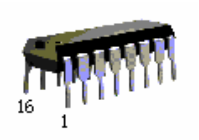
2.3W Dual Audio Power Amplifier

The PJ2206 is a monolithic integrated circuit consisting of a 2-channel power amplifier . It is suitable for stereo and bridge amplifier application of radio and cassette tape recorders.

FEATURES

- High output power
  Stereo : Po=2.3W (Typ) at Vcc=9V, R_L=4Ω.
  Bridge : Po=4.7W (Typ) at Vcc=9V, R_L=8Ω.
- Low switching distortion at high frequency.
- Small shock noise at the time of power on/off due to a built-in muting circuit.
- Good ripple rejection due to built-in ripple filter.
- Good channel separation.
- Soft tone at the time of output saturation.
- Closed loop voltage gain fixed 45dB(Bridge : 51dB) but vailability with external resistor added.
- Minimum number of external parts required.
- Easy to design radiator fin.

DIP-16

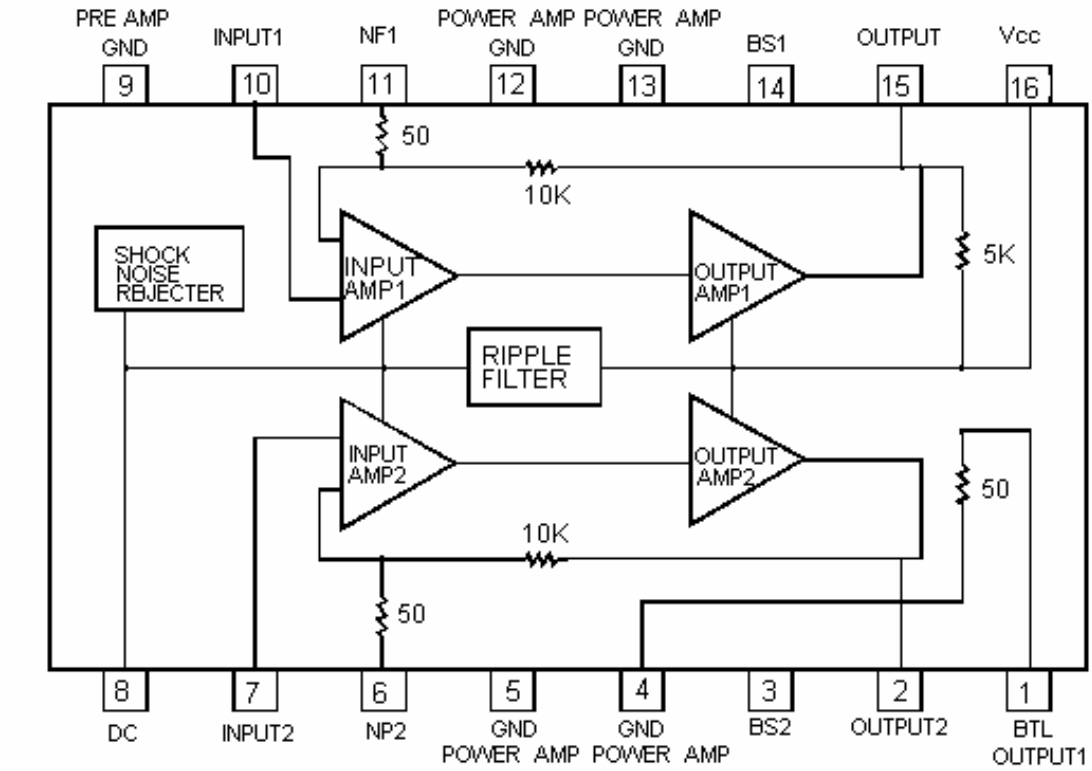


Pin:	1.Btl Output1	2.Output2
	3.Bs2	4.Power Amp Gnd
	5.Power Amp Gnd	6.Nf2
	7.Input2	8.Dc
	9.Preamp Gnd	10.Input1
	11.Nf1	12.Power Amp Gnd
	13.Power Amp Gnd	14.Bs1
	15.Output	16.Vcc

