

UN0231C

RF Power Amplifier Module

For the preamplifier of the transmitting section in a cellular phone

■ Features

- High efficiency with super miniature, 0.08 cc package(7.5 × 7.5 × 1.7 mm)

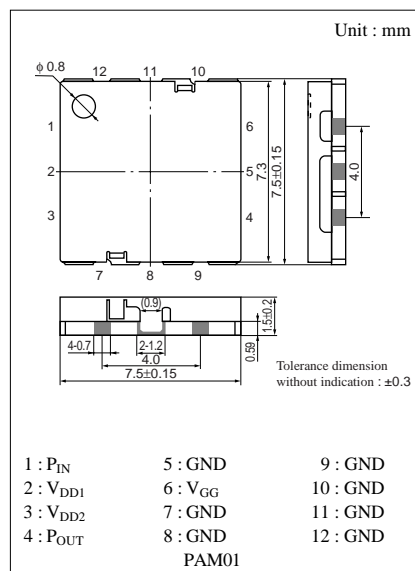
■ Absolute Maximum Ratings $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Ratings	Unit
Power supply voltage 1 *1	V_{DD1}	6	V
Power supply voltage 2 *1	V_{DD2}	6	V
Circuit current 1	I_{DD1}	200	mA
Circuit current 2	I_{DD2}	800	mA
Gate voltage	V_{GG}	-4	V
Max input power	P_{IN}	10	dBm
Allowable power dissipation	P_D	2	W
Case temperature *2	T_{case}	-30 to +110	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-30 to +120	$^{\circ}\text{C}$

Note) 1. The reverse of the device is soldered to the plate

2. *1 : $V_{GG}=-3.5\text{ V}$

*2 : $T_{case}=25^{\circ}\text{C}$



■ Electrical Characteristics $V_{GG}=-2.5\text{ V}$, $f=824\text{ MHz to }849\text{ MHz}$, $T_a=25^{\circ}\text{C}\pm 3^{\circ}\text{C}$, Nominal : $Z_S=Z_L=50\ \Omega$

Parameter	Symbol	Conditions	min	typ	max	Unit
Idle current	I_{idle}	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{IN}=No$		110	140	mA
Gate current *1	I_{GG}	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$			4	mA
Circuit current 1 *1	I_{DD1}	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$		600	670	mA
Circuit current 2 *2	I_{DD2}	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=27.0\text{ dBm}$		390	440	mA
Gain 1 *1	G1	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$	24.0	26.5		dB
Gain 2 *2	G2	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=27.0\text{ dBm}$	25.5	27.5		dB
2nd harmonics *1	$2f_O$	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$			-30	dBc
3rd harmonics *1	$3f_O$	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$			-30	dBc
4th harmonics *1	$4f_O$	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=30.5\text{ dBm}$			-30	dBc
Voltage standing wave ratio *1	$V_{SWR\ IN}$	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=27.0\text{ dBm}$			3	
Adjacent channel leakage power suppression 1 *2	ACPR1	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=27.0\text{ dBm}$ $\pm 900\text{ kHz Detuning}$, 30 kHz Bandwidth			-45	dBc
Adjacent channel leakage power suppression 2 *2	ACPR2	$V_{DD1}=V_{DD2}=3.5\text{ V}$, $P_{OUT}=27.0\text{ dBm}$ $\pm 1980\text{ kHz Detuning}$, 30 kHz Bandwidth			-57	dBc

Note) *1 : No modulation.

*2 : Offset from QPSK signal.

Caution for Safety

 **DANGER**

Gallium arsenide material (GaAs) is used in this product.

Therefore, do not burn, destroy, cut, crush, or chemically decompose the product, since gallium arsenide material in powder or vapor form is harmful to human health.

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