ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELETROSTATIC
SENSITIVE
DEVICES

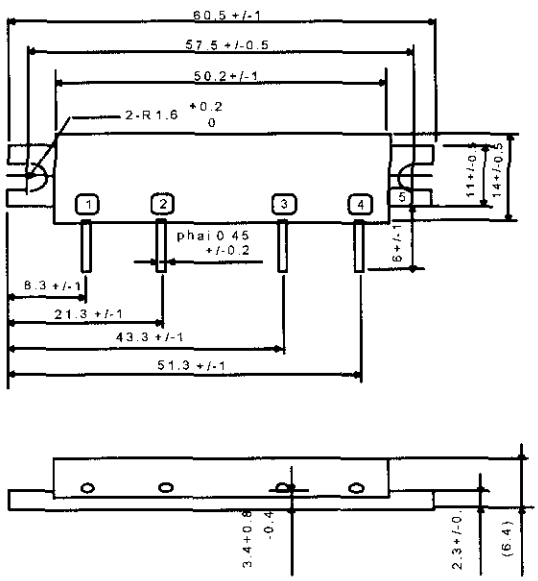
MITSUBISHI RF POWER MODULE

M68701M

Silicon MOS FET Power Amplifier, 860-915MHz 6W FM /Digital Mobile

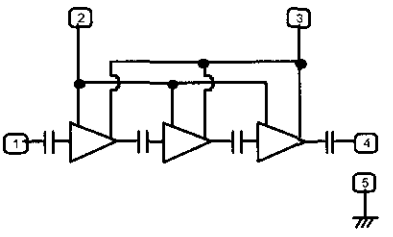
OUTLINE DRAWING

Dimensions in mm



H11

BLOCK DIAGRAM



PIN:
1 Pin : RF INPUT
2 VGG : GATE BIAS SUPPLY
3 VDD : DRAIN BIAS SUPPLY
4 Po : RF OUTPUT
5 GND : FIN

MAXIMUM RATINGS (Tc=25deg C UNLESS OTHERWISE NOTED)

SYMBOL	PARAMETER	CONDITIONS	RATINGS	UNIT
VDD	SUPPLY VOLTAGE	VGG<5V,ZG=ZL=50 ohms	17	V
VGG	GATE BIAS VOLTAGE		5.5	V
Pin	INPUT POWER	f=860-915MHz,ZG=ZL=50 ohms	10	mW
Po	OUTPUT POWER	f=860-915MHz,ZG=ZL=50 ohms	10	W
Tc(OP)	OPERATION CASE TEMPERATURE	f=860-915MHz,ZG=ZL=50 ohms	-30 to +100	deg. C
Tstg	STORAGE TEMPERATURE		-40 to +110	deg. C

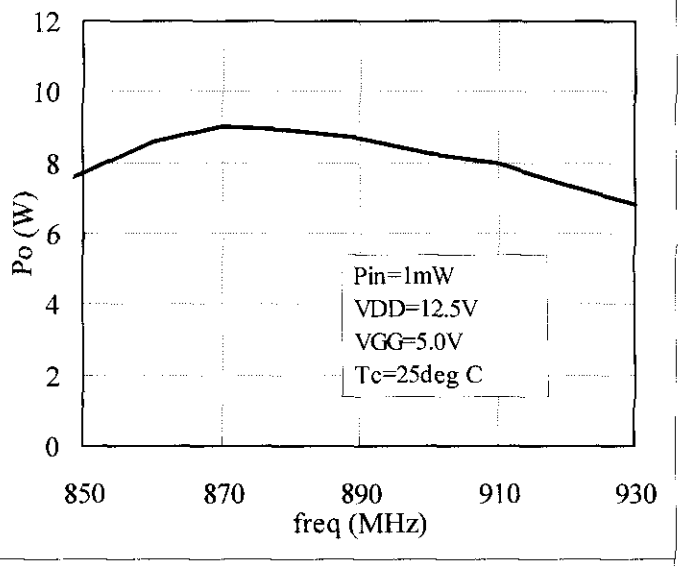
Note:Above parameters are guaranteed independently.

