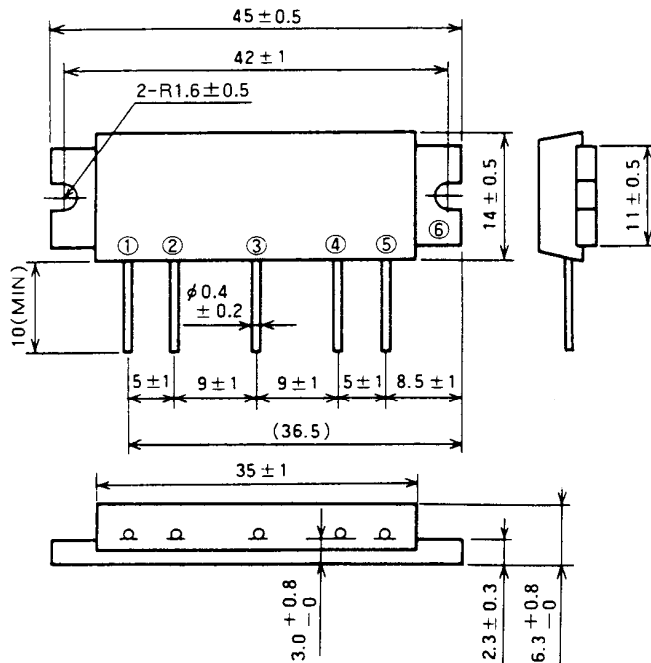


M57721

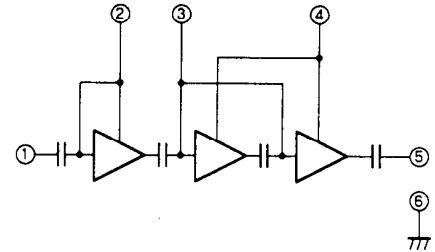
450-512MHz, 12.5V, 7W, FM PORTABLE RADIO

OUTLINE DRAWING

Dimensions in mm



BLOCK DIAGRAM



PIN :

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

ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CC}	Supply voltage		16	V
V_{BB}	Base bias		6	V
I_{CC}	Total current		4	A
$P_{in(max)}$	Input power	$Z_G = Z_L = 50 \Omega$	20	mW
$P_{O(max)}$	Output power	$Z_G = Z_L = 50 \Omega$	10	W
$T_{C(OP)}$	Operation case temperature		- 30 to 110	$^\circ\text{C}$
T_{stg}	Storage temperature		- 40 to 110	$^\circ\text{C}$

Note. Above parameters are guaranteed independently.

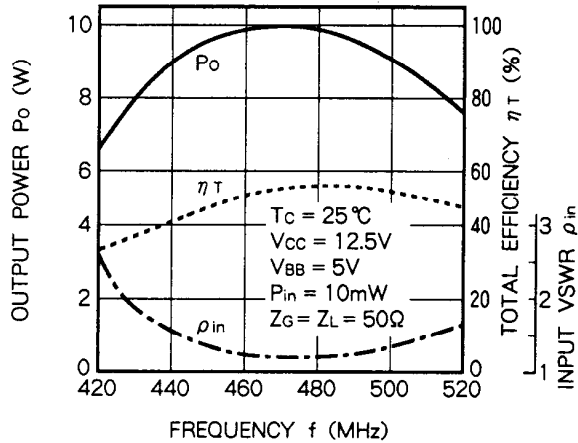
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range	$V_{CC1} = V_{CC2} = 12.5\text{V}$ $V_{BB} = 5\text{V}$ $P_{in} = 10\text{mW}$ $Z_G = Z_L = 50 \Omega$	450	512	MHz
P_o	Output power		7		W
η_T	Total efficiency		40		%
$2f_o$	2nd. harmonic			- 30	dBc
$3f_o$	3rd. harmonic			- 35	dBc
ρ_{in}	Input VSWR			2.5	-
-	Load VSWR tolerance	$V_{CC1} = V_{CC2} = 13.2\text{V}$, $V_{BB} = 5\text{V}$ $P_o = 7\text{W}$ (P_{in} : controlled) Load VSWR $\geq 20 : 1$ (All phase) $Z_G = 50 \Omega$	No degradation or destroy		-

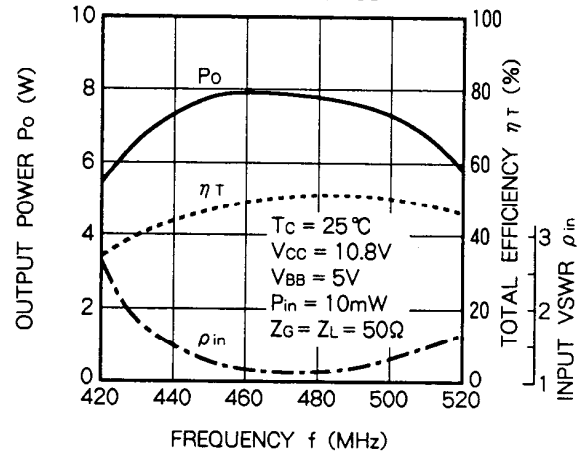
Note. Above parameters, ratings, limits and conditions are subject to change.

