

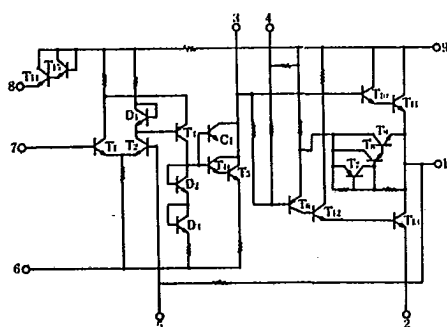
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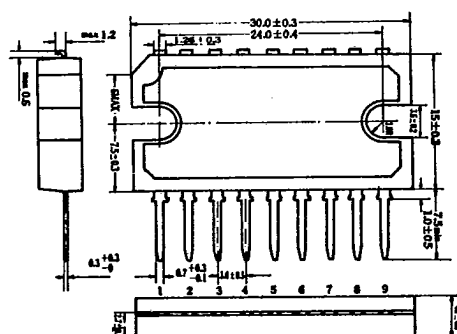
ECG1058

4.4 WATT AUDIO POWER AMPLIFIER

EQUIVALENT CIRCUIT



Unit : mm



The ECG1058 is a monolithic low noise, high gain and high power audio amplifier designed for a battery operation (13V). The device consists of a differential preamplifier, a driver amplifier, a ripple filter, an automatic operating point stabilizer and a quasi-complementary SEPP OTL power amplifier circuit. It is particularly suitable for power amplifiers in auto-stereos, auto-radio receivers and tape recorders. This device can be driven by a single DC supply, and the built-in hum-filter terminal enables operation on rectified AC, also.

QUICK REFERENCE DATA

Item	Symbol	Value	Unit
Supply Voltage	V_{CC}	13	V
Power Output	P_o	4.4 ($R_L = 4\Omega$)	W
Voltage Gain	G_v	45	dB

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Item	Symbol	Rating	Unit
Operating Ambient Temperature Range	T_{opr}	$-20 \sim +70$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$
Supply Voltage	V_{S-2}	18	V
Total Current Consumption	I_{tot}	1.2	A
Total Power Dissipation *	P_T	4.5	W

* With a 100 x 100 x 1mm aluminium heat-sink.

Cautions in use

- (1) The device will break down if short-circuit takes place between either pins 1 and 2, or 1 and 6.
- (2) A recommended board layout is shown on page 4.

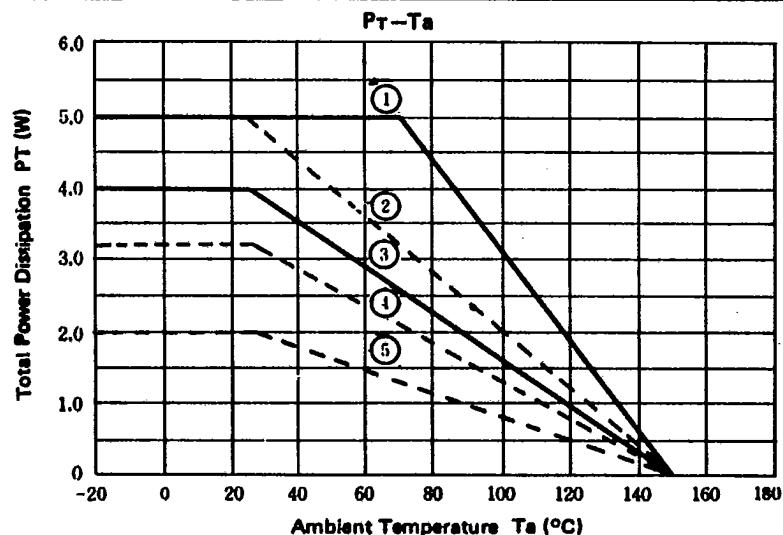
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ELECTRICAL CHARACTERISTICS ($V_{CC} = 13V$, $T_a = 25^\circ C$)

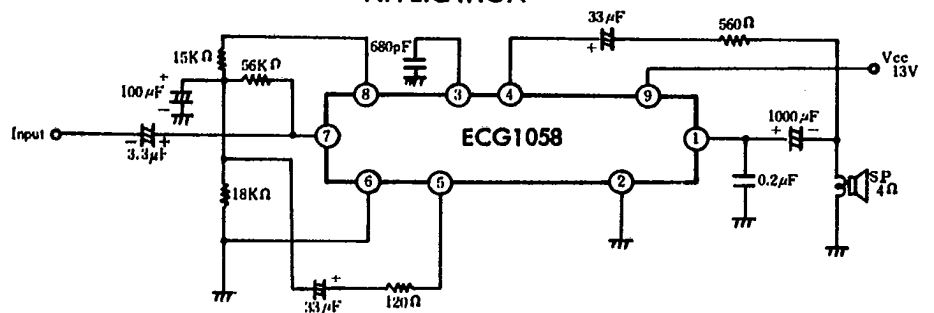
Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Quiescent Current	I_{CQ}	$V_{IN} = 0$	10	20	50	mA
Voltage Gain	G_v	$V_{IN} = 10mV$, $f = 1kHz$, $R_L = 4\Omega$	42	45	47	dB
Power Output	P_o	$D_{tot} = 10\%$, $f = 1kHz$, $R_L = 4\Omega$	4.0	4.4		W
Harmonic Distortion	D_{tot}	$P_o = 1W$, $f = 1kHz$, $R_L = 4\Omega$		0.3	1.5	%
Noise Voltage	V_N	$R_g = 10K\Omega$, $R_L = 4\Omega$		1.0	4.5	mV

