



2-Channel 10 W AF Power Amplifier for Use in Home Stereo, TV Applications

Overview

The LA4282 is an IC which seals a high-output power amplifier for TVs and monitors in a compact package.

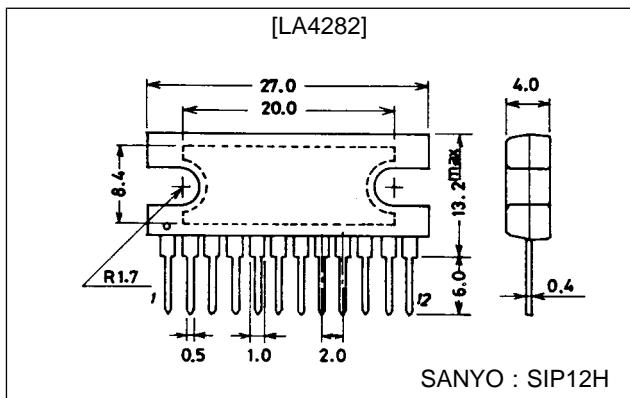
Features

- High-power 2-channel AF power amplifier
- Low distortion
- Minimum number of external parts required
(no bootstrap capacitor required)
- Low pop noise at the time of power supply ON/OFF
- Good ripple rejection (58 dB typ)
- Wide operating voltage range
- External muting available
- On-chip protector against abnormality
(thermal shutdown, overvoltage)

Package Dimensions

unit : mm

3049A-SIP12H



Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$	Quiescent	45	V
Maximum output current	$I_O\ peak$		4	A
Allowable power dissipation	$P_d\ max$	With heat sink	25	W
Operating temperature	T_{opr}		-20 to +75	°C
Storage temperature	T_{stg}		-40 to +150	°C

Operating Conditions at $T_a = 25^\circ\text{C}$

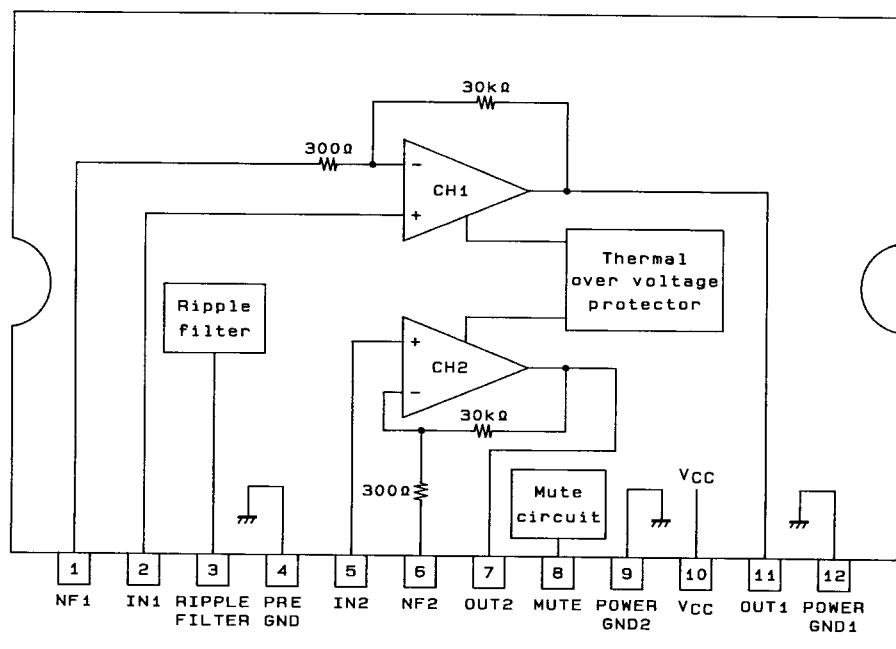
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		32	V
	$V_{CC\ op}$		10 to 40	V
Recommended load resistance	R_L		8	Ω

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Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 32\text{ V}$, $R_L = 8\text{ }\Omega$, $f = 1\text{ kHz}$, $R_g = 600\text{ }\Omega$, See Test Circuit.

