

LA4282

Audio Power Amplifier Class AB, 10W × 2-Channel



ON Semiconductor[®]
www.onsemi.com

Overview

The LA4282 is the IC for 2-channel SE power amplifier that is developed for TVs and monitors audio system. High power and low distortion are realized. This IC incorporate various functions (muting function, and various protection circuit) necessary for audio system.

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 (58dB typ)
- Wide operating voltage range
- External muting available
- On-chip protector against abnormality (thermal shutdown, overvoltage)

Typical Applications

- Home Stereo
- TV

SPECIFICATION

ABSOLUTE MAXIMUM RATINGS at Ta = 25°C (Note 1)

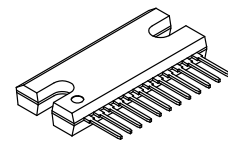
Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max	Quiescent	45	V
Maximum output current	I _O peak		4	A
Allowable power dissipation	P _d max	With heat sink	25	W
Operating temperature	T _{opr}		-20 to +75	°C
Storage temperature	T _{stg}		-40 to +150	°C

1. Stresses exceeding those listed in the Absolute Maximum Rating table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

RECOMMENDED OPERATING RANGE at Ta = 25°C (Note 2)

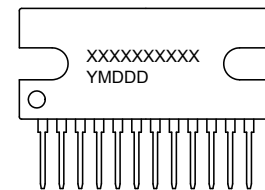
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V _{CC}		32	V
	V _{CC op}		10 to 40	V
Recommended load resistance	R _L		8	Ω

2. Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.



SIP12 26.8 mm x 11.8 mm

GENERIC MARKING DIAGRAM*



XXXXX = Specific Device Code
Y = Year
M = Month
DDD = Additional Traceability Data

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

ORDERING INFORMATION

Ordering Code:
LA4282-E

Package
SIP12
(Pb-Free / Halogen Free)

Shipping (Qty / packing)
20 / Fan-Fold

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.
http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF

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ELECTRICAL CHARACTERISTICS at $T_a = 25^\circ\text{C}$, $V_C = 32\text{V}$, $R_L = 8\ \Omega$, $f = 1\text{kHz}$, $R_g = 600\ \Omega$, See Test Circuit. (Note3)