ORDERING INFORMATION

Device	Operating Temperature	Package
PJ2206CD	-20℃ ~ +85℃	DIP-16

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

Characteristics	Symbol	Value	Unit
Supply Voltage	Vcc	15	V
Power Dissipation	Pd	4*	W
Operating Temperature	Topr	-20 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +150	℃

*Fin is soldering on the PCB

ELECTRICAL CHARACTERISTICS (Ta=25℃,Vcc=9V,f=1KHz Rg=600Ω,unless otherwise specified)

Characteristic	Symbol	Test Conditions		Min	Typ	Max	Unit
Operating Supply Voltage	Vcc				9	11	V
Quiescent Circuit Current	Icc	Vi=0,Stereo			40	55	mA
Closed Loop Voltage Gain	Av	Stereo	Vi=-45dBm	43	45	47	dB
		Bridge		49	51	53	dB
Channel Balance	CB	Stereo		-1	0	+1	dB
Output Power	Po	Stereo	R_L=4Ω,THD=10%	1.7	2.3		W
			R_L=8Ω,THD=10%		1.3		W
		Bridge	R_L=8Ω,THD=10%		4.7		W
Total Harmonic Distortion	THD	Stereo	Po=250mW,R_L=4Ω		0.3	1.5	%
		Bridge			0.5		%
Input Resistance	Ri			21	30		KΩ
Ripple Rejection	RR	Stereo,Rg=0Ω,Vr=150mV f=100Hz		40	46		dB
Output Noise Voltage	V_{NO}	Stereo,Rg=0Ω			0.3	1.0	mV
		Stereo,Rg=10KΩ			0.5	2.0	mV
Cross Talk	CT	Stereo,Rg=10KΩ,Vo=0dBm		40	55		dB