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	$I_{CC0}(1)$	Quiescent	30	60	100	mA
	$I_{CC0}(2)$	Muting switch On	30	56	100	mA
Voltage gain	VG		38	40	42	dB
Voltage gain difference	ΔVG				1.5	dB
Output power	$P_O(1)$	$\text{THD} = 1\%$	9.0	10.0		W
	$P_O(2)$	$\text{THD} = 3\%$	10.0	11.5		W
Total harmonic distortion	THD	$P_O = 2\text{ W}$		0.05	0.20	%
Output noise voltage	V_{NO}	$R_g = 10\text{ k}\Omega$, $\text{BW} = 20\text{ Hz to }20\text{ kHz}$		0.25	1.0	mV
Ripple rejection	SVRR	$R_g = 10\text{ k}\Omega$, $f_R = 100\text{ Hz}$, $V_R = 0\text{ dBm}$	45	58		dB
Crosstalk	CT	$R_g = 10\text{ k}\Omega$	45	60		dB
Muting	$V_{O(MT)}$	Muting switch On, $V_{IN} = -5\text{ dBm}$			-35	dBm

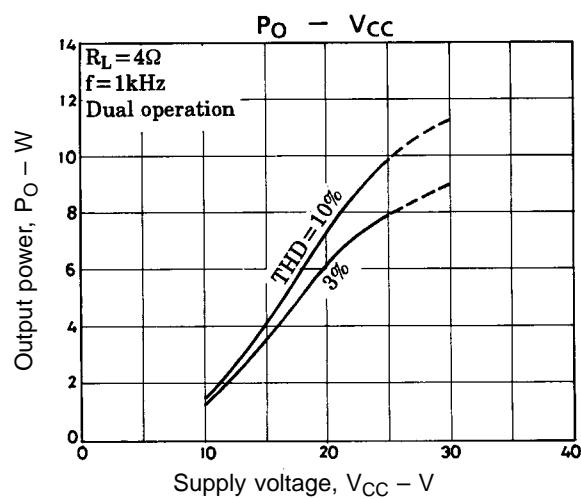
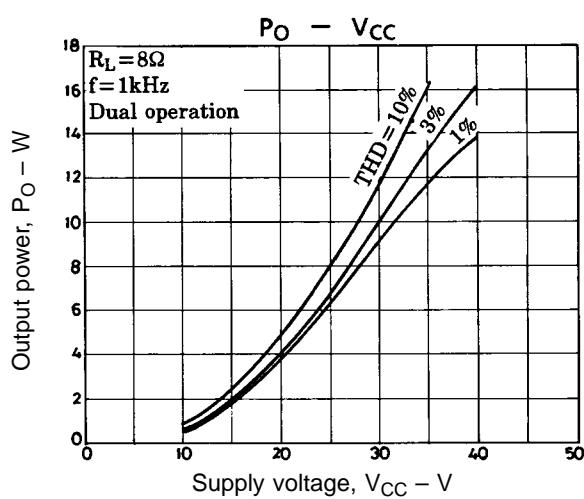
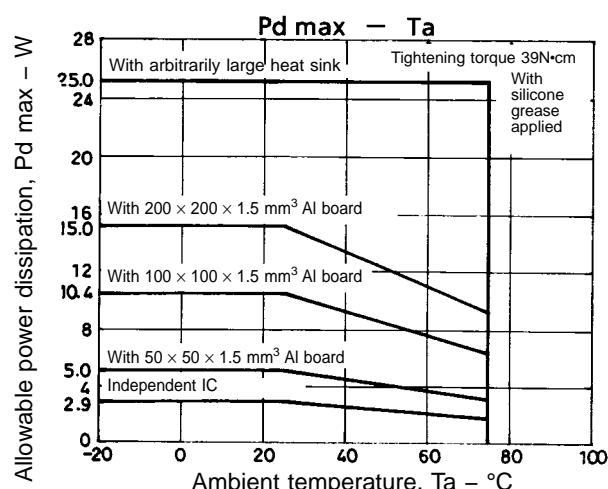
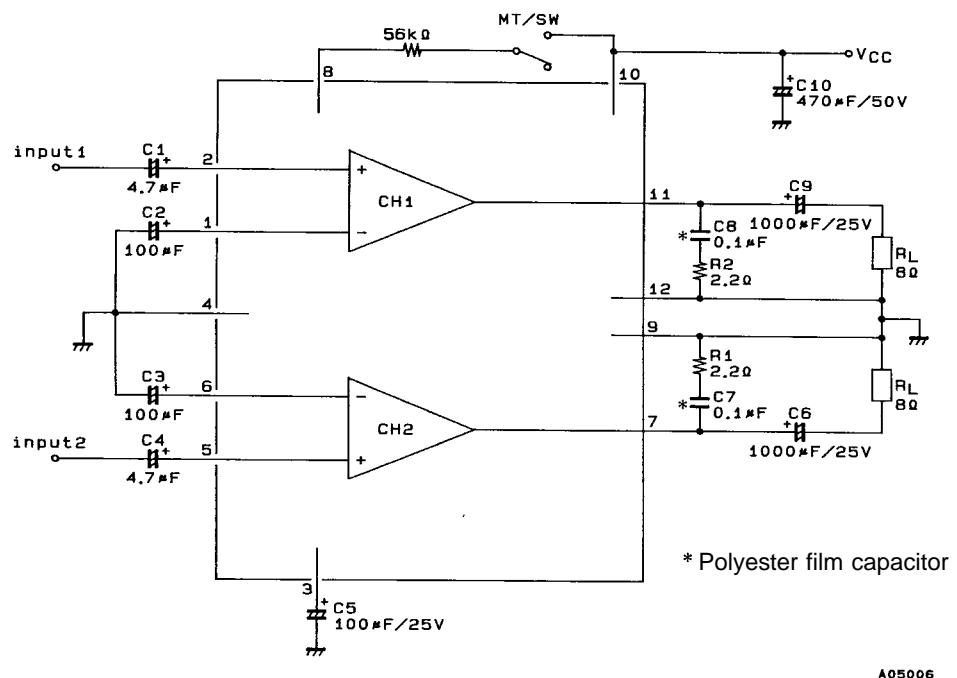
Equivalent Circuit Block Diagram and Pin Assignment

