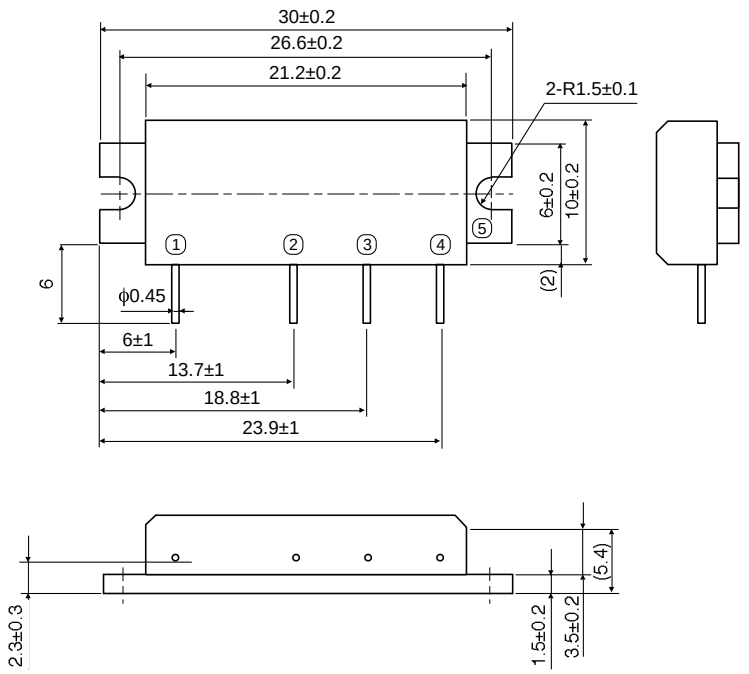
M68731H

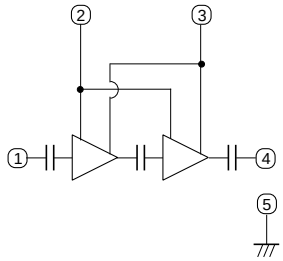
SILICON MOS FET POWER AMPLIFIER, 150-175MHz, 7W, FM PORTABLE RADIO

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 (Tc=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DD}	Supply voltage	V_{GG}≤3.5V, Z_G=Z_L=50Ω	9.2	V
V_{GG}	Gate bias voltage		4	V
P_{in}	Input power	f=150-175MHz, Z_G=Z_L=50Ω	70	mW
P_O	Output power	f=150-175MHz, Z_G=Z_L=50Ω	10	W
$T_{C\ (OP)}$	Operation case temperature	f=150-175MHz, Z_G=Z_L=50Ω	-30 to +100	°C
T_{stg}	Strage temperature		-40 to +110	°C

Note. Above parameters are guarateed independently.

ELECTRICAL CHARACTERISTICS (Tc=25°C,Z_G=Z_L=50Ω unless otherwise noted)

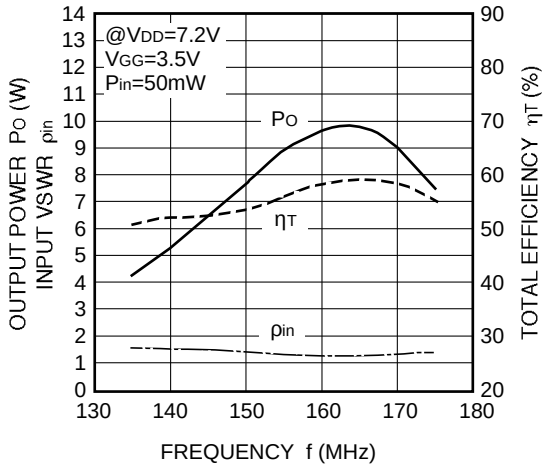
Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		150	175	MHz
P_O	Output power	V_{DD}=7.2V, V_{GG}=3.5V, P_{in}=50W	7		W
η_T	Total efficiency		50		%
$2f_O$	2nd. harmonic			-20	dBc
ρ_{in}	Input VSWR			4	-
-	Stability	Z_G=50Ω, V_{DD}=4-9.2V, Load VSWR<4:1	No parasitic oscillation		-
-	Load VSWR tolerance	V_{DD}=9.2V, P_{in}=50mW, P_O=7W (V_{GG} adjust), Z_L=20:1	No degradation or destroy		-

