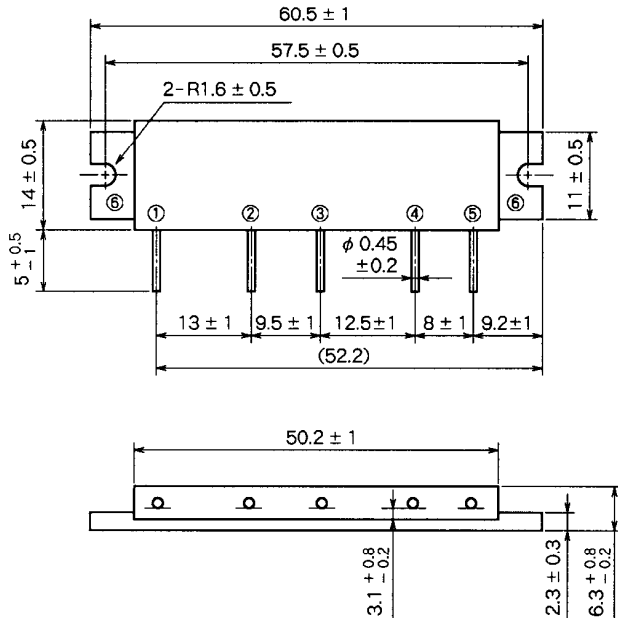


# M67766B

820-851MHz, 12.5V, 6W, FM MOBILE RADIO

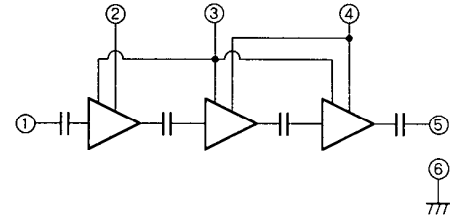
## OUTLINE DRAWING

Dimensions in mm



H11

## BLOCK DIAGRAM



PIN :

- ① Pin : RF INPUT
- ② Vcc1 : 1st. DC SUPPLY
- ③ VBB : BASE BIAS SUPPLY
- ④ Vcc2 : 2nd. DC SUPPLY
- ⑤ Po : RF OUTPUT
- ⑥ GND : FIN