ELECTRICAL CHARACTERISTICS (Tc=25deg. C ,Zg=Zl=50 ohms UNLESS OTHERWISE NOTED)

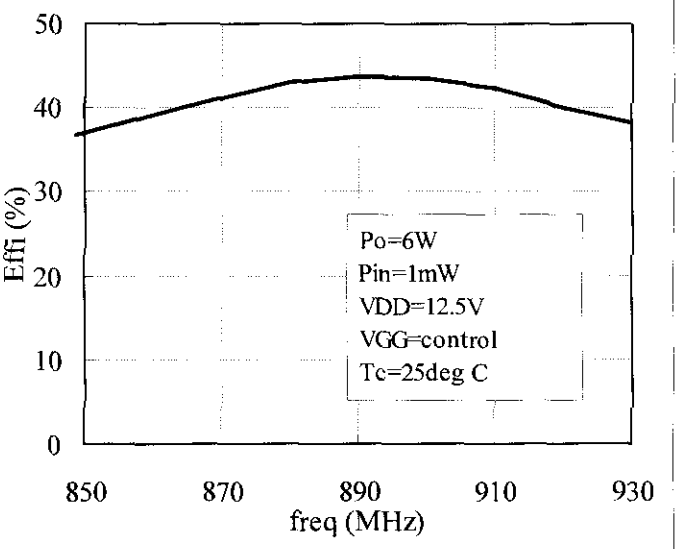
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS		UNIT
			MIN	MAX	
f	FREQUENCY RANGE		860	915	MHz
Po	OUTPUT POWER	VDD=12.5V,VGG=5V,Pin=1mW	6		W
Efficiency	TOTAL EFFICIENCY	VDD=12.5V,	35		%
2fo	2nd HARMONIC	Pout=6W (VGG adjust)		-30	dBc
VSWR in	INPUT VSWR	Pin=1mW		4	-
-	LOAD VSWR TOLERANCE	VDD=15.2V,Pin=1mW,Po=6W(VGG adjust) ZG=50 ohms, LOAD VSWR=20:1	No degradation or destroy		-

ABOVE PARAMETERS, RATINGS, LIMITS AND CONDITIONS ARE SUBJECT TO CHANGE .