Fig.1 TYPICAL APPLICATION CIRCUIT:Stereo Amplifier

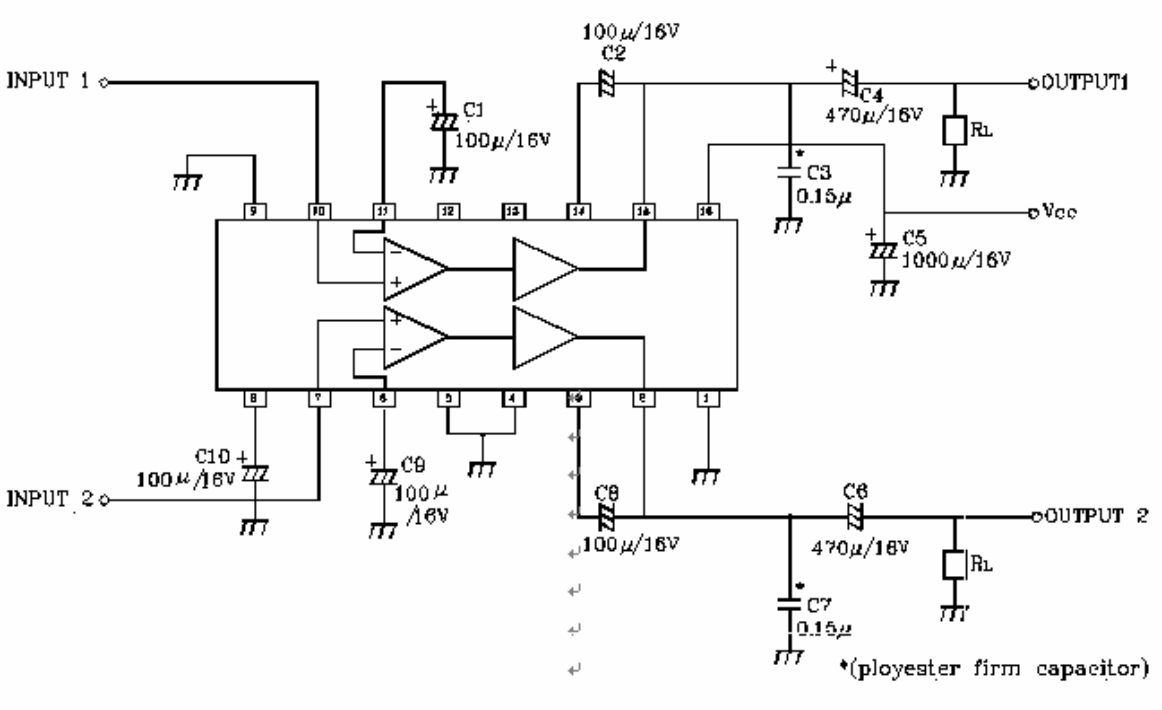


Fig.2 TYPICAL APPLICATION CIRCUIT:Bridge Amplifier

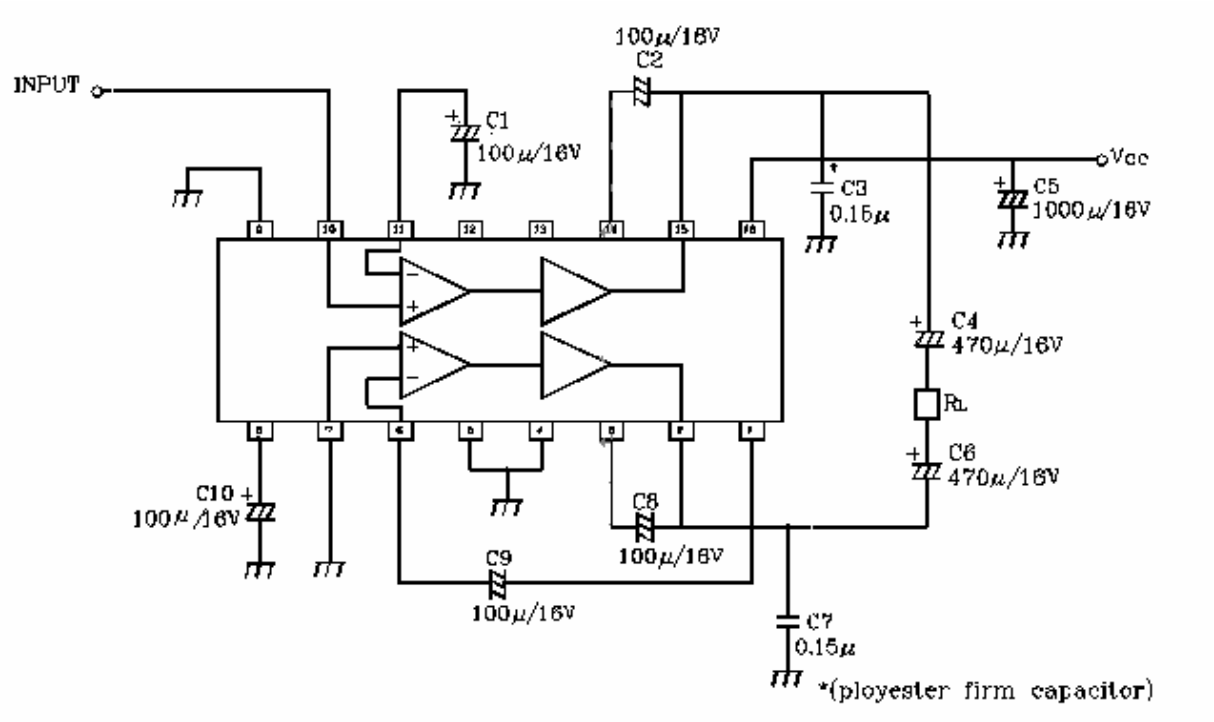
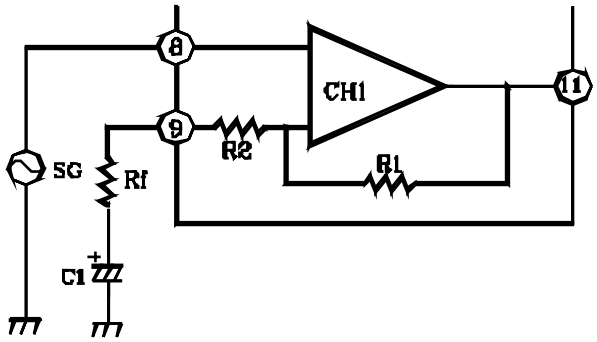