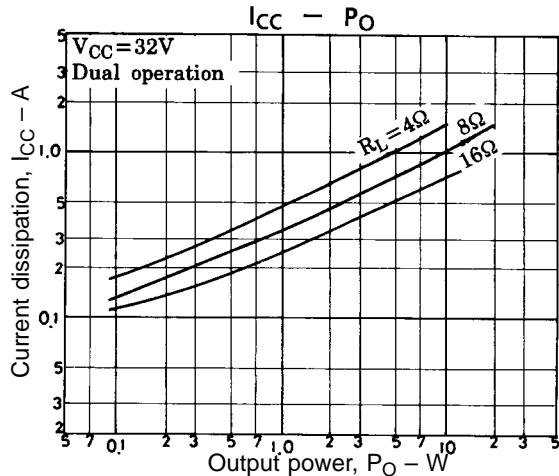
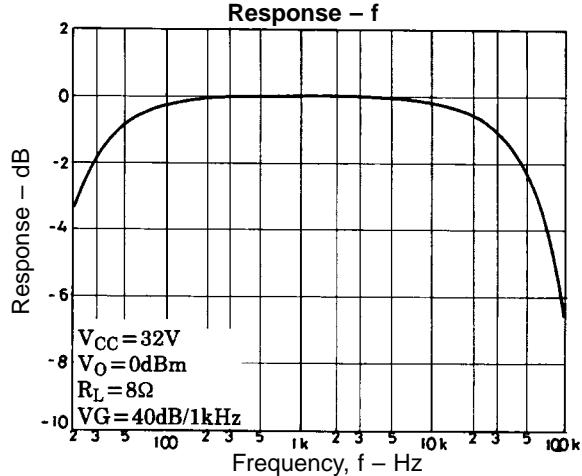
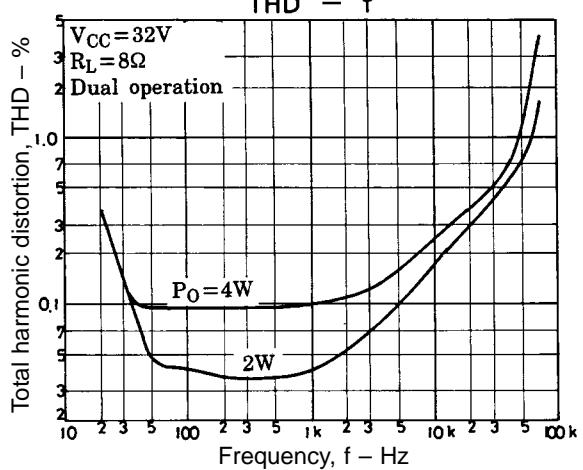
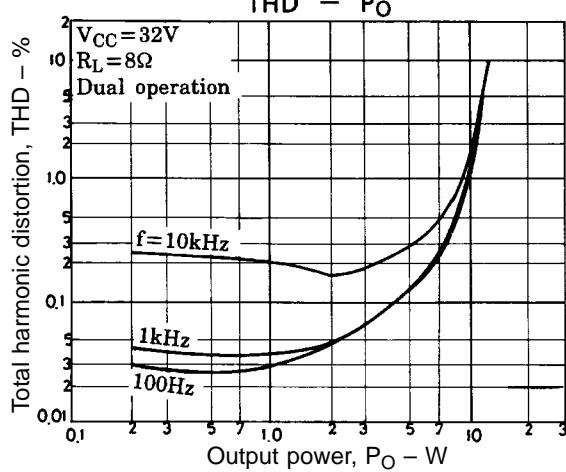