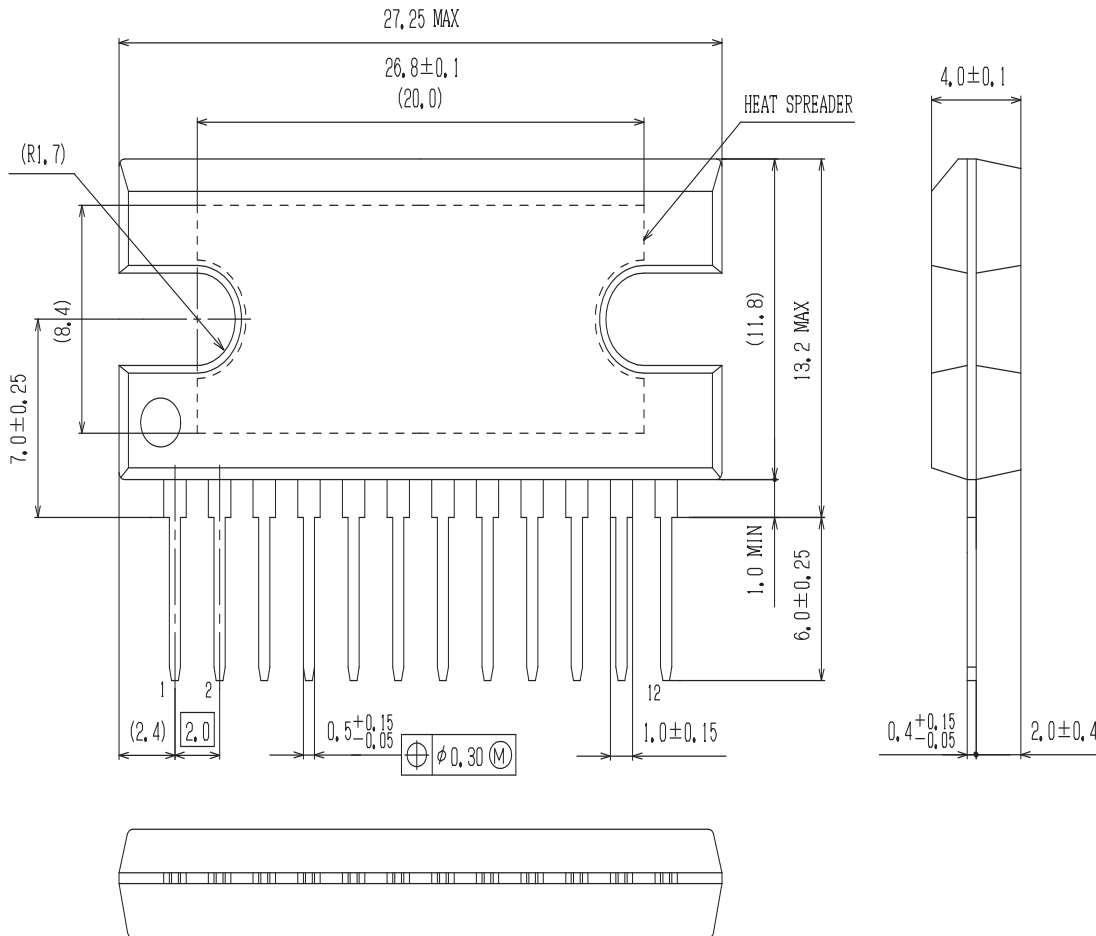
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	$I_{CCO(1)}$	Quiescent	30	60	100	mA
	$I_{CCO(2)}$	Muting switch On	30	56	100	mA
Voltage gain	VG		38	40	42	dB
Voltage gain difference	'VG				1.5	dB
Output power	$P_O(1)$	THD = 1%	9.0	10.0		W
	$P_O(2)$	THD = 3%	10.0	11.5		W
Total harmonic distortion	THD	$P_O = 2\text{W}$		0.05	0.20	%
Output noise voltage	V_{NO}	$R_g = 10\text{k}\ \Omega$, BW = 20Hz to 20kHz		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

3. Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

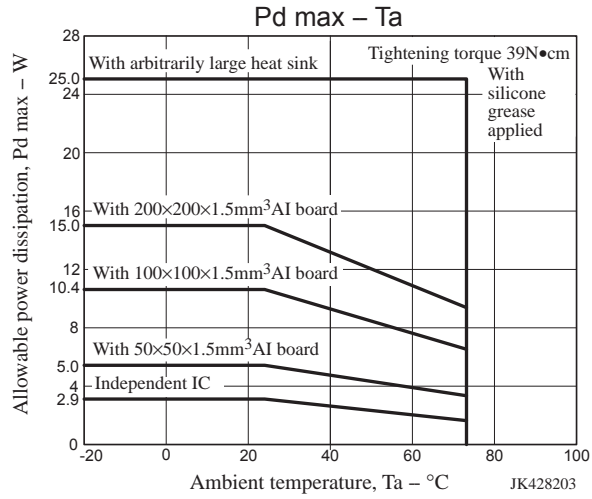
PACKAGE DIMENSIONS

unit : mm

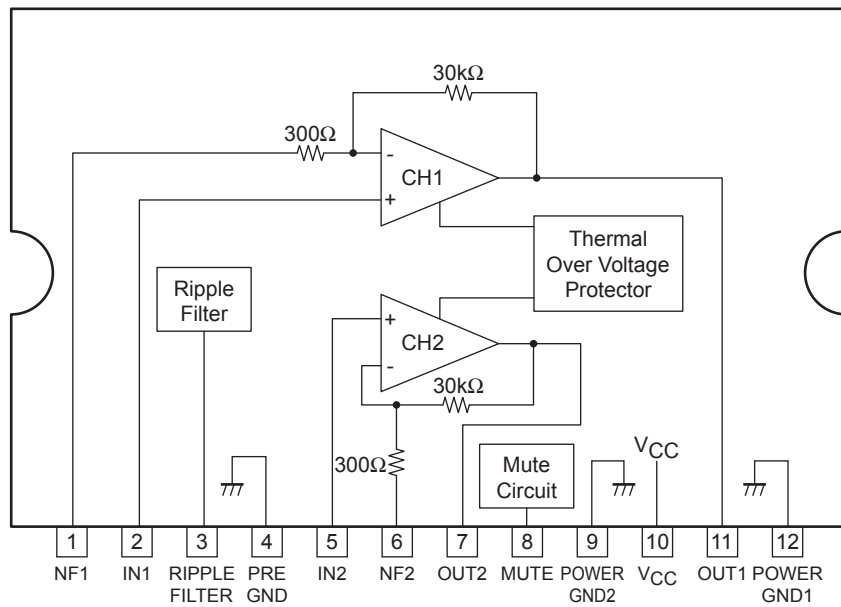
SIP12 26.8x11.8 / SIP12H
CASE 127AM
ISSUE A



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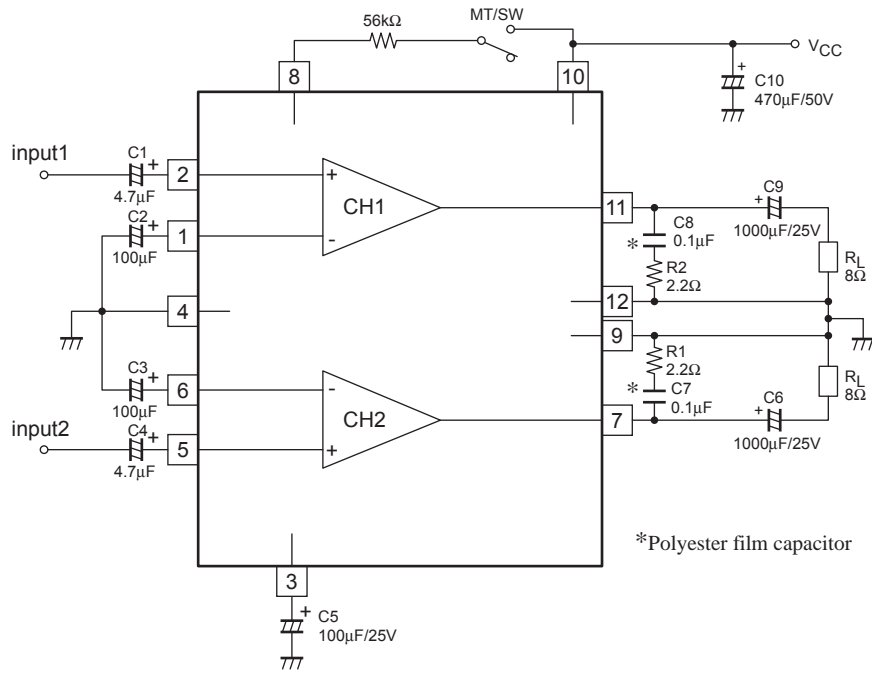


