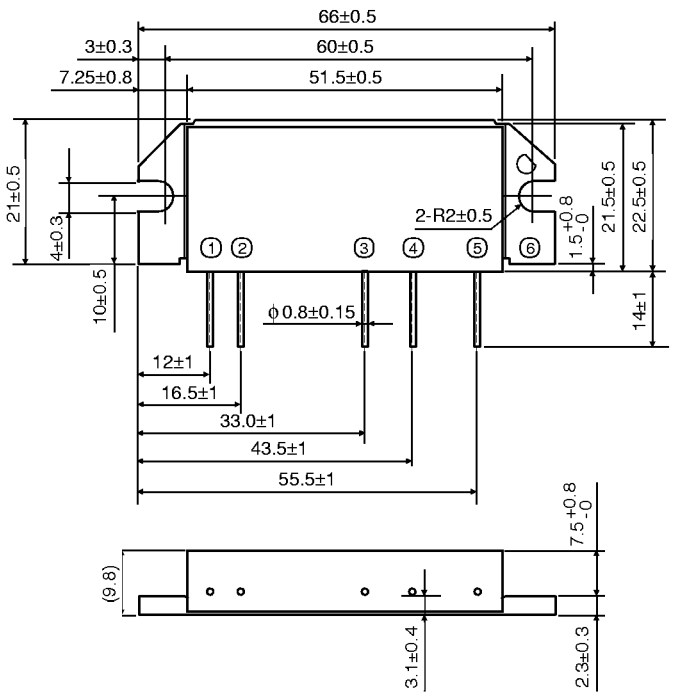
M57745B

380-400MHz, 12.5V, 10W, DIGITAL MOBILE RADIO

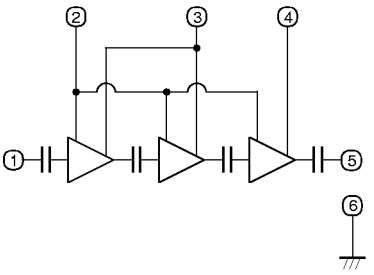
OUTLINE DRAWING

Dimensions in mm



H3

BLOCK DIAGRAM



PIN:
①P_{in} : RF INPUT
②V_{BB} : BASE BIAS SUPPLY
③V_{CC1}: 1st. DC SUPPLY
④V_{CC2}: 2nd. DC SUPPLY
⑤P_O : RF OUTPUT
⑥GND: FIN

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

Symbol	Parameter	Conditions	Ratings	Unit
V_{CC}	Supply voltage	Z_G=Z_L=50Ω, V_{BB}=9V	17	V
V_{BB}	Bias voltage	Z_G=Z_L=50Ω, V_{CC}≤12.5V	9.5	V
I_{CC}	Total current	Z_G=Z_L=50Ω	10	A
$P_{in\ (max)}$	Input power	Z_G=Z_L=50Ω, V_{CC1}≤12.5V	500	mW
$P_{O\ (max)}$	Output power	Z_G=Z_L=50Ω	40	W
$T_{C\ (OP)}$	Operation case temperature	Z_G=Z_L=50Ω	-30 to +110	°C
T_{stg}	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
P_O	Output power	P_{in}=300mW, V_{CC}=12.5V, V_{BB}=9V, Z_G=Z_L=50Ω	30		W
η_T	Total efficiency		40		%
2f_O	2nd. harmonic			-30	dBc
3f_O	3rd. harmonic			-30	dBc
ρ_{in}	Input VSWR			2.8	-
G_p	Power gain	P_{in}=10dBm, V_{CC}=12.5V, V_{BB}=9V, Z_G=Z_L=50Ω	24		dB
IMD3	3rd. internal modulation	V_{CC}=12.5V, V_{BB}=9V, P_O (AVE)=20W, (P_{in}:controlled) 2tone, Δf=10kHz, Z_G=Z_L=50Ω		-20	dBc
IMD5	5th. internal modulation			-28	dBc
-	Load VSWR tolerance	V_{CC}=15.2V, V_{BB}=9V, P_O=20W(Pin:controlled), Z_G=50Ω, Load VSWR=8:1 (All phase)	No degradation or destroy		-
-	Stability	P_{in}=0-400mW, V_{CC}=10-16V, V_{BB}=9V, P_O≤35W ρl≤3.0 (All phase), Z_G=50Ω	No parastic oscillation		Note 1

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