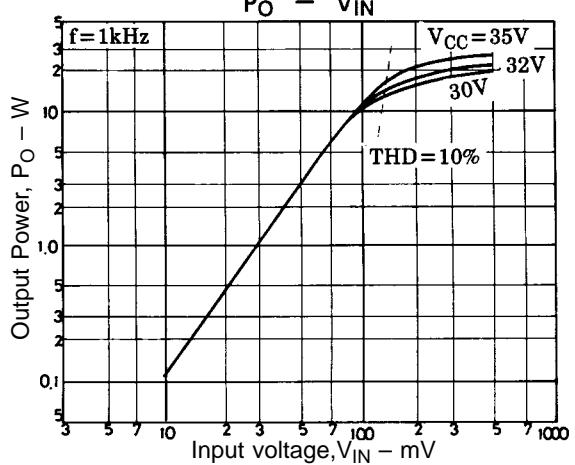
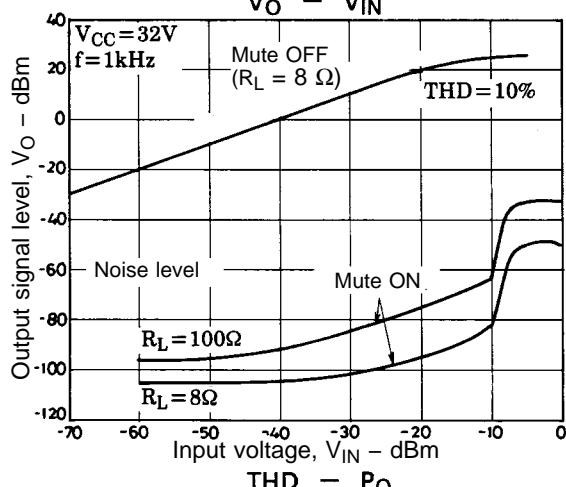
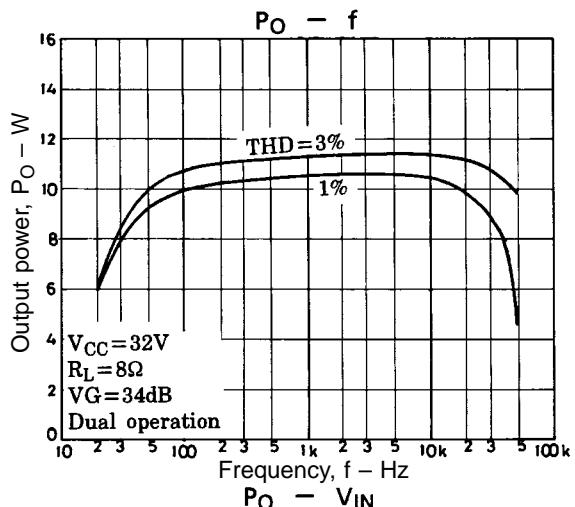
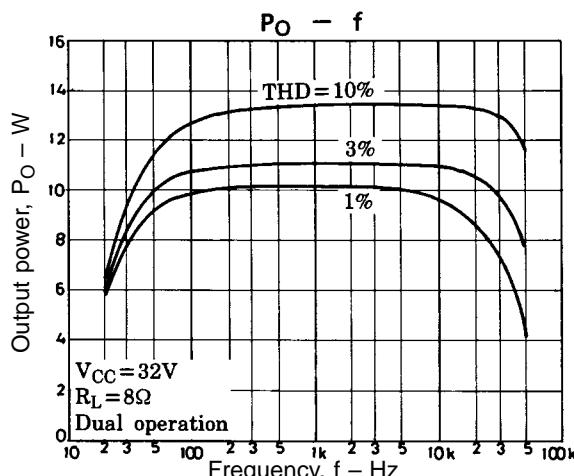