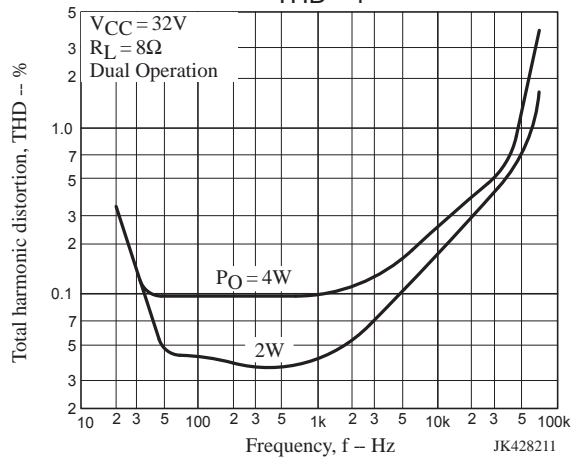
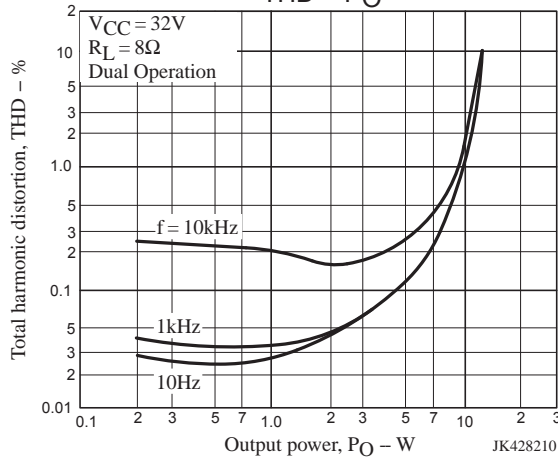
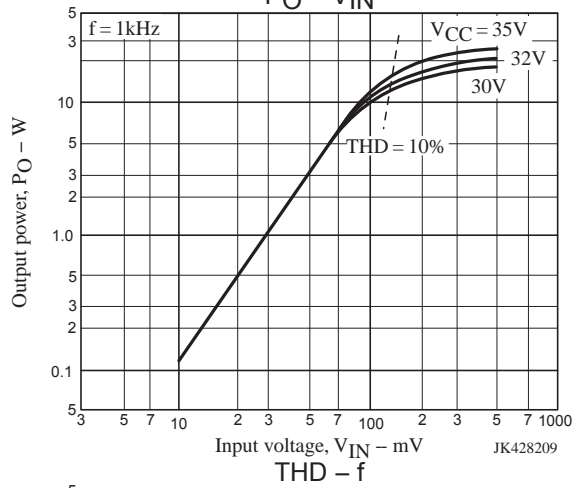
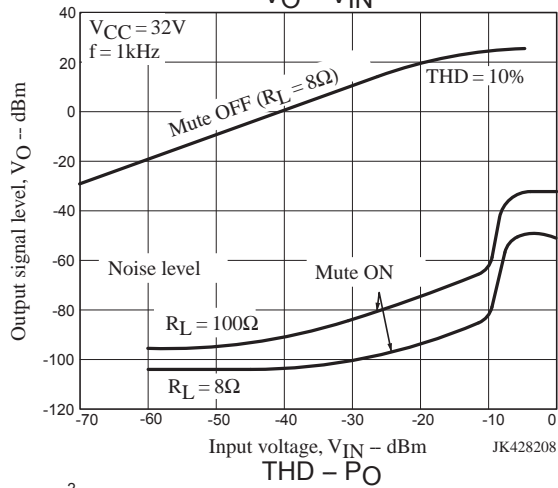
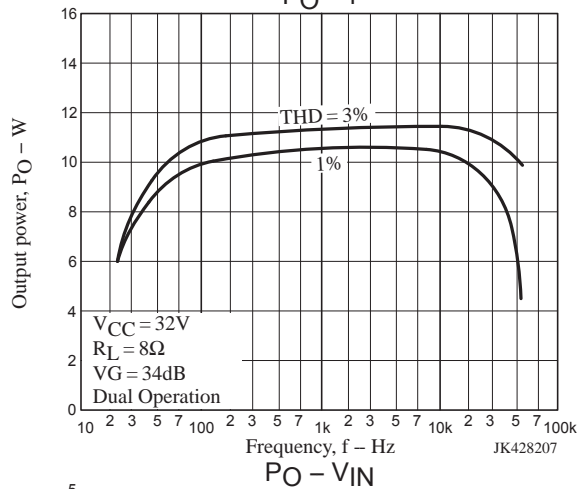
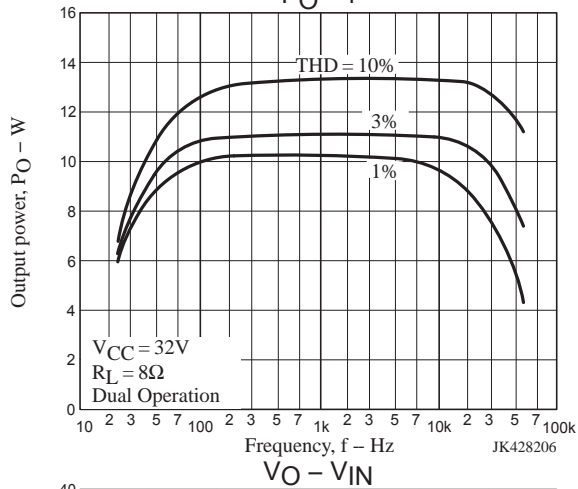
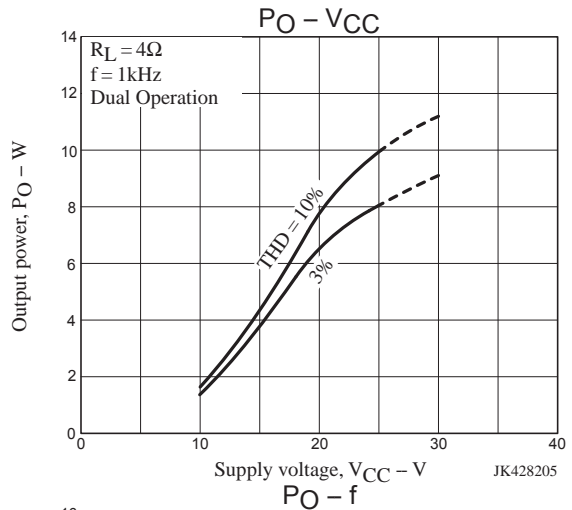
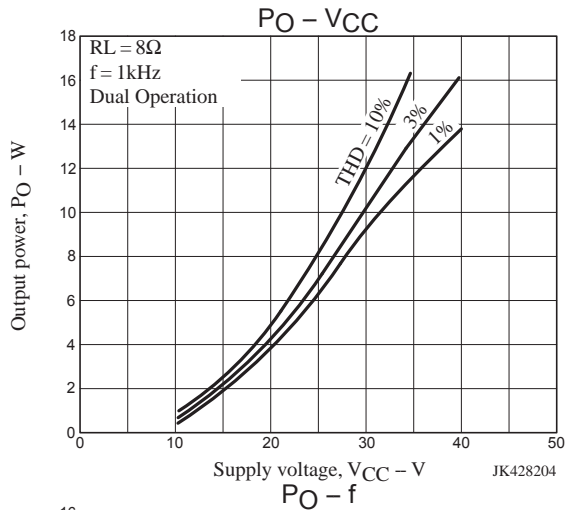
Pin Assignment and Block Diagram