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- ① $T_a = T_c$
- ② with a 100 x 100mm aluminum heat-sink
($t = 1mm$)
- ③ with a 50 x 50mm aluminum heat-sink
($t = 2mm$)
- ④ with a 50 x 50mm aluminum heat-sink
($t = 1mm$)
- ⑤ with no heat-sink

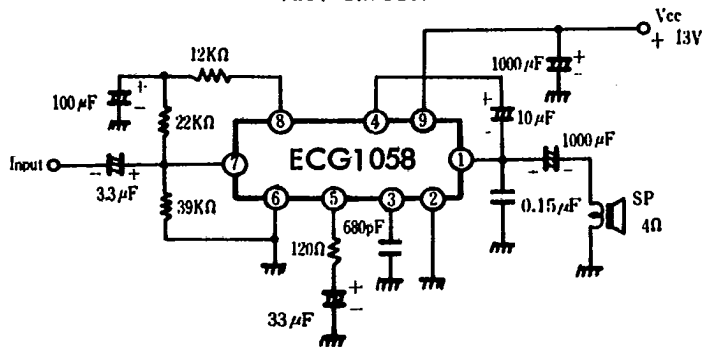
APPLICATION



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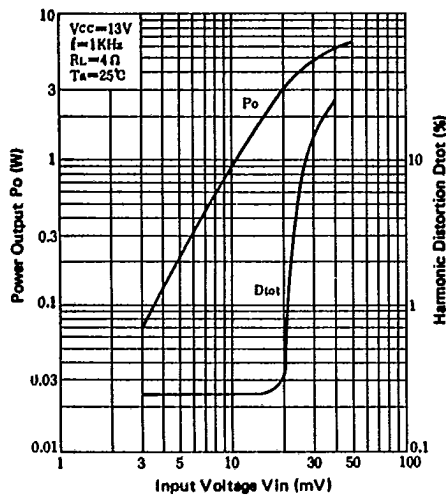
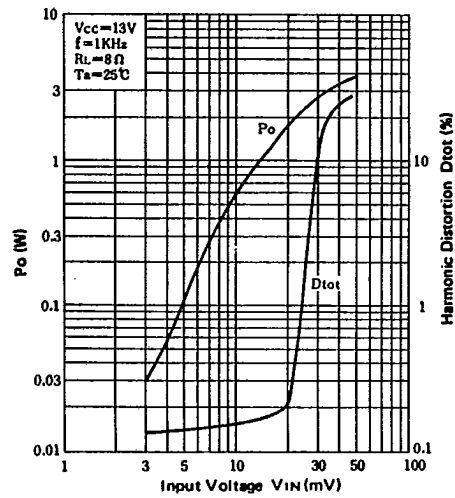
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TEST CIRCUIT

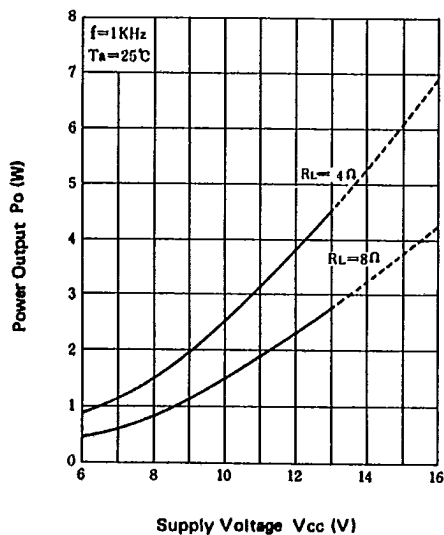


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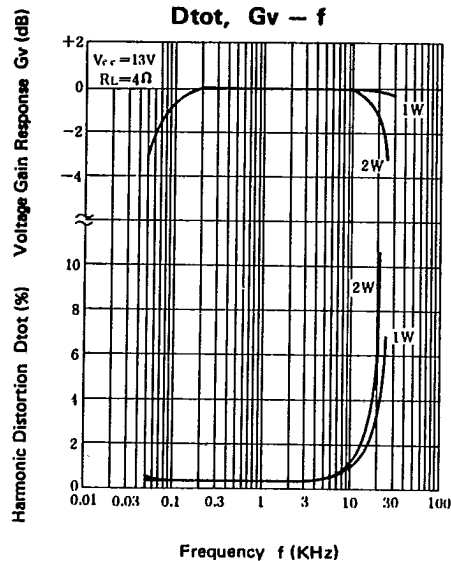
TYPICAL CHARACTERISTICS

 P_o , D_{tot} — V_{in}  P_o , D_{tot} — V_{in} 

Po-Vcc

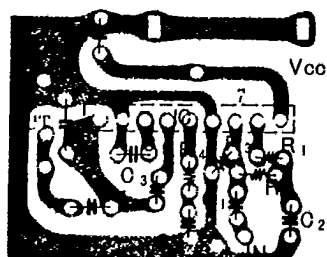


Dtot, Gv - f



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The pattern of the
Printed Circuit Board for ECG1058



(Bottom View)