MITSUBISHI SEMICONDUCTOR 〈GaAs MMIC〉

MGF7114C

UHF BAND GaAs POWER AMPLIFIER IC

DESCRIPTION

MGF7114C is a GaAs monolithic microwave integrated circuit for use in 800MHz band power amplifiers.

FEATURES

- ●High output power
  P_o=30.5dBm(Typ.)@824 to 849MHz
- ●High efficiency
  η_t=60%(Typ.)@P_o=29.8dBm,V_{D1} control
- ●Small size
  12.6×11.1×1.9mm
- ●Surface mount package
- ●2 Stage Amplifier

APPLICATION

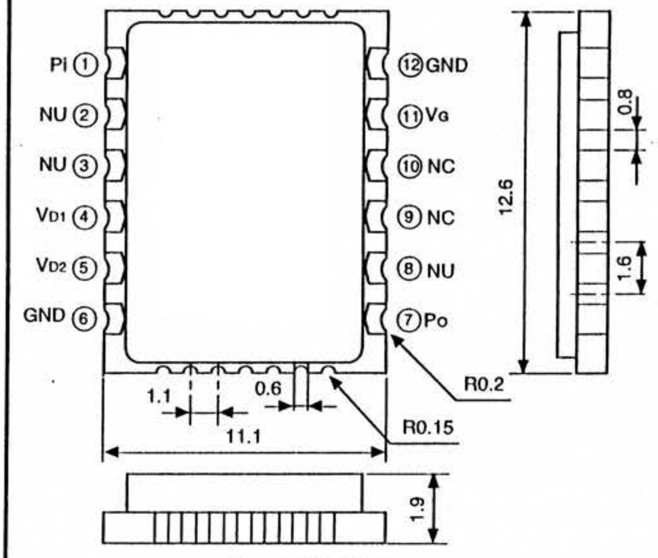
800MHz band handheld phone

QUALITY GRADE

●GG

OUTLINE DRAWING

Unit:millimeters



Pi : RF INPUT
V_{D1} : 1st DRAIN BIAS
V_{D2} : 2nd DRAIN BIAS
Po : RF OUTPUT
VG : GATE BIAS
NU : NOT USED
NC : NO CONNECTION
Case : GND

GC-2

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Ratings	Unit
V_{D1},V_{D2}	Drain supply voltage	9	V
V_G	Gate supply voltage	-5	V
P_i	Input power	12	dBm
Tc(op)	Operating case temperature	-30 to +90	℃
T_{stg}	Storage temperature	-30 to +100	℃

- Per la dissipazione fornire una adeguata superficie di c.s. in rame
- Per il bias utilizzare i soliti C.I. ICL 7660 per il negativo di gate

ELECTRICAL CHARACTERISTICS(Ta=25℃)

Symbol	Parameter	Test conditions (Note1)	Limits			Unit
			Min	Typ	Max	
f	Frequency		872	—	905	MHz
P_o	Output power	V_{D1} =4.7V,V_{D2}=4.7V Pi=7dBm	30.0	30.5	—	dBm
I_{dt}	Total drain current	V_{D1}=Cont.,V_{D2} =4.7V, Pi=7dBm P_o=29.8dBm	—	400	450	mA
2SP	2nd harmonics		—	—	-25	dBc
3SP	3rd harmonics		—	—	-25	dBc
ρ	Input VSWR		—	—	3	—
V_{D1}	Power control voltage	V_{D2} =4.7V,Pi=7dBm,Po=29.8dBm,I_{D1}≦100mA	0	—	4.7	V
I_{D1}	Power control current	V_{D2} =4.7V,Pi=7dBm,Po=29.8dBm,V_{D1}≦4.7V	0	—	100	mA

Note1 : Z_s=Z_l=50Ω,V_G=-3.0V