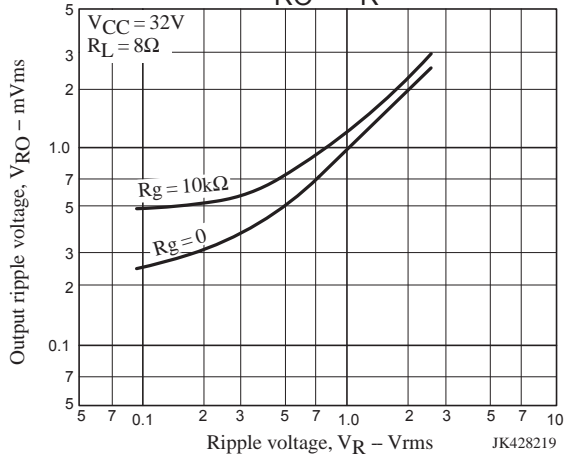
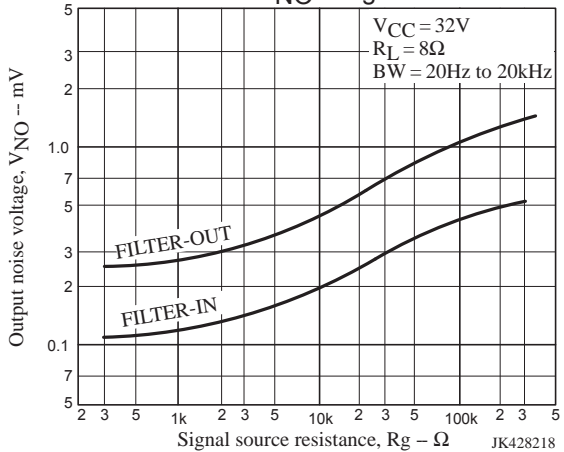
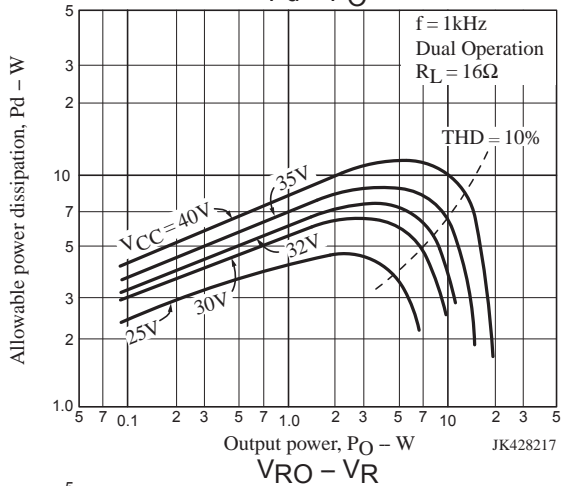
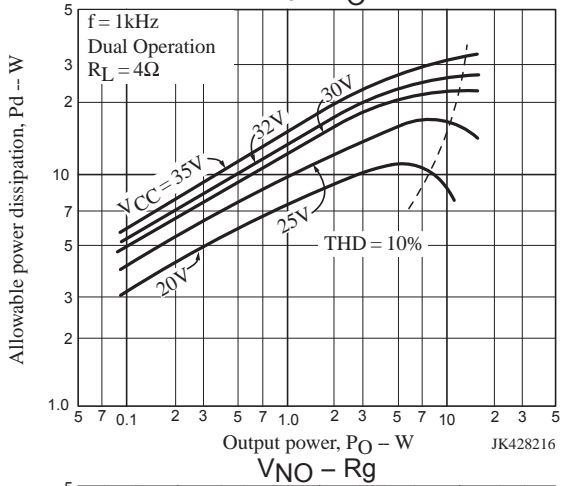
