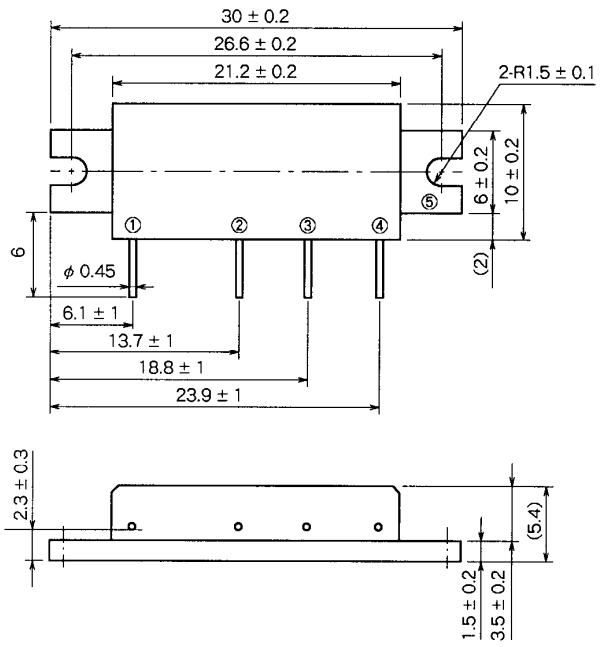
MITSUBISHI RF POWER MODULE

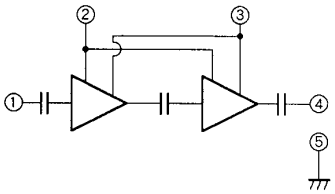
M67799HA

450-470MHz, 9.6V, 7.5W, FM PORTABLE RADIO

OUTLINE DRAWING Dimensions in mm



BLOCK DIAGRAM



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

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

Symbol	Parameter	Conditions	Ratings	Unit
V_{DD}	Supply voltage	$V_{GG} \leqq 3.5V$, $Z_G = Z_L = 50\Omega$	16	V
V_{GG}	Gate bias voltage		4	V
P_{in}	Input power	f = 450 to 470MHz, $Z_G = Z_L = 50\Omega$	30	mW
P_o	Output power	f = 450 to 470MHz, $Z_G = Z_L = 50\Omega$	10	W
$T_{C(OP)}$	Operation case temperature	f = 450 to 470MHz, $Z_G - Z_L - 50\Omega$	− 30 to 100	℃
T_{stg}	Storage temperature		− 40 to 110	℃

Note. Above parameters are guaranteed independently.

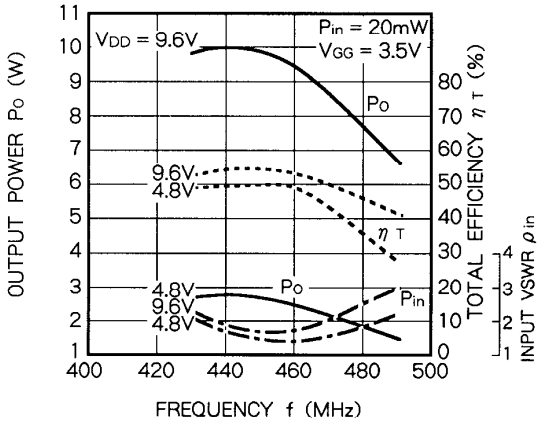
ELECTRICAL CHARACTERISTICS (T_C = 25℃, $Z_G = Z_L = 50\Omega$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		450	470	MHz
P_o	Output power	V_{DD} = 9.6V V_{GG} = 3.5V P_{in} = 20mW	7.5		W
η_T	Total efficiency		43		%
2fo	2nd. harmonic			− 25	dBc
3fo	3rd. harmonic			− 30	dBc
ρ_{in}	Input VSWR			4	−
−	Stability	$Z_G = 50\Omega$, V_{DD} = 4.8 to 13.2V, Load VSWR < 4 : 1	No parasitic oscillation		−
−	Load VSWR tolerance	V_{DD} = 13.2V, P_{in} = 20mW, P_o = 7.5W(V_{GG} Adjust), Z_L = 20 : 1	No degradation or destroy		−