Fig.3 VOLTAGE GAIN ADJUSTMENT

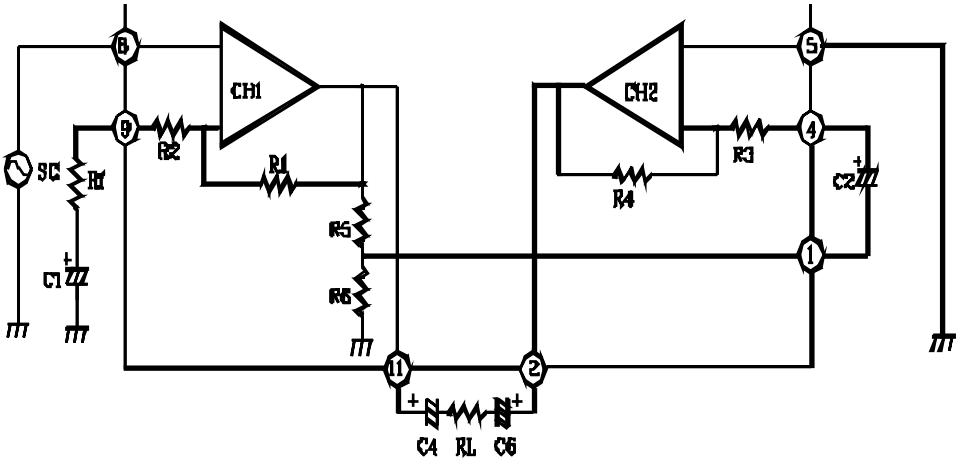
1. STEREO APPLICATION



1) Fixed voltage gain
(Pin 9 connected to GND directly)
Av = 20log * R1 / R2 (dB)

0) Variable voltage gain
(Rf and C1 connected with pin 9)
Av = 20log * R1 / R2+Rf (dB)

2. BRIDGE APPLICATION



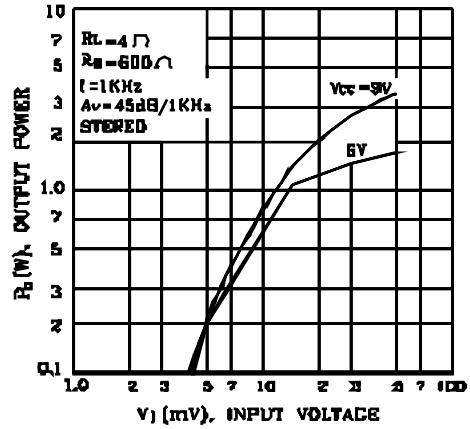
1)Fixed voltage gain (Pin 9 connected to GND directly)

$$Av = 20\log \frac{R1}{R2} + 6\ (dB)$$

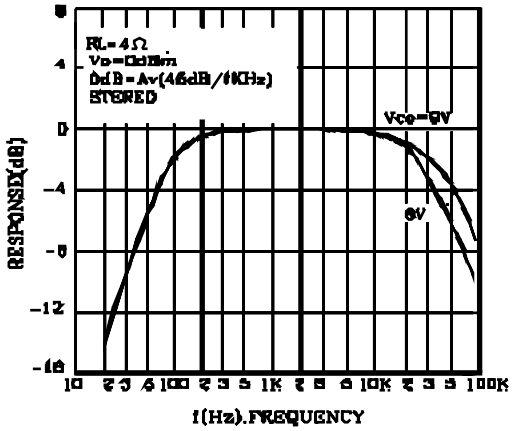
0)Variable voltage gain (Rf and C1 connected with pin 9)