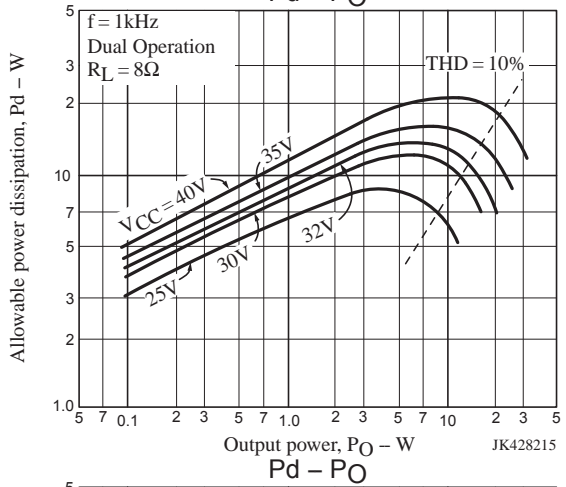
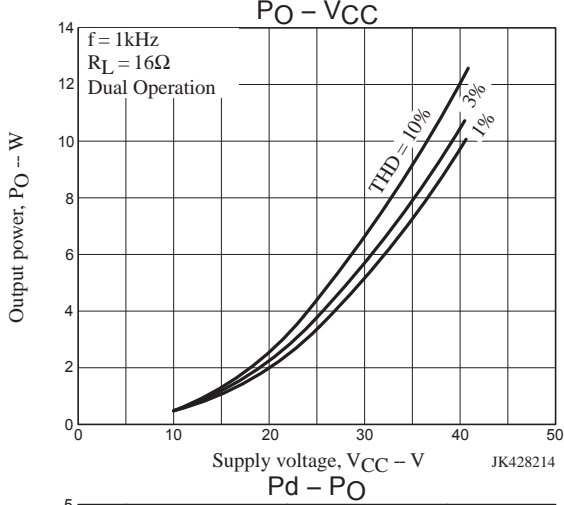
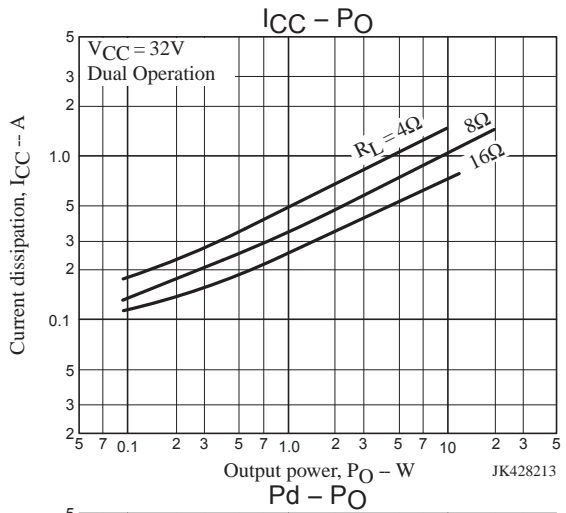
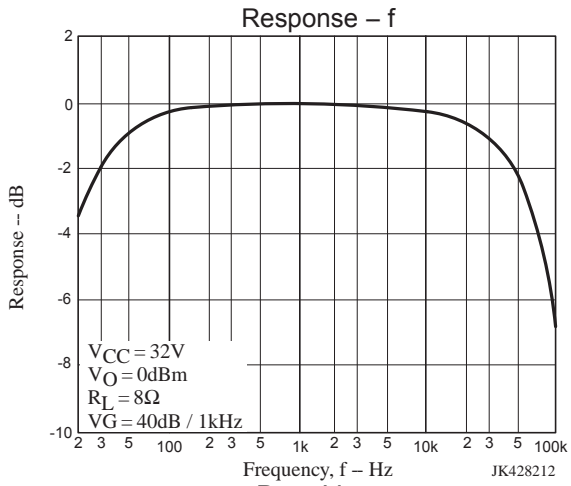


