

DESCRIPTION

BA01203 is GaAs RF amplifier designed for **CDMA/AMPS** handheld-phone.

FEATURES

- High gain $G_p=28\text{dB}$
- Single supply voltage $V_{cc}=3.2\text{V}$
- CDMA-mode
 - High power $P_o=28.5\text{dBm}$
 - High efficiency $I_{ct}=580\text{mA}(38\%)$
- AMPS-mode
 - High power $P_o=31\text{dBm}(@V_{cc}=3.2\text{V})$
 - High efficiency $I_{ct}=820\text{mA}(@P_o=31\text{dBm}, V_{cc}=3.2\text{V})$
 - Internal input and output matching
- Small size: $6\times 6\text{mm}^2$

APPLICATION

- CDMA/AMPS 824-849MHz handset.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

Symbol	Parameter	Condition	Ratings	Unit
V_{cc}	Corrector voltage		5	V
P_{in}	Input Power	$Z_G=Z_L=50\Omega$	5	dBm
$T_{c(op)}$	Operating case temp.		$-30\sim+95$	$^\circ\text{C}$
T_{stg}	Storage temp.		$-30\sim+125$	$^\circ\text{C}$

Each maximum rating is guaranteed independently.

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$, Recommendation of operation voltage=3.2-4.2V)

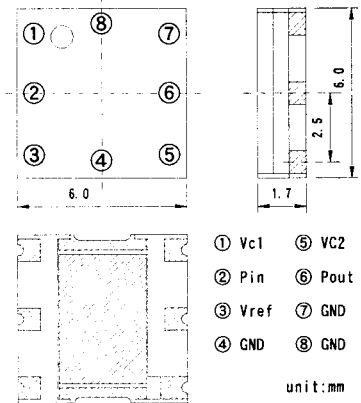
Symbol	Parameter	Condition Note1	Limits			Unit
			MIN	TYP	MAX	
freq	Frequency(TDMA/AMPS)	— — — — —	824		849	MHz
I_q	Quiescent Current	No-RF input $V_{cc}=3.2\text{V}, V_{ref}=3.0\text{V}$	--	75	--	mA
P_{in}	Input Power	CDMA-mode ^(note2)	--	1	--	dBm
I_{ct}	Total Corrector Current	$P_o=28.5\text{dBm}$	--	580	--	mA
ACP	Adjacent channel power($\pm 885\text{KHz}$)	$V_{c1}=V_{c2}=3.2\text{V},$	--	--	-29	dBc
NACP	Adjacent channel power($\pm 1.98\text{MHz}$)	$V_{ref}=3.0\text{V}$	--	--	-42	dBc
P_{in}	Input Power	AMPS-mode, $P_o=31\text{dBm}$	--	3	--	dBm
I_{ct}	Total Corrector Current	$V_{c1}=V_{c2}=3.2\text{V}$	--	820	--	mA
2sp/3sp	2nd/3rd Harmonics	$V_{ref}=3.0\text{V}$	--	--	-30	dBc
Rxnoise	Noise in RX band		--	-140	--	dBc

Note1: $Z_G=Z_L=50(\Omega)$

Note2: CDMA modulated signal based on IS-95 STD.

OUTLINE DRAWING

Unit : millimeters



Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary, circuits, (2) use of non-flammable material or (3) prevention against malfunction or mishap.