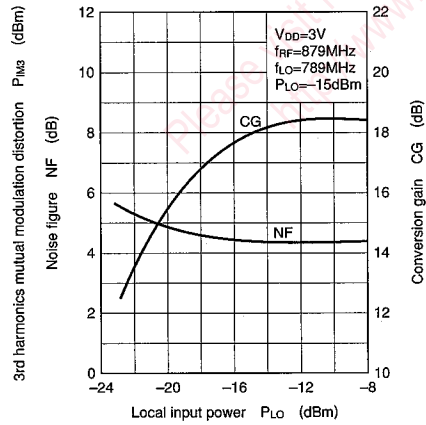
$NF - f_{LO}$



$P_{IF}, P_{IM3} - P_{RF}$



$NF, CG - P_{LO}$



GaAs
MMICs

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