$$Av = 20\log \frac{R2}{R2+Rf} + 6(dB)$$

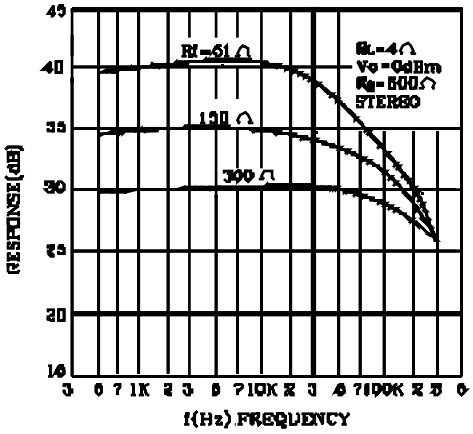
OUTPUT POWER-INPUT VOLTAGE



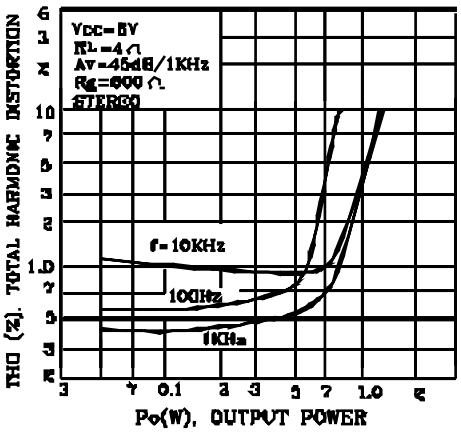
FREQUENCY RESPONSE



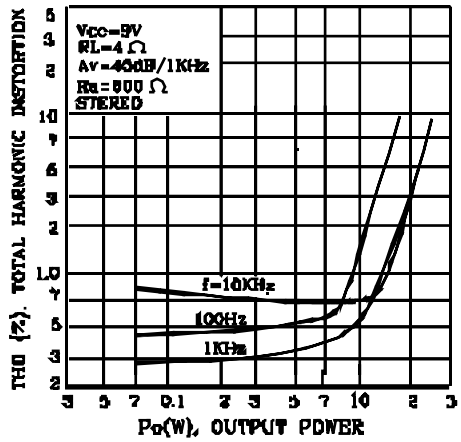
VOLTAGE GAIN-FREQUENCY



TOTAL HARMONIC DISTORTION-OUTPUT POWER



TOTAL HARMONIC DISTORTION-OUTPUT POWER



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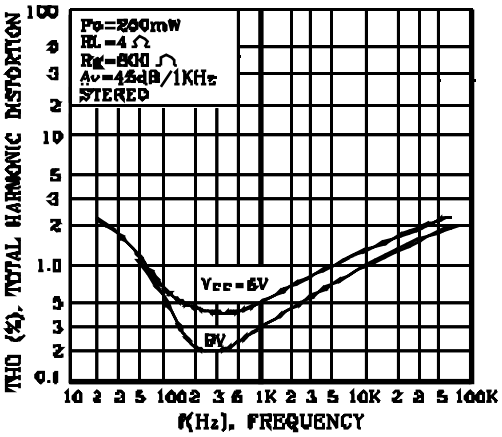

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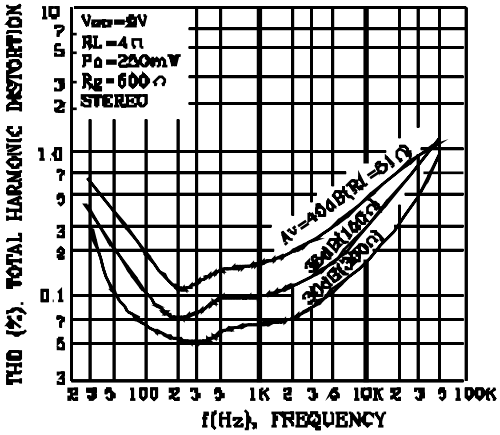
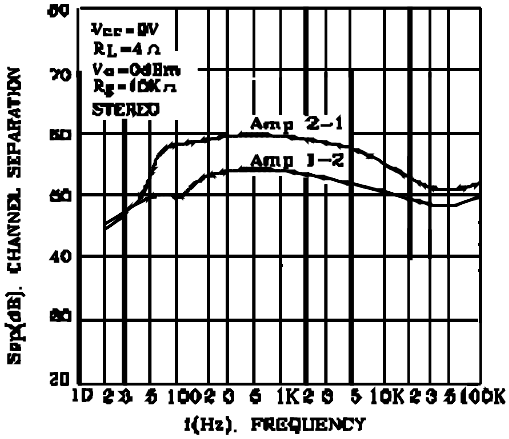
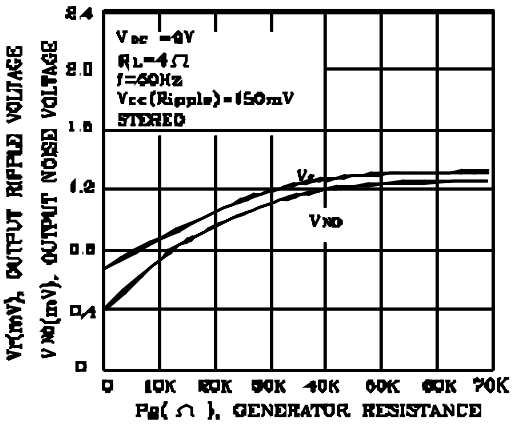


