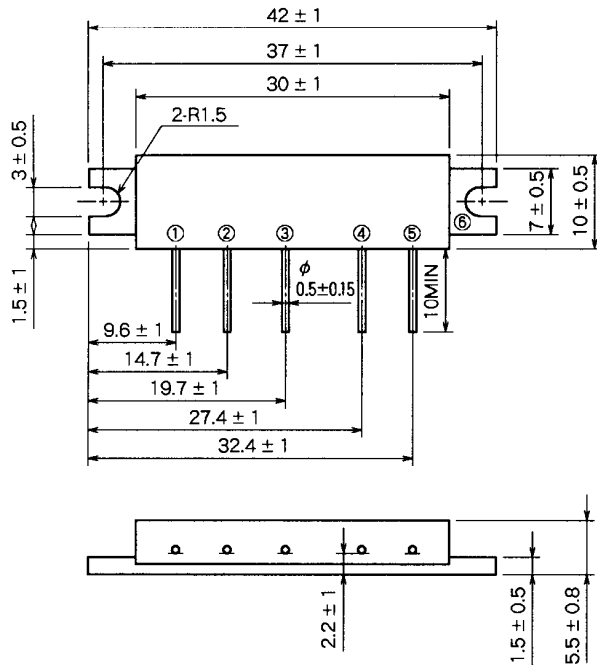


# M67748L

135-150MHz, 12.5V, 7W, FM PORTABLE RADIO

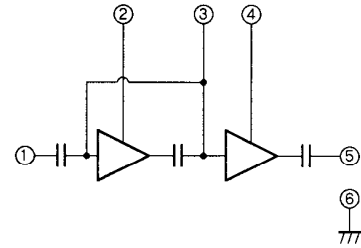
### OUTLINE DRAWING

Dimensions in mm



H27

### BLOCK DIAGRAM



PIN :

- ①Pin : RF INPUT
- ②Vcc1 : 1st. DC SUPPLY
- ③Vbb : BASE BIAS 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	V <sub>BB</sub> = 5V	15	V
V <sub>BB</sub>	Base bias		5.5	V
I <sub>cc</sub>	Total current		4	A
P <sub>in(max)</sub>	Input power	Z <sub>G</sub> = Z <sub>L</sub> = 50 Ω, V <sub>cc1</sub> ≤ 12.5V	40	mW
P <sub>o(max)</sub>	Output power	Z <sub>G</sub> = Z <sub>L</sub> = 50 Ω	10	W
T <sub>c(OP)</sub>	Operation case temperature		- 30 to 110	°C
T <sub>stg</sub>	Storage temperature		- 40 to 110	°C

Note. Above parameters are guaranteed independently.

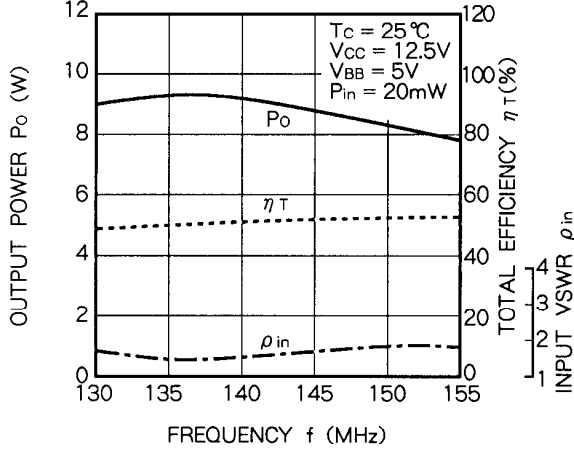
### ELECTRICAL CHARACTERISTICS (Tc = 25 °C unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range		135	150	MHz
P <sub>o</sub>	Output power	P <sub>in</sub> = 20mW	7		W
η <sub>T</sub>	Total efficiency	V <sub>BB</sub> = 5V	45		%
2f <sub>o</sub>	2nd. harmonic	V <sub>cc</sub> = 12.5V		- 20	dBc
3f <sub>o</sub>	3rd. harmonic	Z <sub>G</sub> = Z <sub>L</sub> = 50 Ω		- 25	dBc
ρ <sub>in</sub>	Input VSWR			2.5	-
-	Load VSWR tolerance	V <sub>cc2</sub> = 13.2V, V <sub>BB</sub> = 5V P <sub>o</sub> = 7W(V <sub>cc1</sub> : controlled)P <sub>in</sub> = 20mW Load VSWR=20:1 (All phase), 2sec. Z <sub>G</sub> = 50Ω	No degradation or destroy		-