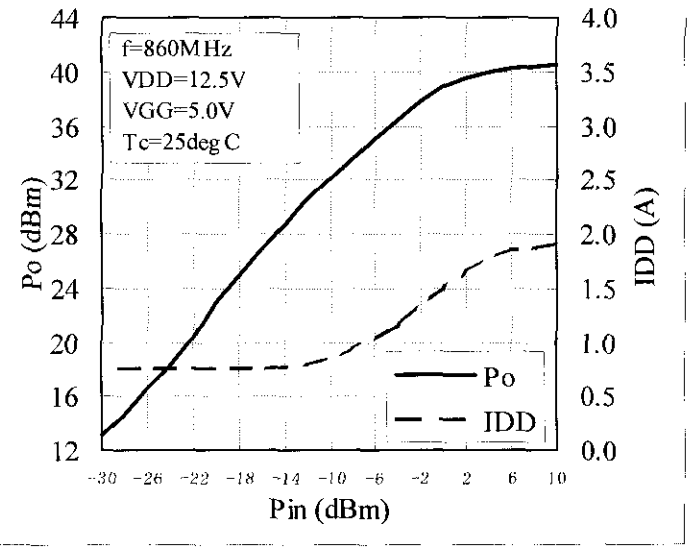
Po vs.freq



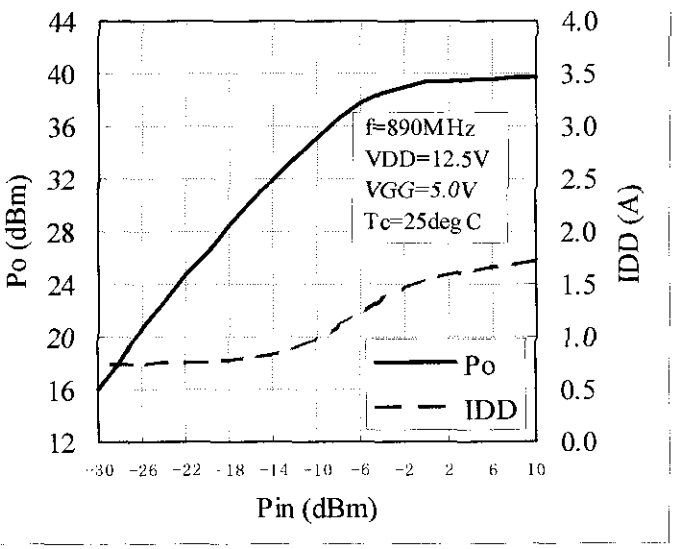
Efficiency vs. freq

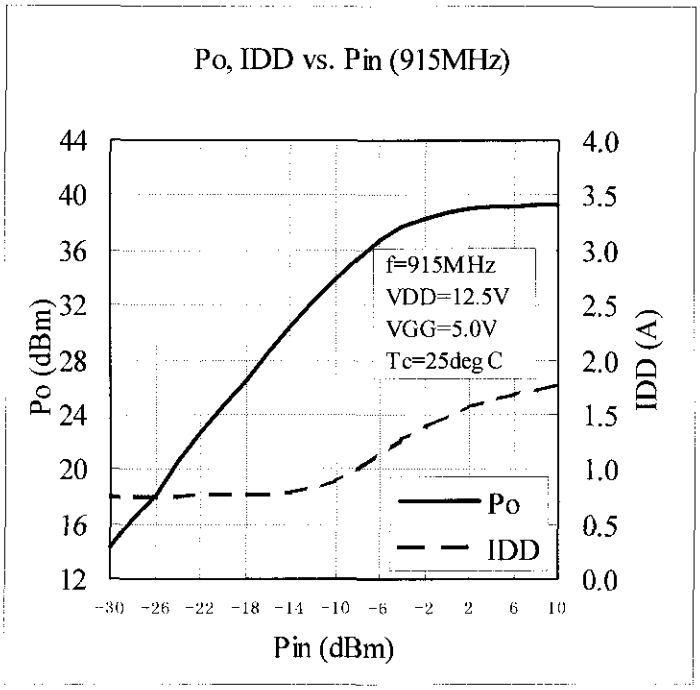


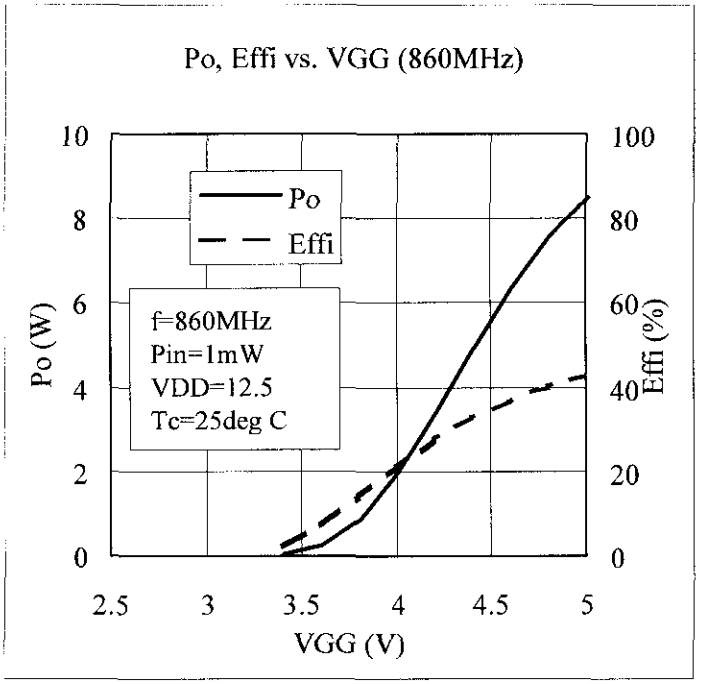
Po, IDD vs. Pin (860MHz)

