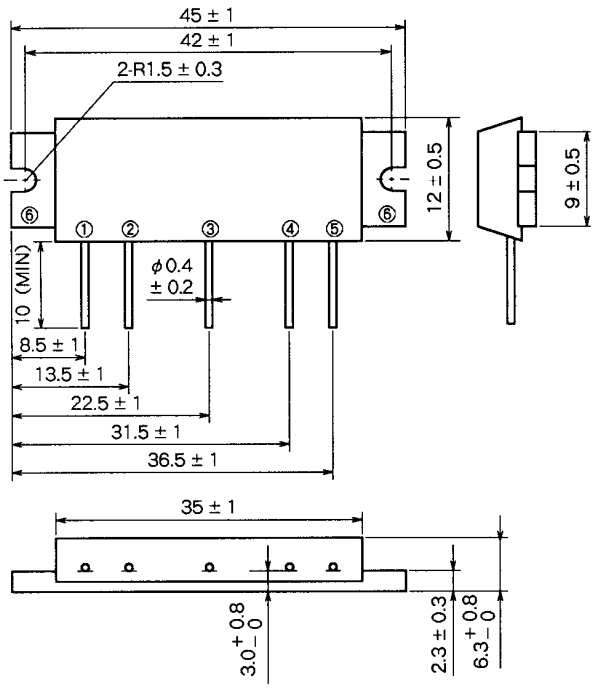
M67715

1240-1300MHz, 8V, 1.2W, SSB PORTABLE RADIO

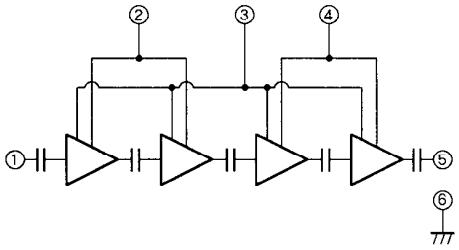
OUTLINE DRAWING

Dimensions in mm



H13

BLOCK DIAGRAM



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

ABSOLUTE MAXIMUM RATINGS (T_C = 25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CC1}	Supply voltage		9	V
V_{CC2}			16	V
V_{BB}	Base bias		9	V
I_{CC}	Total current		1.5	A
$P_{in(max)}$	Input power	Z_G = Z_L = 50 Ω	10	mW
$P_{O(max)}$	Output power	Z_G = Z_L = 50 Ω	4	W
$T_{C(OP)}$	Operation case temperature		− 20 to 100	℃
T_{stg}	Storage temperature		− 40 to 110	℃

Note. Above parameters are guaranteed independently.

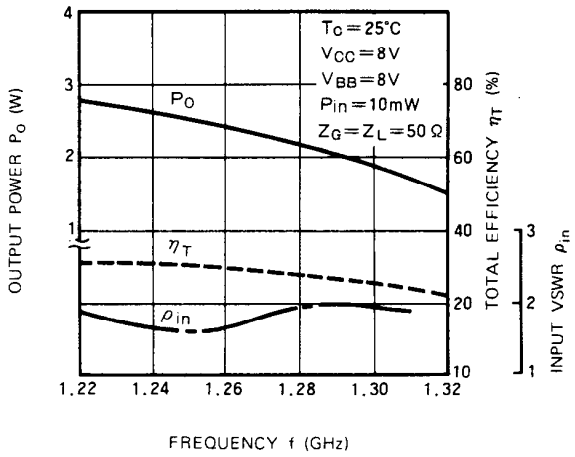
ELECTRICAL CHARACTERISTICS (T_C = 25℃ unless otherwise noted)