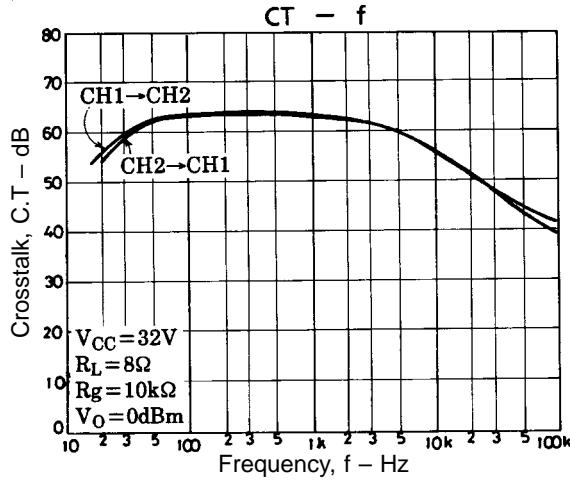
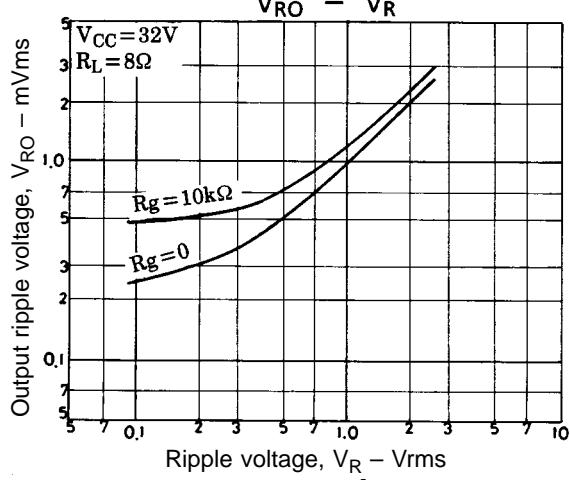
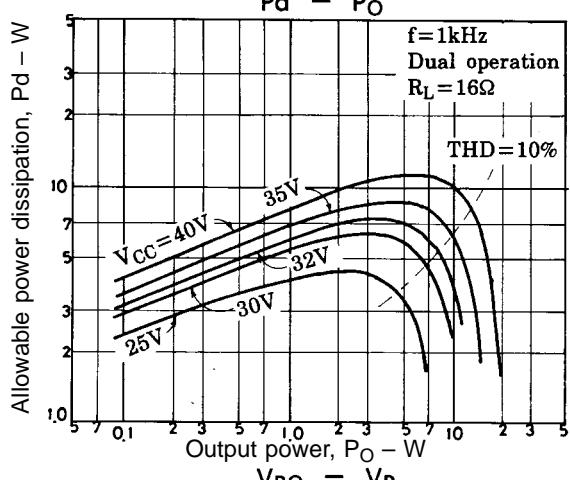
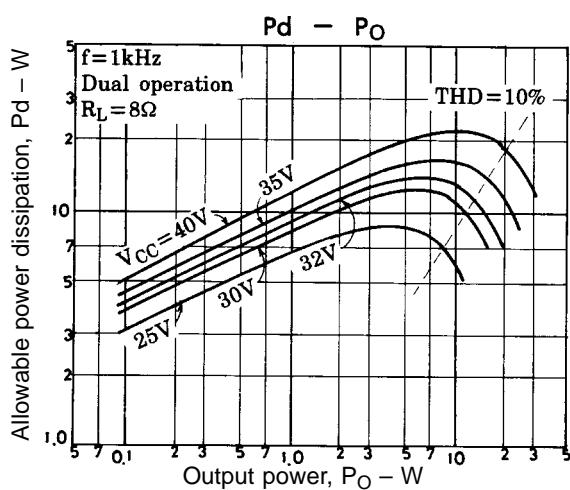
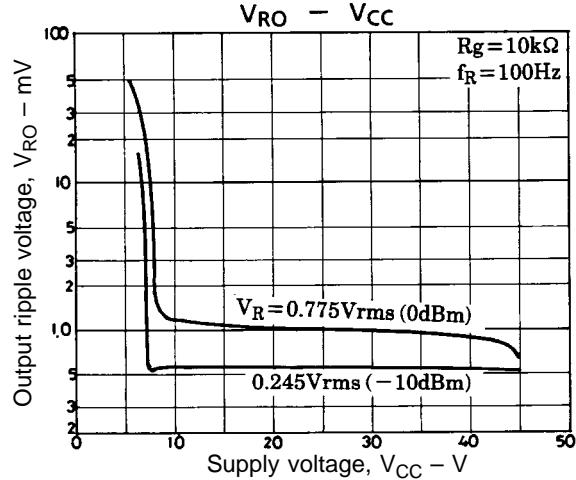
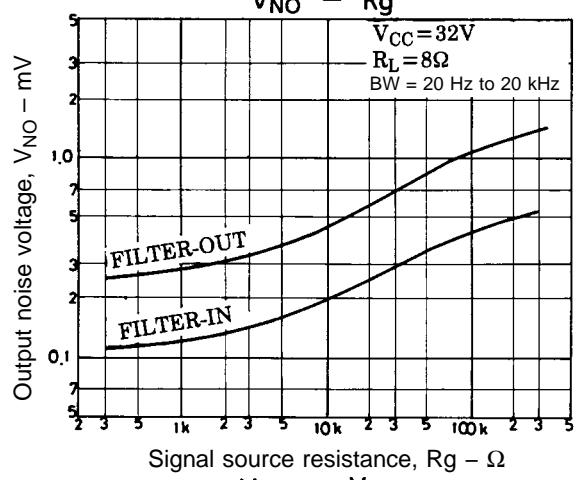