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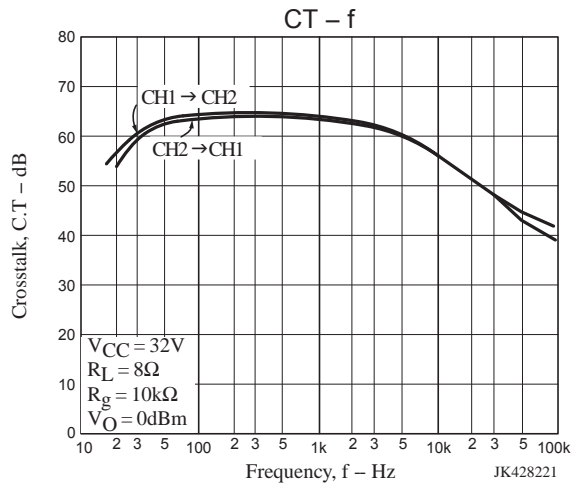
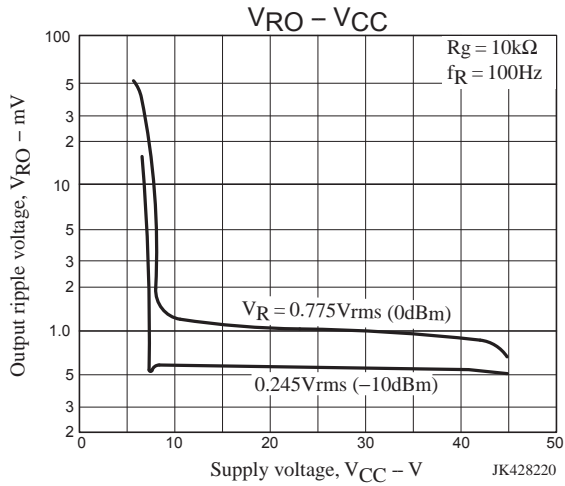
Test Circuit







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