Symbol	Parameter	Test conditions	Limits		Unit
			Min	Max	
f	Frequency range	V_{CC1} = V_{CC2} = V_{BB} = 8V P_{in} = 10mW Z_G = Z_L = 50 Ω	1240	1300	MHz
P_O	Output power		1.2		W
η_T	Total efficiency		18		%
2fo	2nd. harmonic			− 30	dBc
3fo	3rd. harmonic			− 35	dBc
ρ_{in}	Input VSWR			2.5	−
−	Load VSWR tolerance	V_{CC1} = 9V, V_{CC2} = 15.2V, V_{BB} = 9V P_O = 1.5W(P_{in} : controlled), Z_G = 50Ω Load VSWR=10:1 (All phase), 5sec	No degradation or destroy		−
IMD_3	3rd. inter modulation distortion	V_{CC1}=V_{CC2}=V_{BB}=8V $P_{O(PEP)}$=1.26W, △f=20kHz, Z_G=Z_L=50Ω		− 23	dBc
IMD_5	5th. inter modulation distortion	V_{CC1}=V_{CC2}=V_{BB}=8V $P_{O(PEP)}$=1.26W, △f=20kHz, Z_G=Z_L=50Ω		− 30	dBc

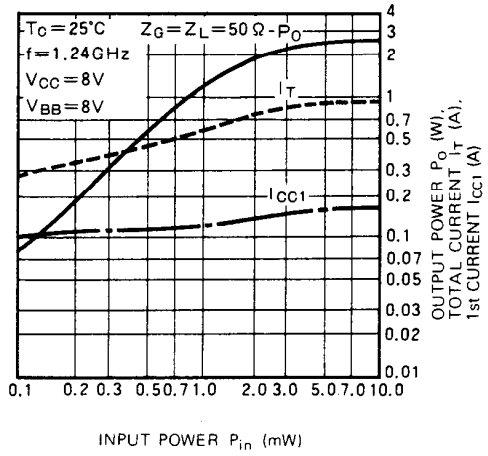
Note. Above parameters, ratings, limits and conditions are subject to change.

TYPICAL PERFORMANCE DATA

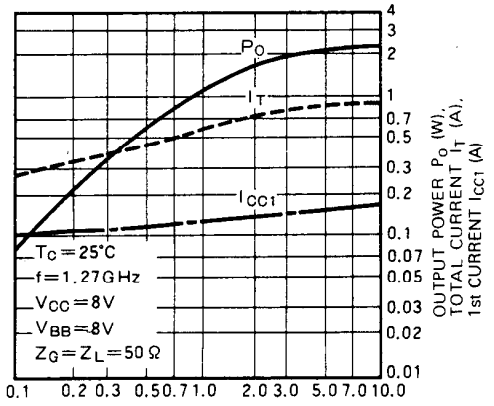
OUTPUT POWER, TOTAL EFFICIENCY, ρ_{in} VS. FREQUENCY CHARACTERISTICS



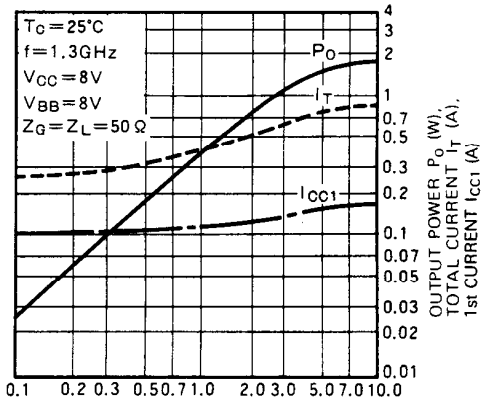
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



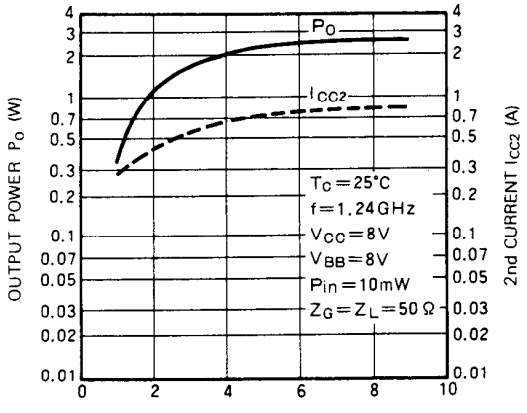
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