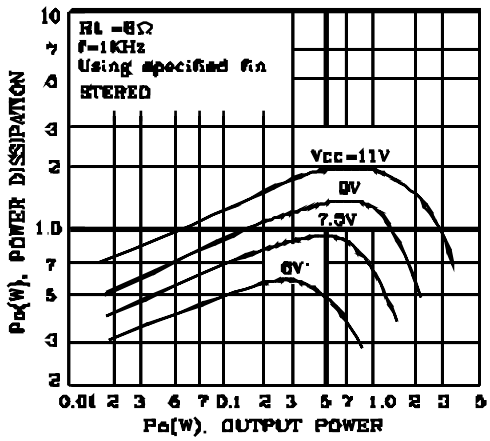
CHANNEL SEPARATION-FREQUENCY



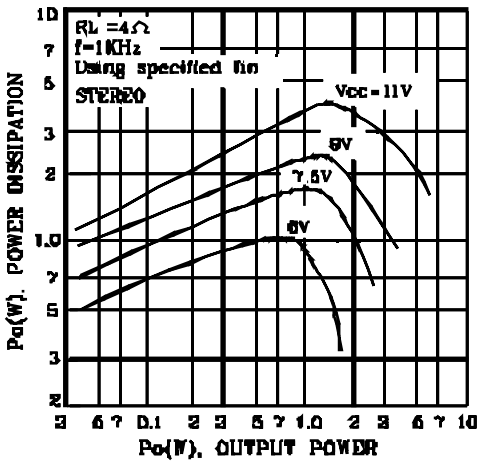
OUTPUT RIPPLE VOLTAGE
OUTPUT NOISE VOLTAGE



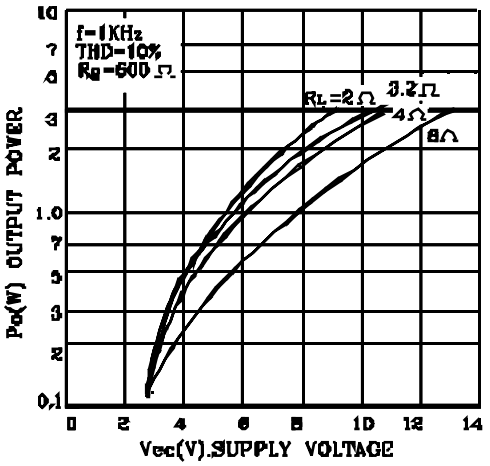
POWER DISSIPATION-OUTPUT POWER



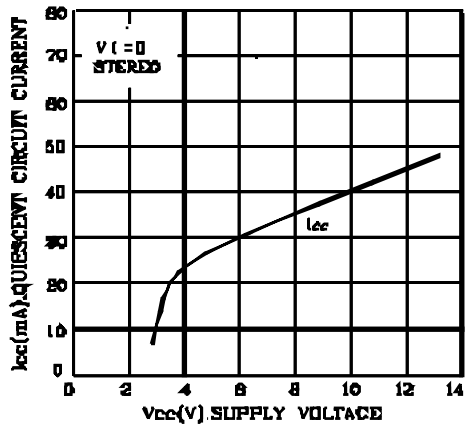
POWER DISSIPATION-OUTPUT POWER



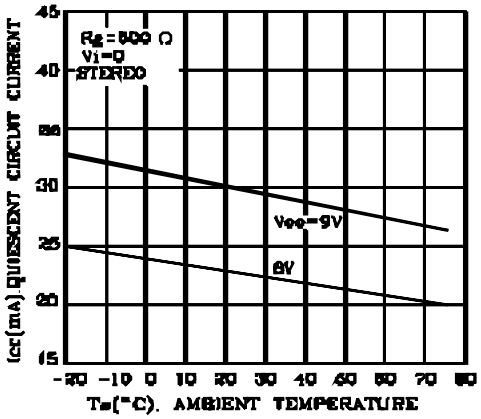
OUTPUT POWER-SUPPLY VOLTAGE



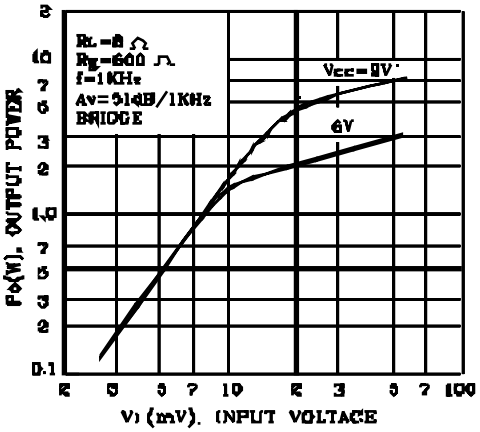
