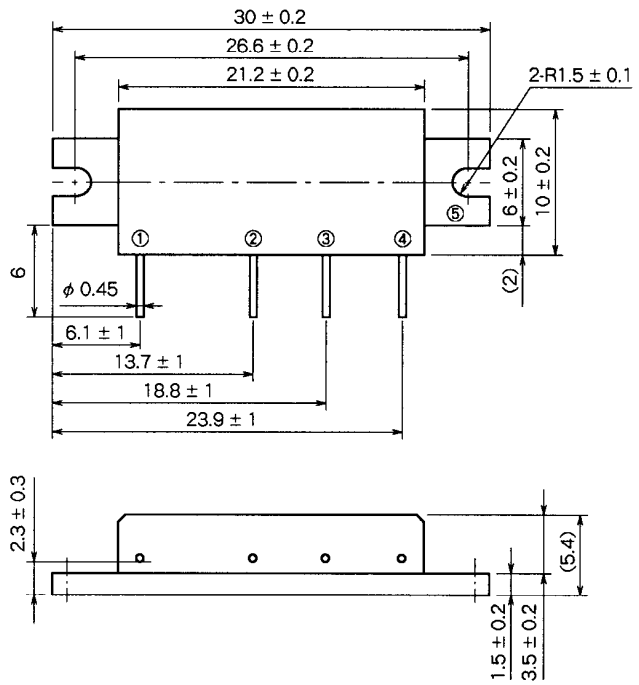
MITSUBISHI RF POWER MODULE

M68712N

142-163MHz, 6V, 2W, FM PORTABLE RADIO

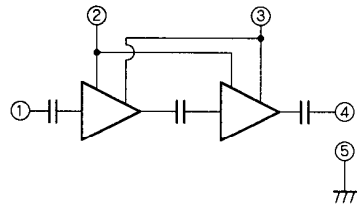
OUTLINE DRAWING

Dimensions in mm



H46

BLOCK DIAGRAM



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

ABSOLUTE MAXIMUM RATINGS (Tc = 25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DD}	Supply voltage	$V_{GG} \leqq 3.5V$, $Z_G = Z_L = 50\Omega$	9	V
V_{GG}	Gate bias voltage		4	V
P_{in}	Input power	f = 142 to 163MHz, $Z_G = Z_L = 50\Omega$	30	mW
P_o	Output power	f=142 to 163MHz, $V_{DD} \leqq 9V$, $Z_G = Z_L = 50\Omega$	3	W
$T_{C(OP)}$	Operation case temperature	f=142 to 163MHz, $V_{DD} \leqq 9V$, $Z_G = Z_L = 50\Omega$	− 30 to 110	℃
T_{stg}	Storage temperature		− 40 to 110	℃

Note : Above parameters are guaranteed independently.

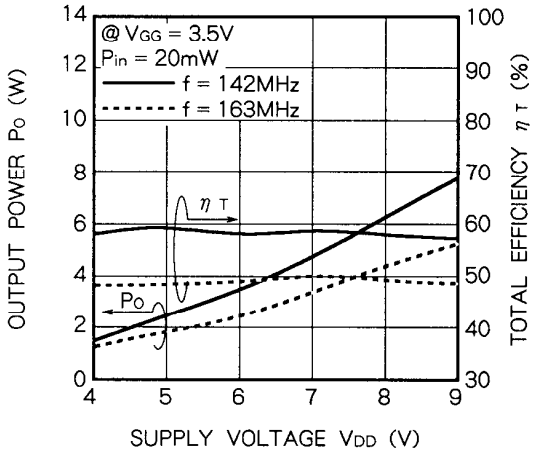
ELECTRICAL CHARACTERISTICS (T_c = 25℃, $Z_G = Z_L = 50\Omega$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		142	163	MHz
P_o	Output power	V_{DD} = 6V V_{GG} = 3.5V P_{in} = 20mW	2		W
η_T	Total efficiency		45		%
2fo	2nd. harmonic			− 20	dBc
3fo	3rd. harmonic			− 30	dBc
ρ in	Input VSWR			3	−
−	Stability	$Z_G = 50\Omega$, V_{DD} = 4 to 9V, Load VSWR < 4 : 1	No parasitic oscillation		−
−	Load VSWR tolerance	V_{DD} = 9V, P_{in} = 20mW, P_o = 3W(V_{GG} Adjust), Z_L = 20 : 1	No degradation or destroy		−

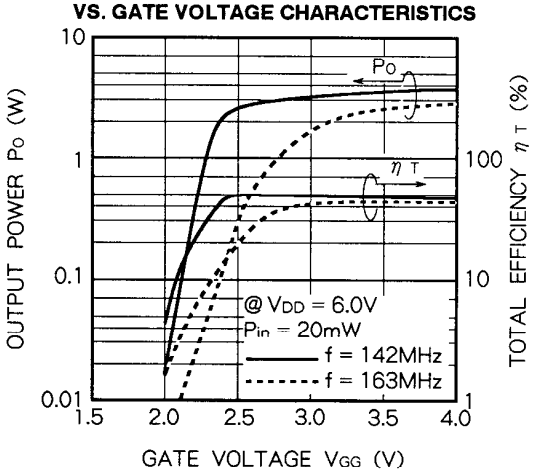
Note : Above parameters, ratings, limits and conditions are subject to change.

TYPICAL PERFORMANCE DATA

OUTPUT POWER, TOTAL EFFICIENCY VS. SUPPLY VOLTAGE CHARACTERISTICS



OUTPUT POWER, TOTAL EFFICIENCY VS. GATE VOLTAGE CHARACTERISTICS



OUTPUT POWER, TOTAL EFFICIENCY VS. FREQUENCY CHARACTERISTICS