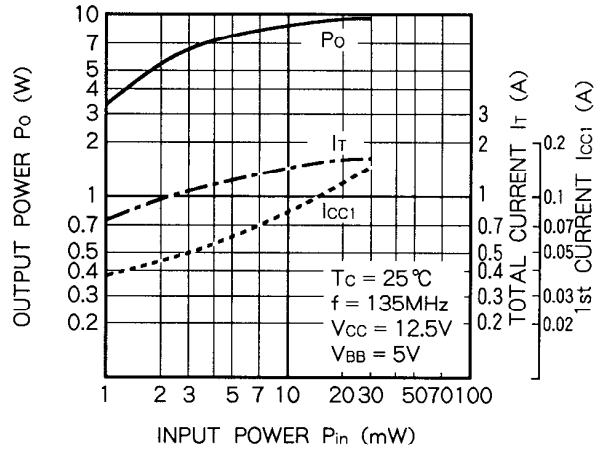
Note. Above parameters, ratings, limits and conditions are subject to change.

TYPICAL PERFORMANCE DATA

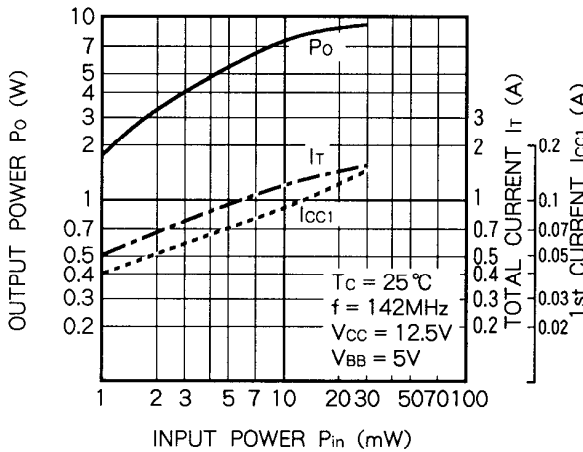
OUTPUT POWER, TOTAL EFFICIENCY,  $\rho_{in}$  VS. FREQUENCY CHARACTERISTICS



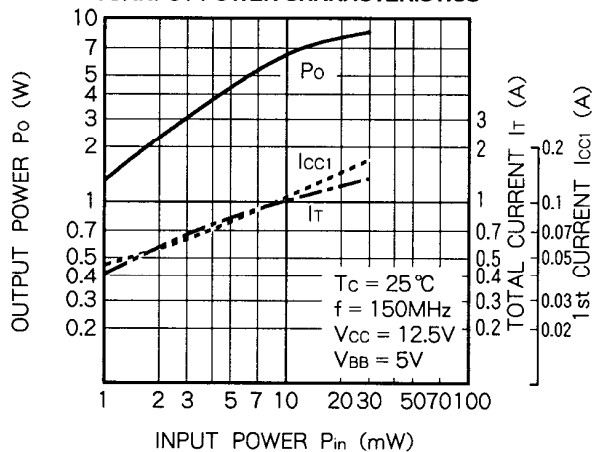
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



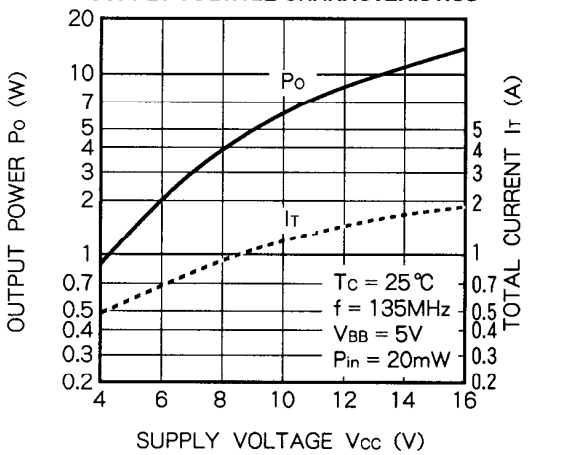
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