QUIESCENT CIRCUIT CURRENT SUPPLY VOLTAGE



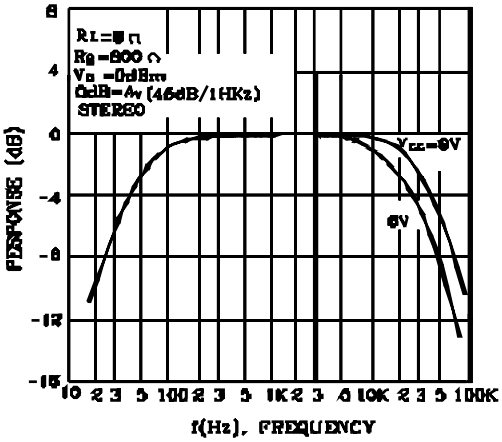
QUIESCENT CIRCUIT CURRENT-AMBIENT TEMPERATURE



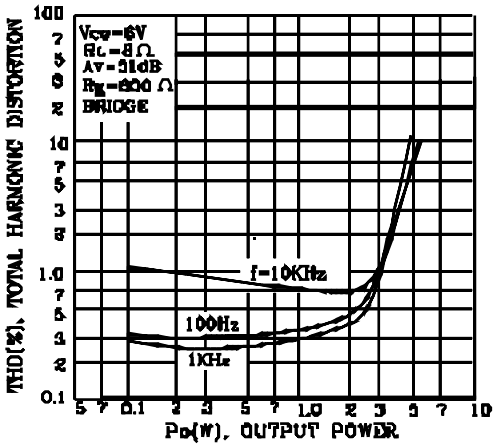
OUTPUT POWER-INPUT VOLTAGE



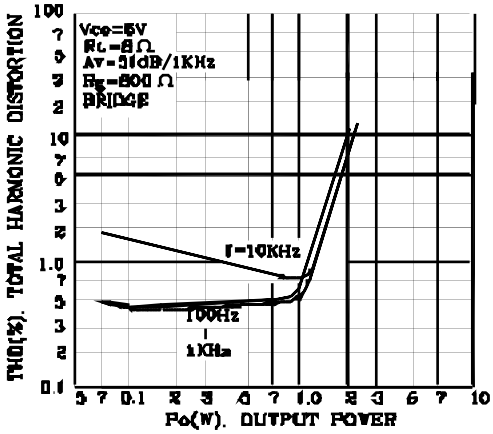
FREQUENCY RESPONSE



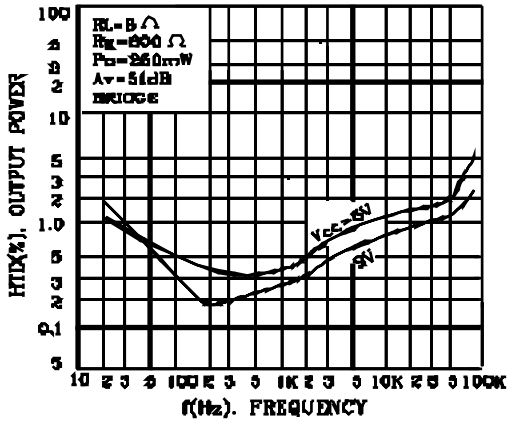
TOTAL HARMONIC DISTORTION-OUTPUT POWER



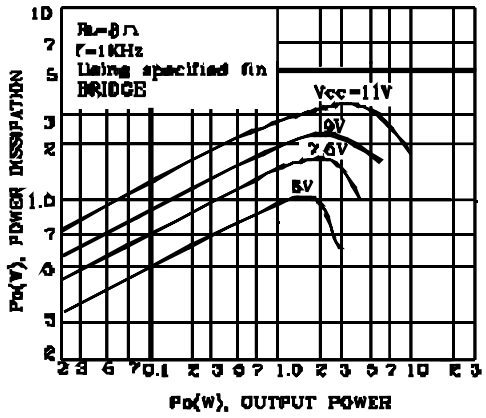
TOTAL HARMONIC DISTORTION-OUTPUT POWER



