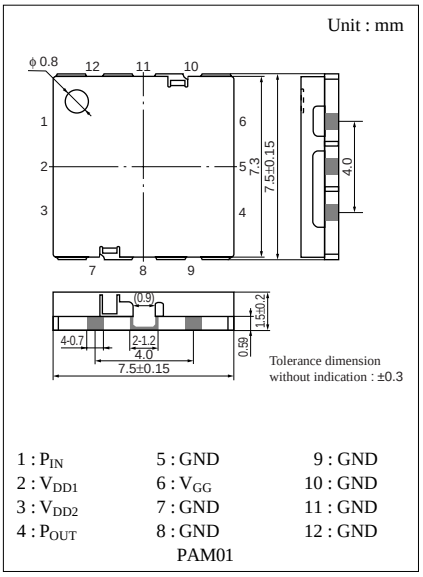
UN0231C

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°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	°C
Storage temperature	T_{stg}	−30 to +120	°C

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

2. *1 : V_{GG}=−3.5 V

*2 : T_{case}=25°C

■ Electrical Characteristics V_{GG}=−2.5 V, f=824 MHz to 849 MHz, T_a=25°C±3°C, Nominal : Z_S=Z_L=50 Ω

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

Note) *1 : No modulation.

*2 : Offset from QPSK signal.