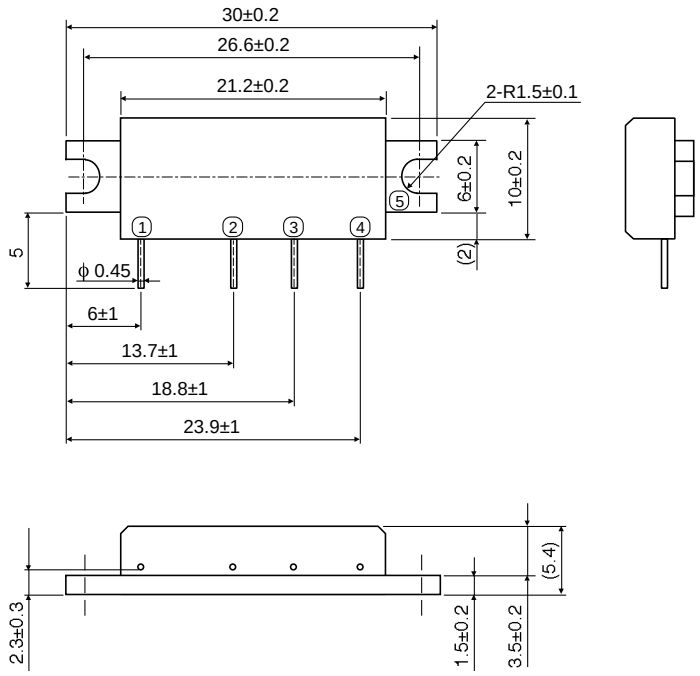
M68731HM

SILICON MOS FET POWER AMPLIFIER, 145-174MHz, 6.5W, FM PORTABLE RADIO

OUTLINE DRAWING

Dimensions in mm



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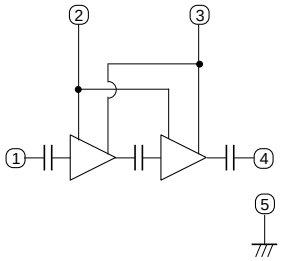
BLOCK DIAGRAM



PIN:
①P_{in} : RF INPUT
②V_{GG} : GATE BIAS SUPPLY
③V_{DD} : DRAIN BIAS SUPPLY
④P_O : 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		6	V
P_{in}	Input power	f=145-174MHz, Z_G=Z_L=50Ω	70	mW
P_O	Output power	f=145-174MHz, Z_G=Z_L=50Ω	10	W
$T_{C\ (OP)}$	Operation case temperature	f=145-174MHz, Z_G=Z_L=50Ω	-30 to +100	°C
T_{stg}	Storage temperature		-40 to +110	°C

Note. Above parameters are guaranteed independently.

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

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		145	174	MHz
P_O	Output power	V_{DD}=7.2V, V_{GG}=3.5V, P_{in}=50mW	6.5		W
η_T	Total efficiency		45		%
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.