TYPICAL PERFORMANCE DATA

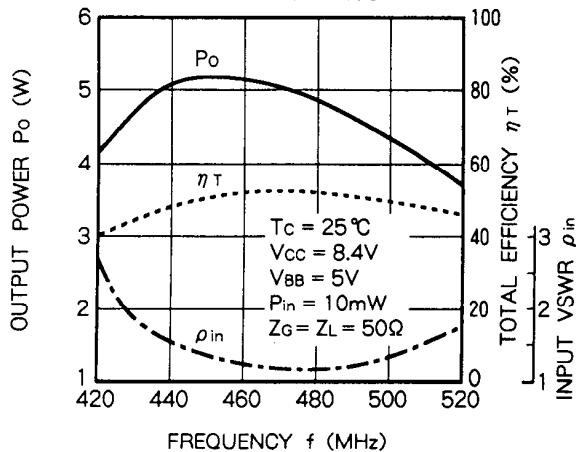
OUTPUT POWER, TOTAL EFFICIENCY, INPUT VSWR
VS. FREQUENCY CHARACTERISTICS



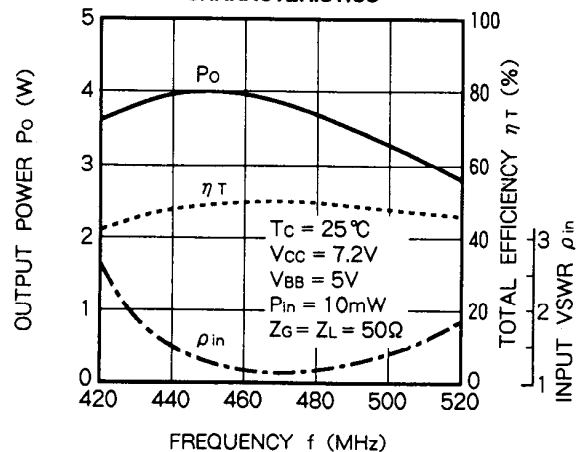
OUTPUT POWER, TOTAL EFFICIENCY,
INPUT VSWR VS. FREQUENCY
CHARACTERISTICS



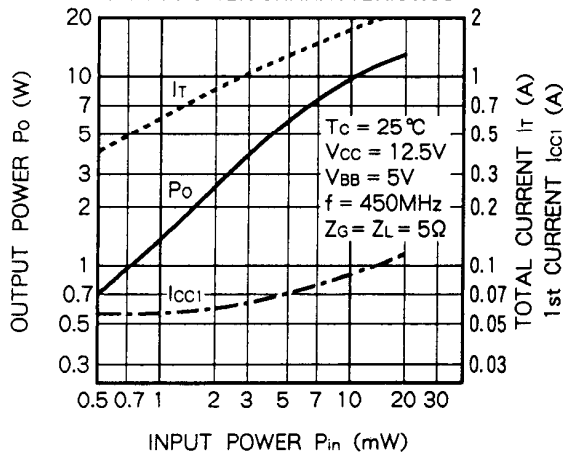
OUTPUT POWER, TOTAL EFFICIENCY,
INPUT VSWR VS. FREQUENCY
CHARACTERISTICS



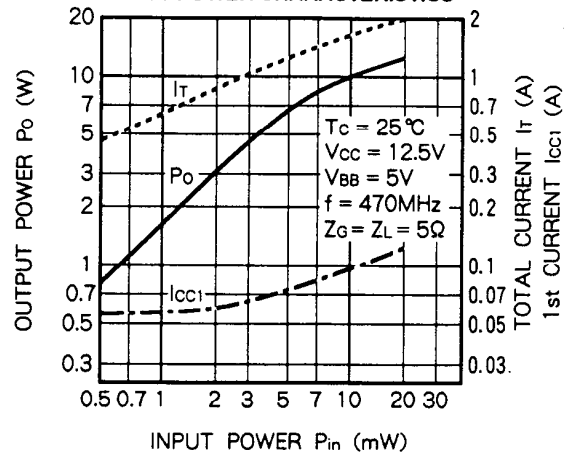
OUTPUT POWER, TOTAL EFFICIENCY,
INPUT VSWR VS. FREQUENCY
CHARACTERISTICS