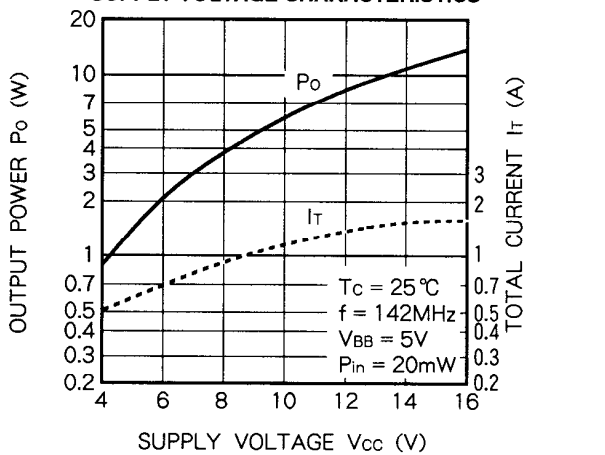
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



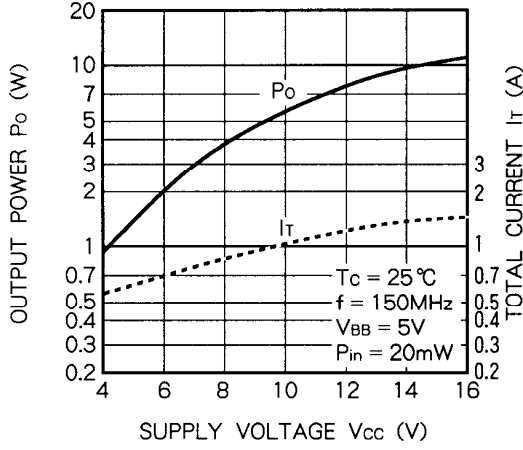
OUTPUT POWER, TOTAL CURRENT VS. SUPPLY VOLTAGE CHARACTERISTICS



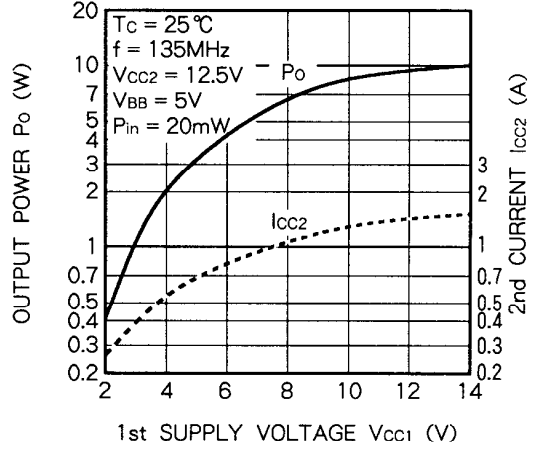
OUTPUT POWER, TOTAL CURRENT VS. SUPPLY VOLTAGE CHARACTERISTICS



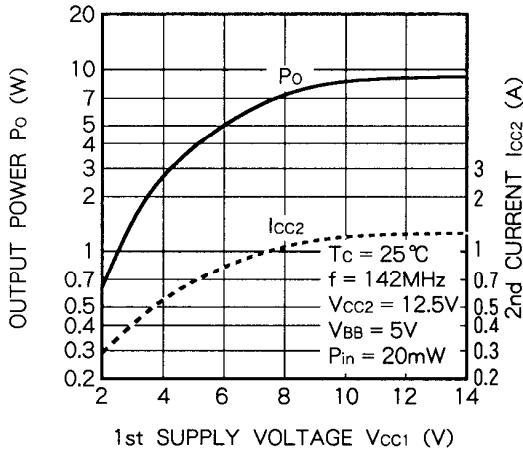
**OUTPUT POWER, TOTAL CURRENT VS. SUPPLY VOLTAGE CHARACTERISTICS**



**OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS**



**OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS**



**OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS**