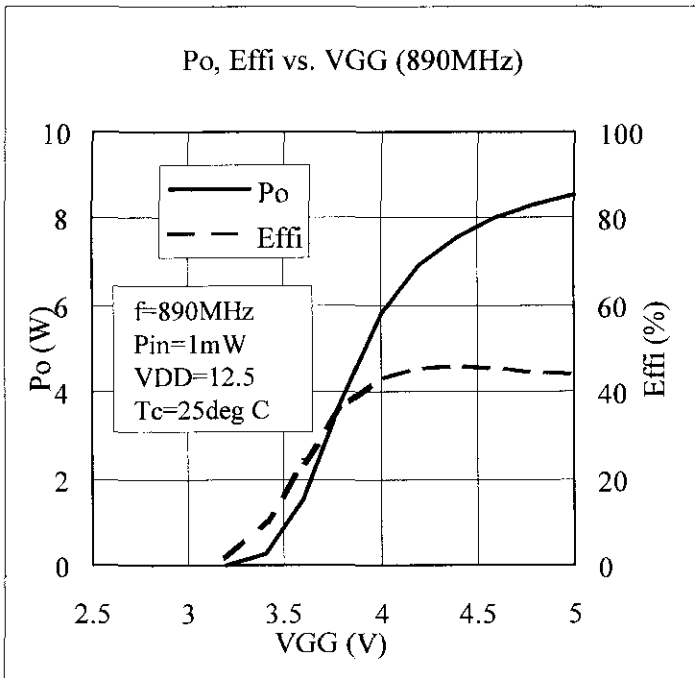


Po, IDD vs. Pin (890MHz)

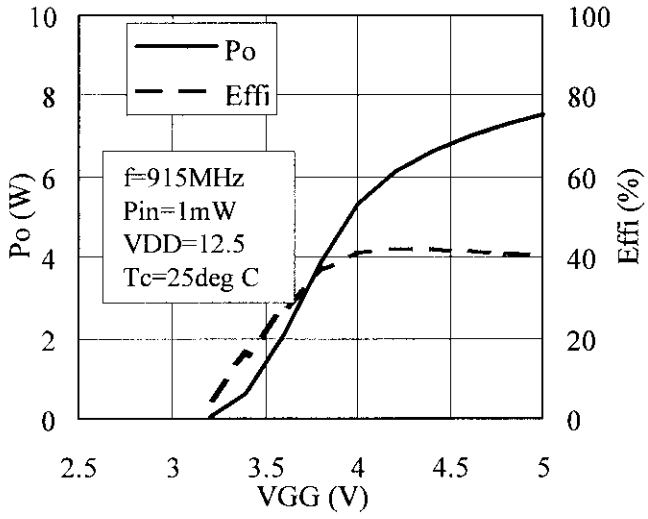



Po, IDD vs. Pin (915MHz)
Po (dBm)
IDD (A)
Pin (dBm)
f=915MHz
VDD=12.5V
VGG=5.0V
Tc=25deg C
Po
IDD
44
40
36
32
28
24
20
16
12
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-30 -26 -22 -18 -14 -10 -6 -2 2 6 10


Po, Effi vs. VGG (860MHz)
Po (W)
Effi (%)
VGG (V)
f=860MHz
Pin=1mW
VDD=12.5
Tc=25deg C
Po
Effi
10
8
6
4
2
0
100
80
60
40
20
0
2.5 3 3.5 4 4.5 5


Po, Effi vs. VGG (890MHz)
Po (W)
Effi (%)
VGG (V)
f=890MHz
Pin=1mW
VDD=12.5
Tc=25deg C
Po
Effi
10
8
6
4
2
0
100
80
60
40
20
0
2.5 3 3.5 4 4.5 5

Po, Effi vs. VGG (915MHz)



Po vs. VDD