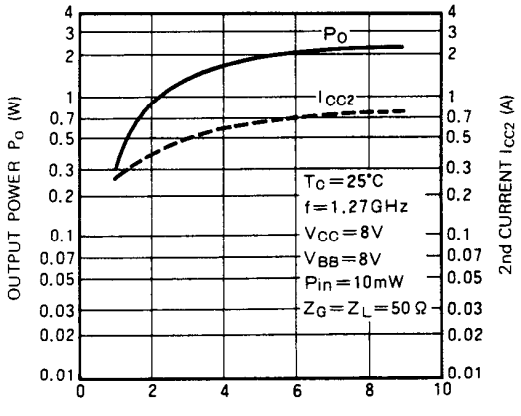
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. INPUT POWER CHARACTERISTICS



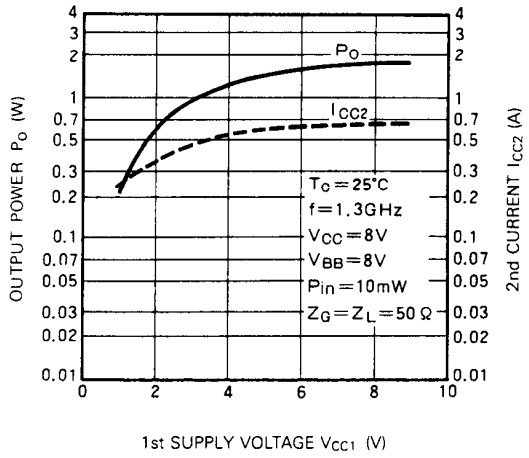
OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS



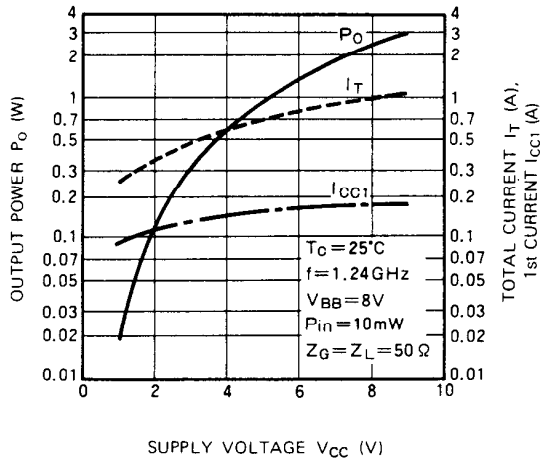
OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS



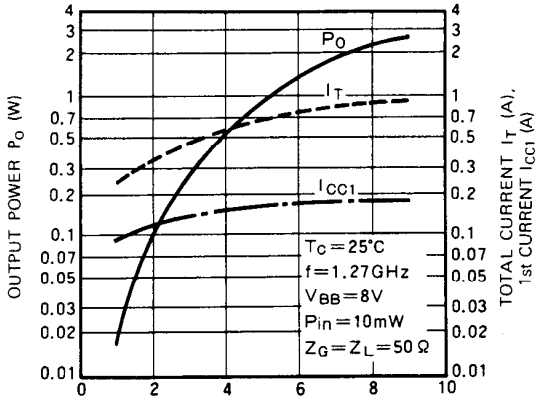
OUTPUT POWER, 2nd CURRENT VS. 1st SUPPLY VOLTAGE CHARACTERISTICS



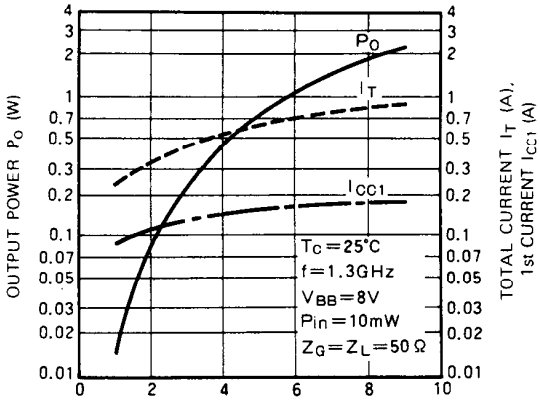
OUTPUT POWER, TOTAL CURRENT, 1st CURRENT VS. SUPPLY VOLTAGE CHARACTERISTICS



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



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



2nd, 3rd HARMONIC VS. FREQUENCY CHARACTERISTICS