## ABSOLUTE MAXIMUM RATINGS (T<sub>c</sub> = 25 °C unless otherwise noted)

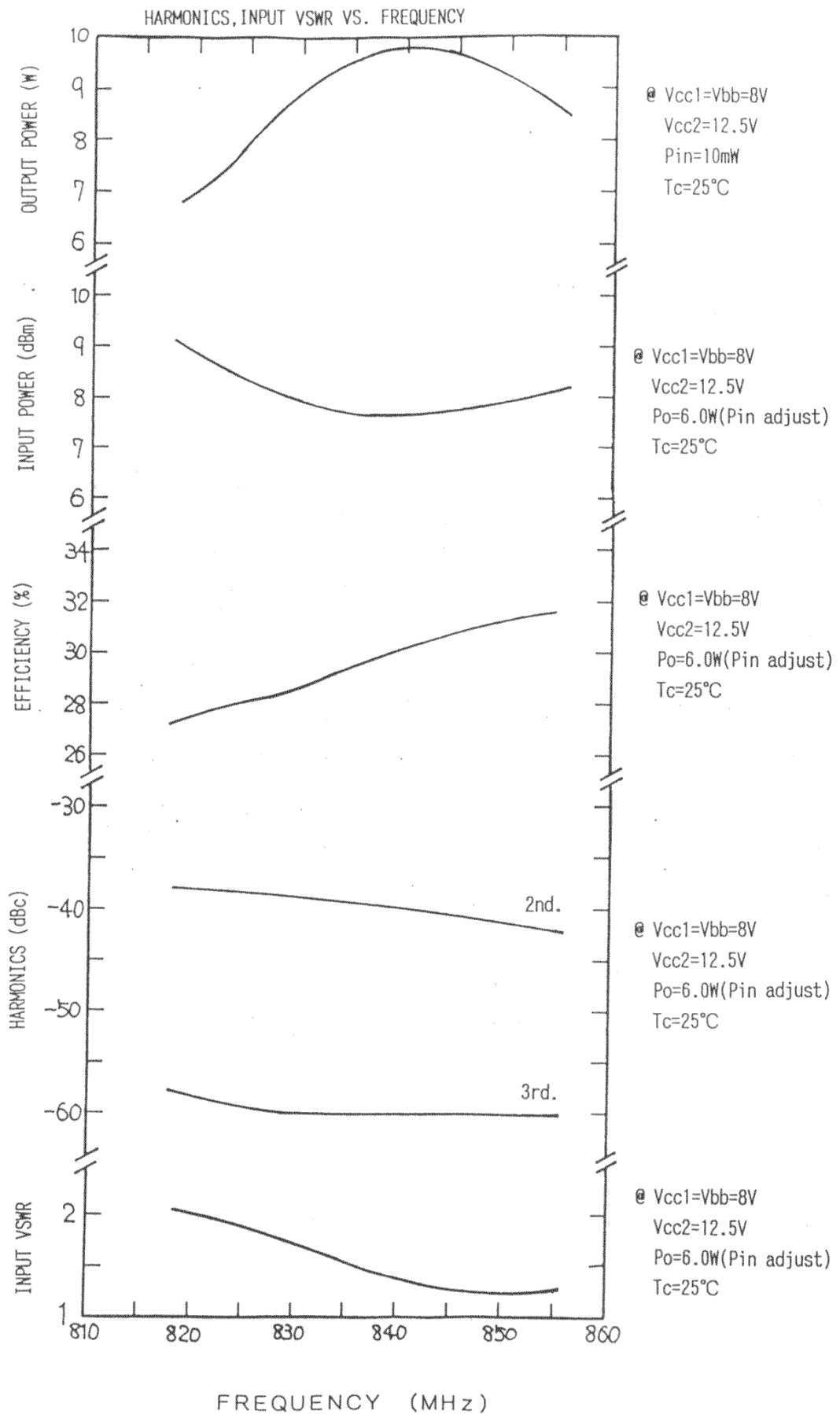
Symbol	Parameter	Conditions	Ratings	Unit
V <sub>CC1</sub>	Supply voltage	V <sub>BB</sub> = 8V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	9	V
V <sub>CC2</sub>		V <sub>BB</sub> = 8V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	17	V
V <sub>BB</sub>	Base bias	V <sub>CC1</sub> = 8V, V <sub>CC2</sub> = 12.5V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	9	V
I <sub>CC1</sub>	DC current	Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	300	mA
I <sub>BB</sub>			400	mA
I <sub>CC2</sub>			3	A
P <sub>IN(AVE)</sub>	Input power	V <sub>CC2</sub> = 12.5V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	40	mW
P <sub>IN(PEAK)</sub>			100	mW
P <sub>O(AVE)</sub>	Output power	V <sub>CC2</sub> = 12.5V, Z <sub>G</sub> = Z <sub>L</sub> = 50Ω	10	W
P <sub>O(PEAK)</sub>			20	mW
T <sub>C(OP)</sub>	Operation case temperature		- 30 to 100	°C
T <sub>stg</sub>	Storage temperature		- 30 to 100	°C

Note. Above parameters are guaranteed independently.

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^\circ\text{C}$  unless otherwise noted)

