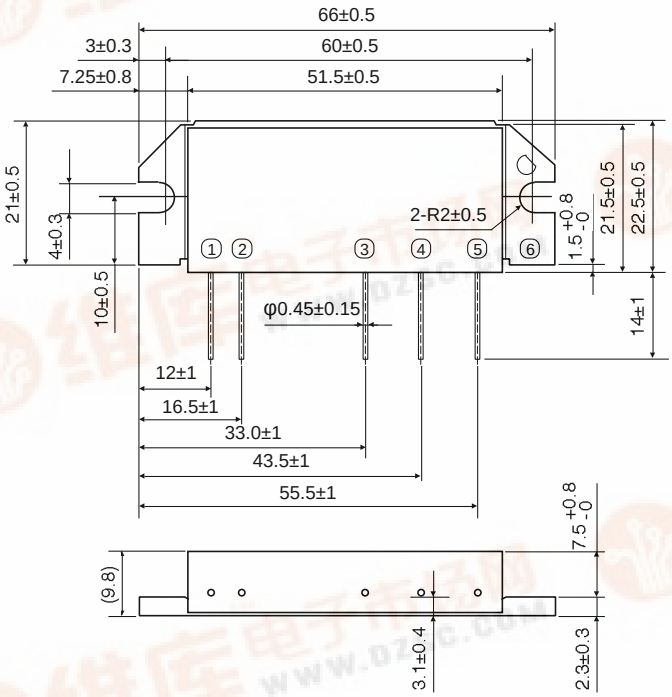
MITSUBISHI RF POWER MODULE

M68749

380-400MHz, 12.5V, 5W, DIGITAL MOBILE RADIO

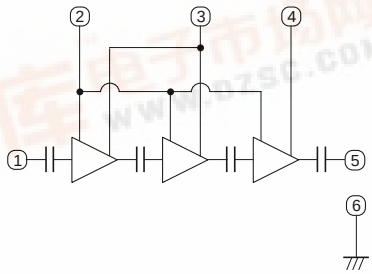
OUTLINE DRAWING

Dimensions in mm



H3

BLOCK DIAGRAM



PIN:
①PIN : RF INPUT
②VBB : BASE BIAS SUPPLY
③VCC1: 1st. DC SUPPLY
④VCC2: 2nd. DC SUPPLY
⑤PO : RF OUTPUT
⑥GND: FIN

ABSOLUTE MAXIMUM RATINGS (Tc=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
VCC	Supply voltage	ZG=ZL=50Ω, VBB=8.5V	17	V
VBB	Bias voltage	ZG=ZL=50Ω, VCC≤13.2V	9	V
ICC	Total current	ZG=ZL=50Ω	6	A
Pin (max)	Input power	ZG=ZL=50Ω, VCC≤13.2V	300	mW
PO (max)	Output power	ZG=ZL=50Ω	25	W
TC (OP)	Operation case temperature	ZG=ZL=50Ω	-30 to +110	°C
Tstg	Storage temperature		-40 to +110	°C

Note. Above parameters are guaranteed independently.

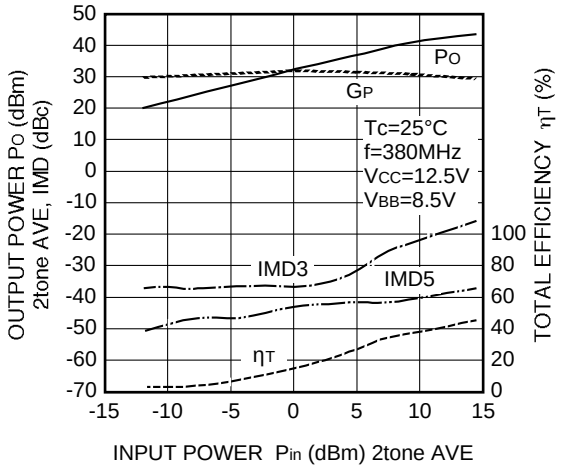
ELECTRICAL CHARACTERISTICS (Tc=25°C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		380	400	MHz
PO	Output power	Pin=200mW,VCC=12.5V,VBB=9V, ZG=ZL=50Ω	13		W
ηT	Total efficiency	VCC=12.5V, VBB=9V, PO=5W (Pin:controlled), ZG=ZL=50Ω	15		%
2fo	2nd. harmonic			-25	dBc
3fo	3rd. harmonic			-30	dBc
ρin	Input VSWR			2.8	-
Gp	Power gain		28		dB
IMD3	3rd. internal modulation	VCC=12.5V, VBB=9V, PO (AVE)=5W (Pin:controlled) 2tone, Δf=10kHz, ZG=ZL=50Ω		-25	dBc
IMD5	5th. internal modulation			-32	dBc
-	Load VSWR tolerance	VCC=15.2V, VBB=9V, PO=13W (Pin:controlled) ZG=50Ω, Load VSWR=4:1 (All phase)	No degradation or destroy		-
-	Stability	Pin=0-300mW, VCC=10-16V, VBB=9V, PO≤20W, ρI≤3.0 (All phase), ZG=50Ω	No parasitic oscillation		Note 1

Note. Above parameters, ratings, limits and test conditions are subject to change.
Note 1. Stability is tested by sampling test (10pcs/Lot)

TYPICAL PERFORMANCE DATA

OUTPUT POWER, TOTAL EFFICIENCY, IMD VS. INPUT POWER



OUTPUT POWER, TOTAL EFFICIENCY, IMD VS. INPUT POWER