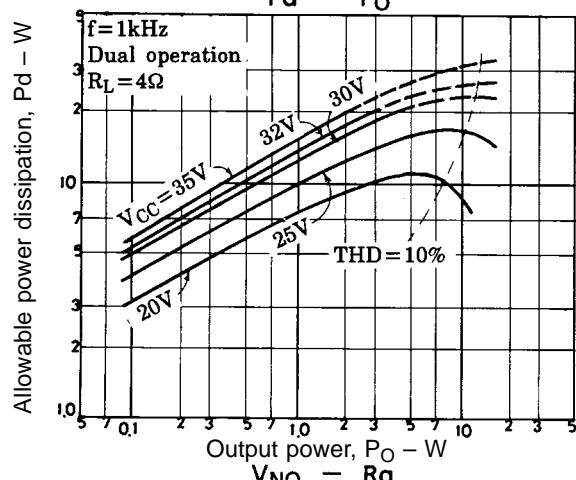
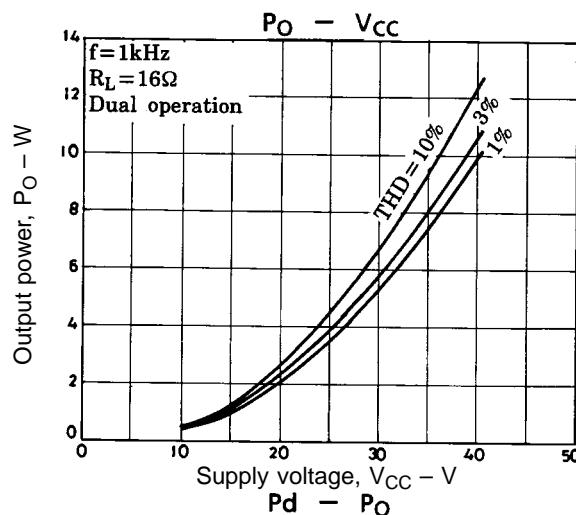
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LA4282

Test Circuit







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