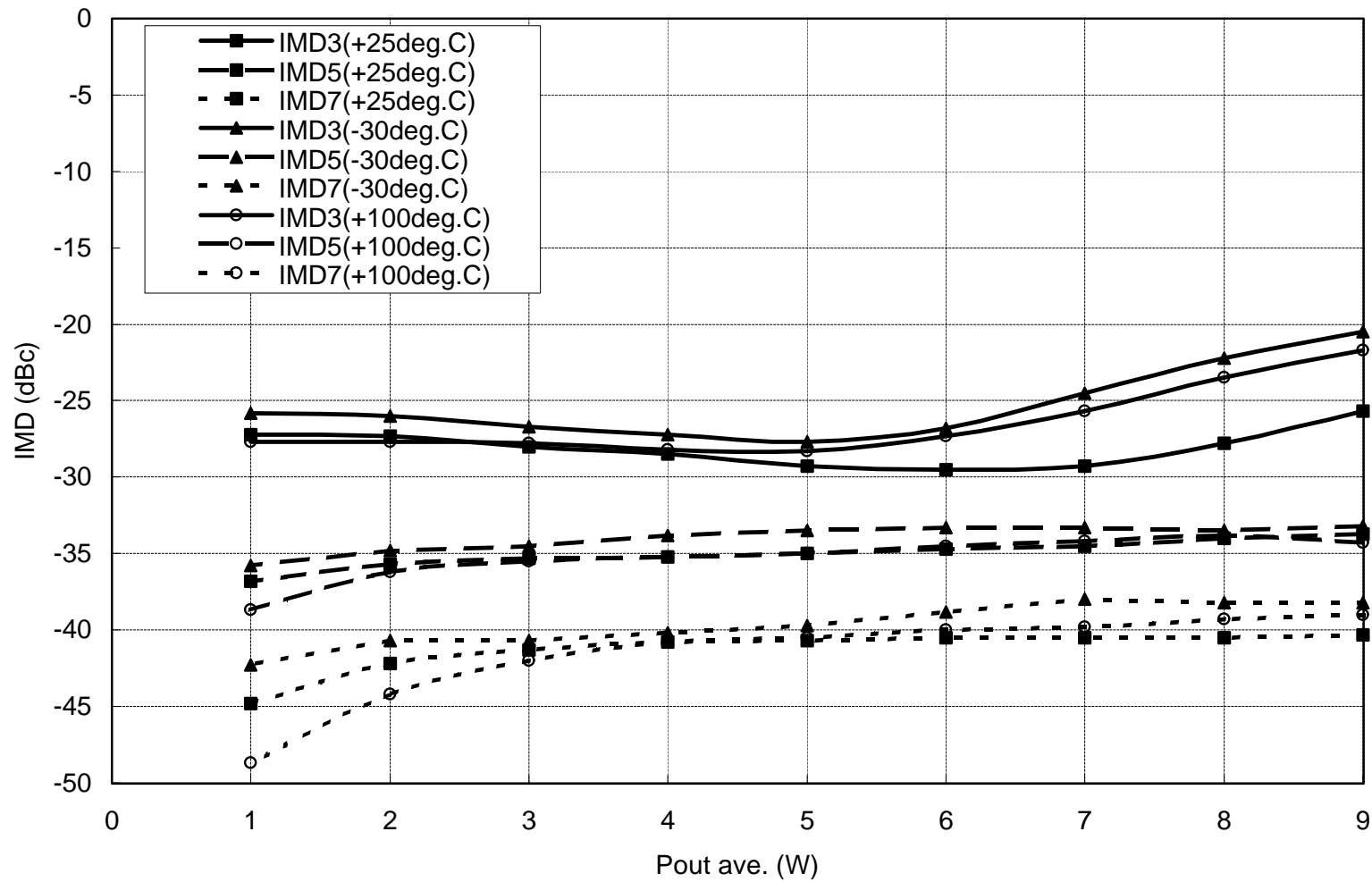
Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
$P_o$	Output power	$f=820$ to $851\text{MHz}$ , $P_{in}=10\text{dBm}$ , $V_{CC1}=8\text{V}$ , $V_{BB}=8\text{V}$ , $V_{CC2}=12.5\text{V}$ , $Z_G=Z_L=50\Omega$	6		W
$P_{in}$	Input power	$f = 824$ to $849\text{MHz}$		10	dBm
$\eta_T$	Total efficiency	$P_o = 6\text{W}$ ( $P_{in}$ : controlled)	25		%
$2f_o$	2nd. harmonic	$V_{CC1} = 8\text{V}$ $V_{BB} = 8\text{V}$		- 30	dBc
$3f_o$	3rd. harmonic	$V_{CC2} = 12.5\text{V}$		- 30	dBc
$\rho_{in}$	Input VSWR	$Z_G = Z_L = 50\Omega$		3	-
NP	Noise in receive band	$f = 824$ to $849\text{MHz}$ , $P_o = 6\text{W}$ ( $P_{in}$ : controlled), $V_{CC1} = 8\text{V}$ $V_{BB}=8\text{V}$ , $V_{CC2}=12.5\text{V}$ , $Z_G=Z_L=50\Omega$ $f_{RX} = f_{TX} + 45\text{MHz}$ , $BW = 30\text{kHz}$		- 85	dBm
IMD3	3rd. IMD	$f = 824$ to $849\text{MHz}$ , $P_{O(AVE)} = 6\text{W}$ ( $P_{in}$ : controlled)		- 24	dBc
IMD5	5th. IMD	$V_{CC1} = 8\text{V}$ , $V_{BB} = 8\text{V}$ , $V_{CC2} = 12.5\text{V}$		- 32	dBc
IMD7	7th. IMD	2 tone, $\Delta f = 10\text{kHz}$ , $Z_G=Z_L=50\Omega$		- 38	dBc
-	Load VSWR tolerance	$f = 824$ to $849\text{MHz}$ , $P_o = 6\text{W}$ ( $P_{in}$ : controlled) $V_{CC1} = 8\text{V}$ , $V_{BB} = 8\text{V}$ , $V_{CC2} = 15\text{V}$ Load VSWR < 6 : 1 (All phase)	No degradation or destroy		-

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



### M67766B IMD3,5,7 vs. Po

f=824MHz, Vbb=Vcc1=8V, Vcc2=12.5V, Zg=Zl=50ohms, Tc=25deg.C



### M67766B IMD3,5,7 vs. Po

f=849MHz, Vbb=Vcc1=8V, Vcc2=12.5V, Zg=Zl=50ohms, Tc=25deg.C

