



# SPM0103A

## Low-Noise GaAs Amplifier MMIC

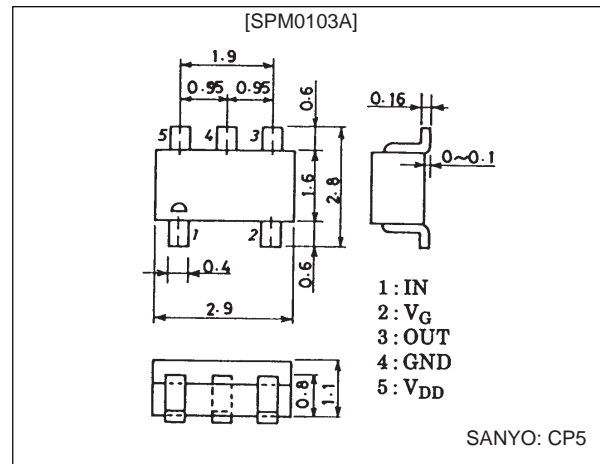
### Features

- Low-voltage, low-current operation
- Compact mini-mold package
- No matching circuits needed for I/O
- Low noise
- Ideal for use as first stage for mobile communications receiver amplifier

### Package Dimensions

unit: mm

7272-CP5



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Power supply voltage	$V_{DD}$		5	V
Gate voltage	$V_G$		-2	V
Allowable power dissipation	$P_D$		0.25	W
Operating temperature	$T_{opr}$	$V_{DD} = 3\text{ V}$ , $I_D = 60\text{ mA}$ or less	-30 to +90	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$
Junction temperature	$T_j$		150	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain current $I_D$	$I_D$	$V_{DD} = 3\text{ V}$ , $V_G = 0$	50	70	95	mA
Noise figure	NF	$V_{DD} = 3\text{ V}$ , $I_D = 25\text{ mA}$ , $f = 1.9\text{ GHz}$		1.1	1.5	dB
Linear gain	$G_L$	$V_{DD} = 3\text{ V}$ , $I_D = 25\text{ mA}$ , $f = 1.9\text{ GHz}$		12		dB
VSWR (input)		$V_{DD} = 3\text{ V}$ , $I_D = 25\text{ mA}$ , $f = 1.9\text{ GHz}$		2.1		
VSWR (output)		$V_{DD} = 3\text{ V}$ , $I_D = 25\text{ mA}$ , $f = 1.9\text{ GHz}$		2.1		

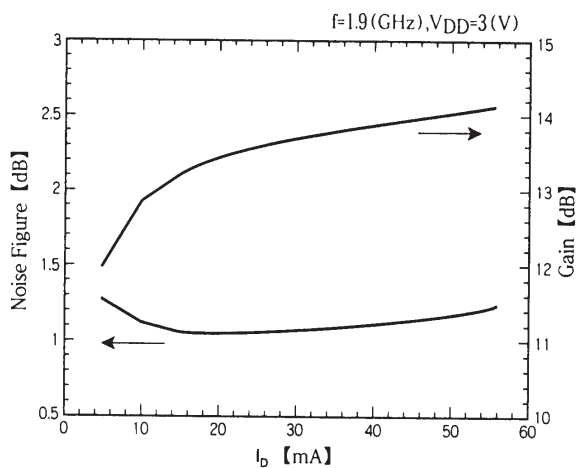
Individual component name indication: MJ

**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**

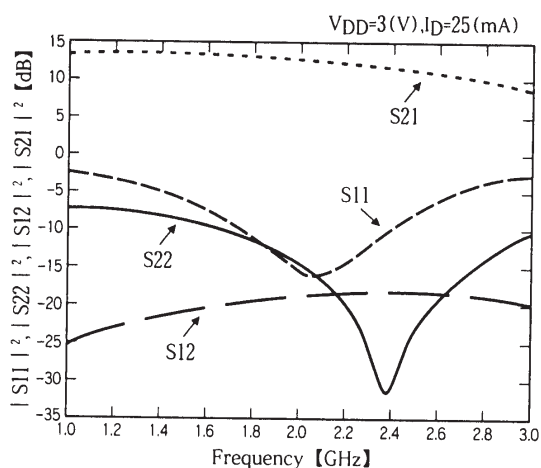
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N3096HA(OT) No. 5563-1/2

## Current-Dependent Characteristics



## Frequency Characteristics



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