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

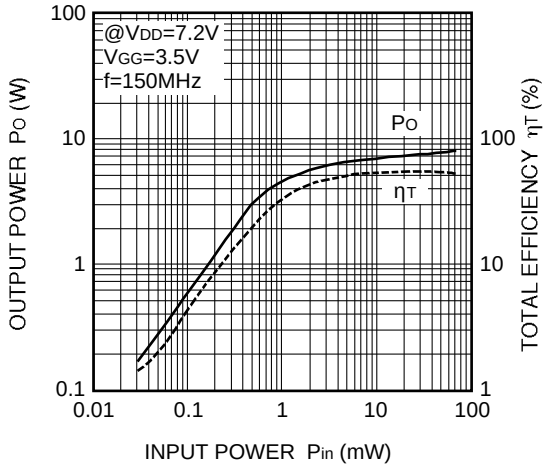
SILICON MOS FET POWER AMPLIFIER, 150-175MHz, 7W, FM PORTABLE RADIO

TYPICAL PERFORMANCE DATA

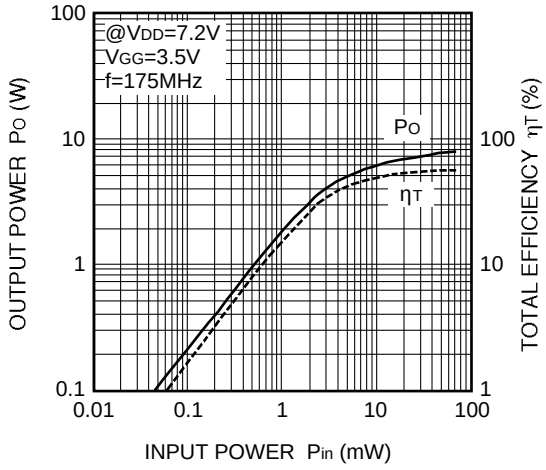
OUTPUT POWER, INPUT VSWR, TOTAL EFFICIENCY VS. FREQUENCY



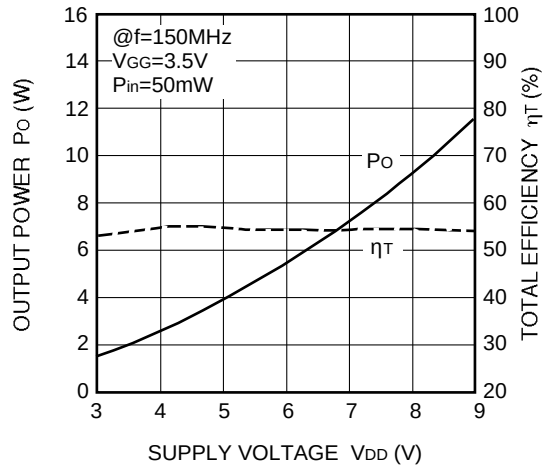
OUTPUT POWER, TOTAL EFFICENCY VS. INPUT POWER



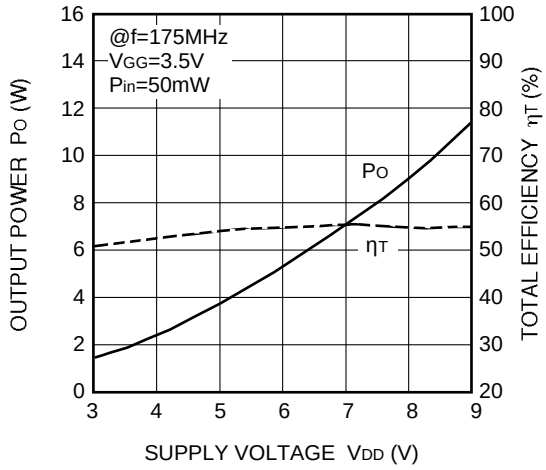
OUTPUT POWER, TOTAL EFFICENCY VS. INPUT POWER



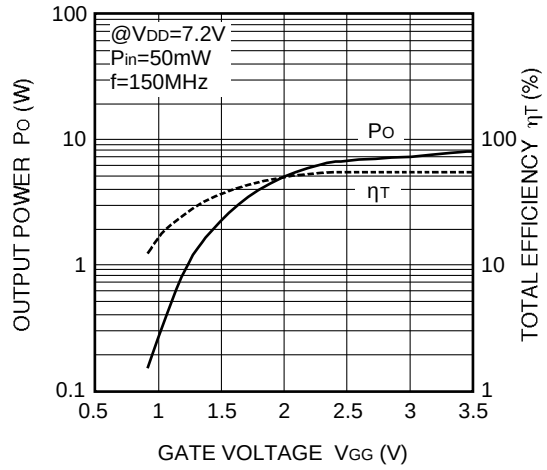
OUTPUT POWER, TOTAL EFFICIENCY VS. SUPPLY VOLTAGE



OUTPUT POWER, TOTAL EFFICIENCY VS. SUPPLY VOLTAGE



OUTPUT POWER, TOTAL EFFICIENCY VS. GATE VOLTAGE



OUTPUT POWER, TOTAL EFFICIENCY VS. GATE VOLTAGE