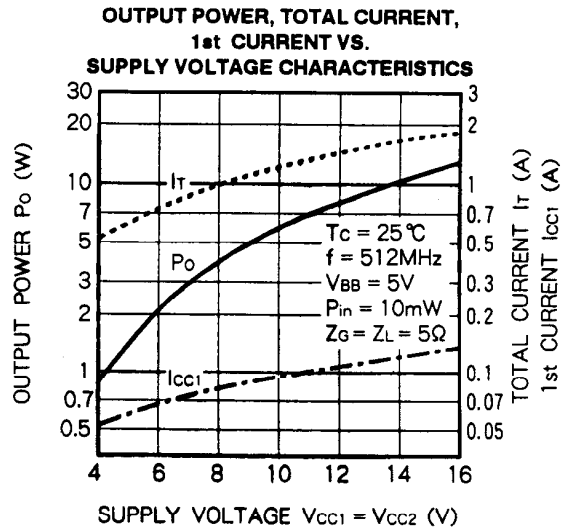
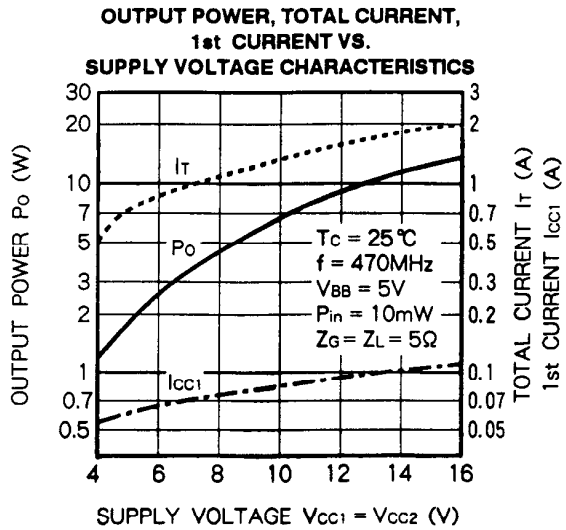
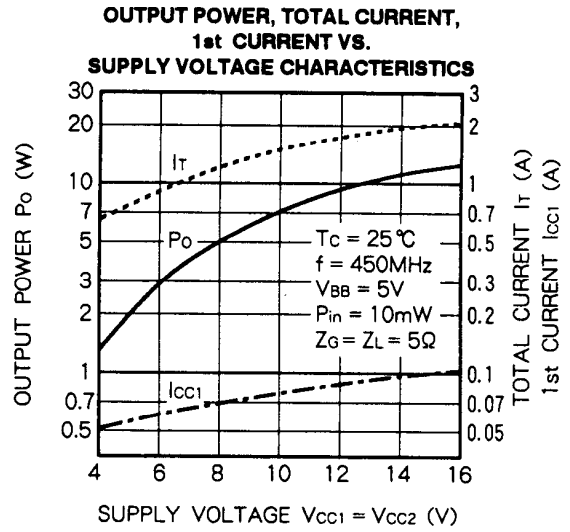
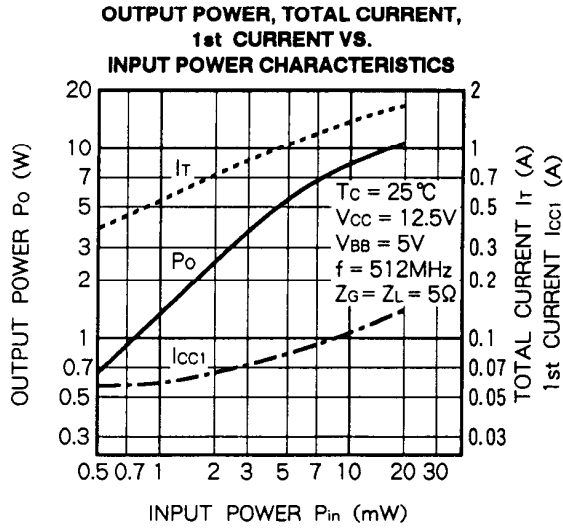


OUTPUT POWER, TOTAL CURRENT,
1st CURRENT VS.
INPUT POWER CHARACTERISTICS

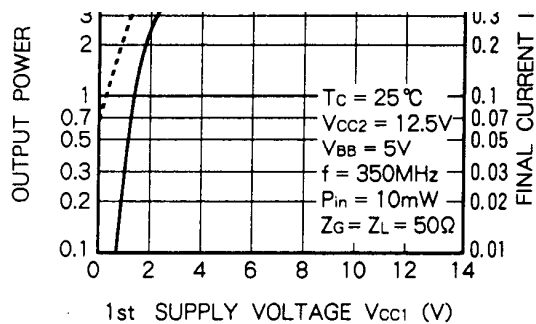


OUTPUT POWER, TOTAL CURRENT,
1st CURRENT VS.
INPUT POWER CHARACTERISTICS





OUTPUT POWER, FINAL CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS



OUTPUT POWER, FINAL CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS

