ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELETROSTATIC
SENSITIVE
DEVICES

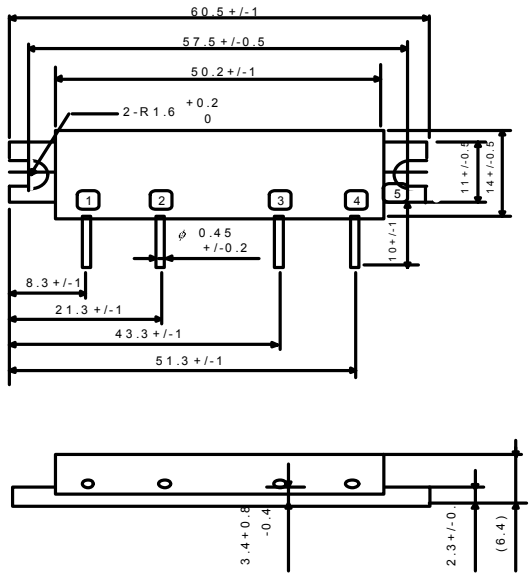
MITSUBISHI RF POWER MODULE

M68772

Silicon MOS FET Power Amplifier, 890-915MHz 13W FM Mobile

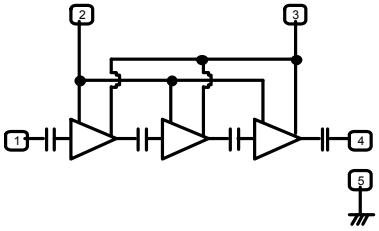
OUTLINE DRAWING

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	V_{GG}<5V, Z_G=Z_L=50 ohms	17	V
VGG	GATE BIAS VOLTAGE		5.5	V
Pin	INPUT POWER	f=890-915MHz, Z_G=Z_L=50 ohms	10	mW
Po	OUTPUT POWER	f=890-915MHz, Z_G=Z_L=50 ohms	20	W
Tc(OP)	OPERATION CASE TEMPERATURE	f=890-915MHz, Z_G=Z_L=50 ohms	-30 to +100	deg. C
Tstg	STORAGE TEMPERATURE		-40 to +100	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		890	915	MHz
Po	OUTPUT POWER	V_{DD}=12.5V, V_{GG}=4V, Pin=2mW	13		W
Efficiency	TOTAL EFFICIENCY	V_{DD}=12.5V, Pin=2mW	35		%
2fo	2nd HARMONIC	Po=13W (V_{GG} adjust)		-30	dBc
VSWR in	INPUT VSWR			4	-
Switching Time	tr, tf	Po=13W(V_{GG} adjust), V_{GG}: ON/OFF Vdd=12.5V, Pin=2mW		2.0	micro sec
-	STABILITY	Z_G=50 ohms, V_{DD}=10-16V, Pin=1-4mW, Po=0.1-20W (V_{GG} Control), LOAD VSWR < 4:1	No parasitic oscillation		-
-	LOAD VSWR TOLERANCE	V_{DD}=15.2V,Pin=2mW,Po=13W(V_{GG} adjust) Z_G=50 ohms, LOAD VSWR=20:1	No degradation or destroy		-

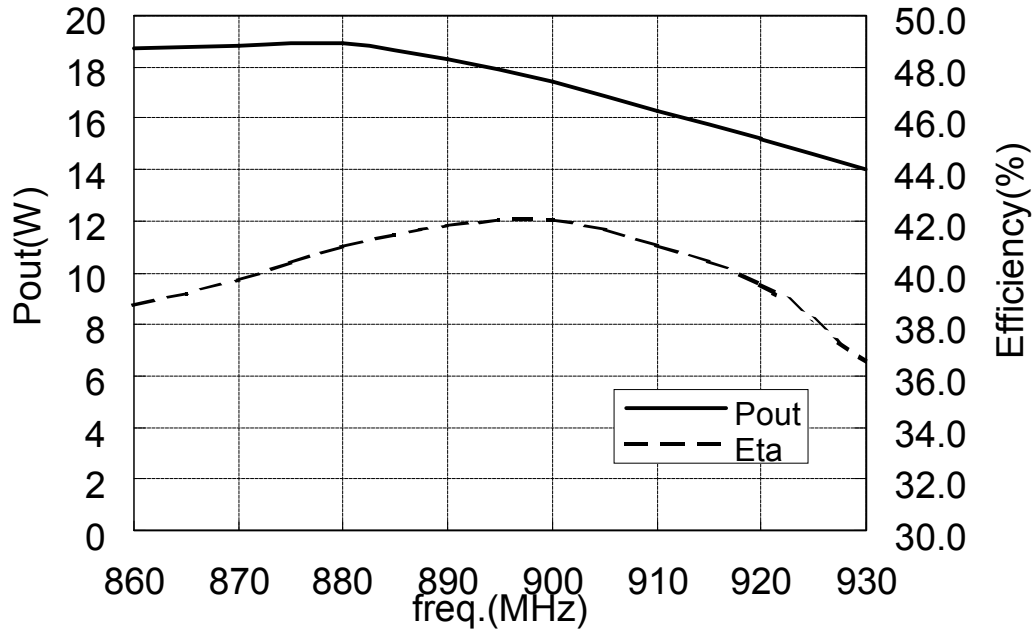
ABOVE PARAMETERS, RATINGS, LIMITS AND CONDITIONS ARE SUBJECT TO CHANGE .

Keep safety first in your circuit designs!

Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more 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 (i) placement of substitutive, auxiliary circuits, (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap.

M68772 Pout, Efficiency vs. freq.

Tc=+25deg.C,Pin=2mW(CW),Vdd=12.5V,
Vgg=5V,Zg=Zl=50ohms



M68772 Pout,Idd vs. Vgg

Tc=+25deg.C,Pin=2mW(puls),Vdd=13.8V
Pin:duty=13%,width=10msec
Zg=Zl=50ohms