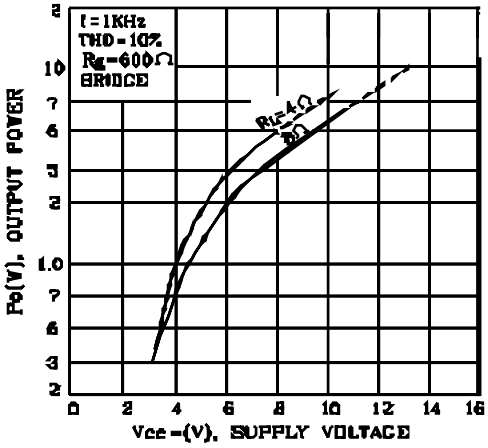
TOTAL HARMONIC DISTORTION-FREQUENCY



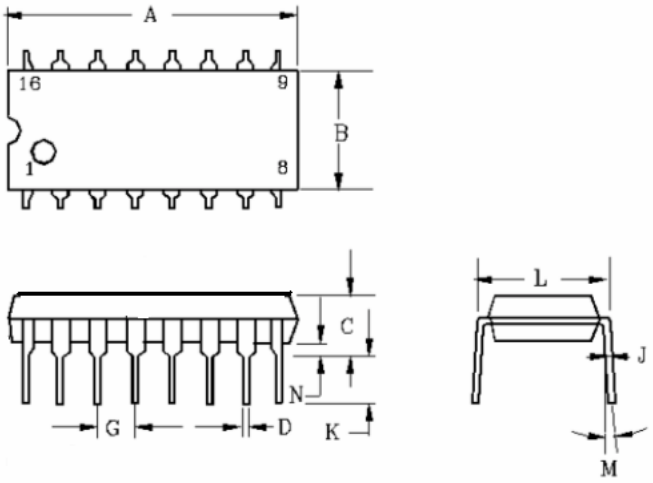
POWER DISSIPATION-OUTPUT POWER



OUTPUT POWER-SUPPLY VOLTAGE



DIP-16



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	17.80	18.05	0.701	0.710
B	6.25	6.45	0.292	0.299
C	2.35	2.65	0.093	0.104
D	0.35	0.49	0.014	0.019
G	1.27BSC		0.05BSC	
J	0.25	0.32	0.010	0.012
K	0.10	0.25	0.004	0.009
L	0°	10°	0°	10°
M	-	10°	0.395	0.415