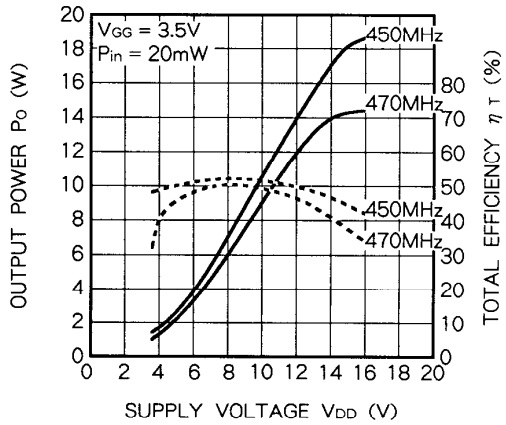
Note : Above parameters, ratings, limits and conditions are subject to change.

TYPICAL PERFORMANCE DATA

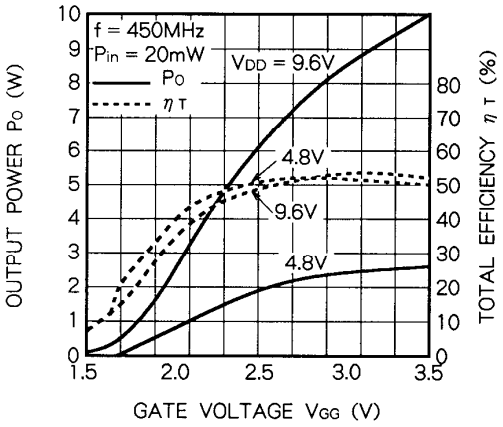
OUTPUT POWER, TOTAL EFFICIENCY, INPUT VSWR VS. FREQUENCY CHARACTERISTICS



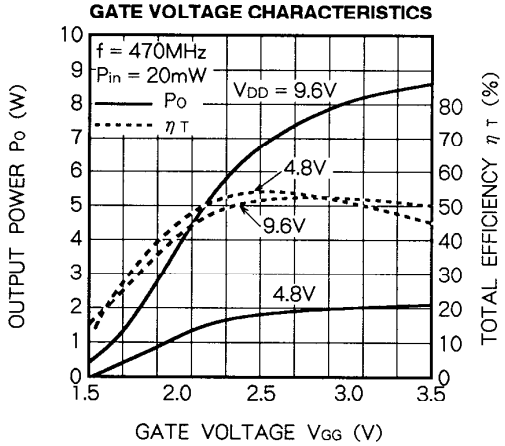
OUTPUT POWER, TOTAL EFFICIENCY VS. SUPPLY VOLTAGE CHARACTERISTICS



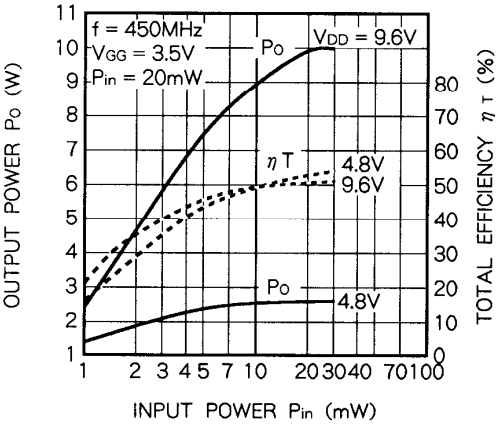
OUTPUT POWER, TOTAL EFFICIENCY VS. GATE VOLTAGE CHARACTERISTICS



OUTPUT POWER, TOTAL EFFICIENCY VS. GATE VOLTAGE CHARACTERISTICS



OUTPUT POWER, TOTAL EFFICIENCY VS. INPUT POWER CHARACTERISTICS



OUTPUT POWER, TOTAL EFFICIENCY VS. INPUT POWER CHARACTERISTICS