

SANYO

No.2080C



LA4465, 4466

Monolithic Linear IC

BTL-OCL 12W AF POWER AMP FOR CAR STEREO USE

Features

- Basically pin-compatible with the LA4465N,4461N (However, some changes must be made in the external parts when using the LA4465,4466 in place of the LA4460,4461.)
- On-chip power switch of small current capacity
Standby current: 1mA/max.
Mechanical switch: 200uA/typ.
- Ripple rejection: 46dB/typ.
- On-chip pop noise preventer (Coupled with the ignition key. Low pop noise at the time of power supply ON/OFF and abrupt discharge of capacitor).
- On-chip protectors
Output pin-to- V_{CC} short protector, output pin-to-GND short protector, overvoltage surge protector, thermal shutdown protector, external audio muting (active-low)

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

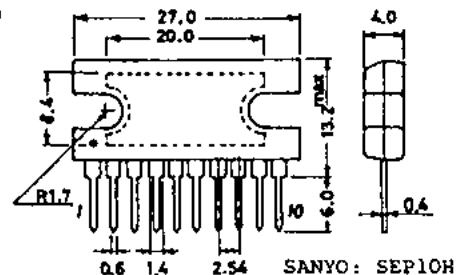
			unit
Maximum Supply Voltage	$V_{CC\max}$	Quiescent, $t=30\text{sec}$	26 V
		Quiescent	18 V
		Operating	16 V
Surge Supply Voltage	V_{CCsg}	$t=0.2\text{sec}$, single giant pulse,	50 V
		rise time 1msec.	
Output Current	I_{op}		4 A
Thermal Resistance	θ_{j-c}		3 $^\circ\text{C/W}$
Junction Temperature	T_{jmax}		150 $^\circ\text{C}$
Allowable Power Dissipation	P_{dmax}		15 W
Operating Temperature	T_{opg}		-20 to +75 $^\circ\text{C}$
Storage Temperature	T_{stg}		-40 to +150 $^\circ\text{C}$

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

			unit
Recommended Supply Voltage	V_{CC}		13.2 V
Recommended Load Resistance	R_L		4 ohm
Operating Supply Voltage Range	V_{CCop}		9 to 16 V

The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced. The information herein is believed to be accurate and reliable. However, no responsibility is assumed by SANYO for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Case Outline 3024A-S10HIC
(unit:mm)



The LA4466 is a pin assignment reversed version of the LA4465.

Specifications and information herein are subject to change without notice.

SANYO Electric Co., Ltd. Semiconductor Overseas Marketing Div.
Natsume Bldg., 18-6, 2-chome, Yushima, Bunkyo-ku, TOKYO 113 JAPAN

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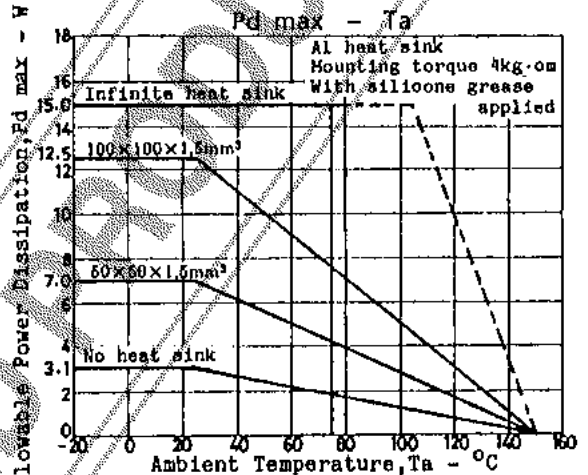
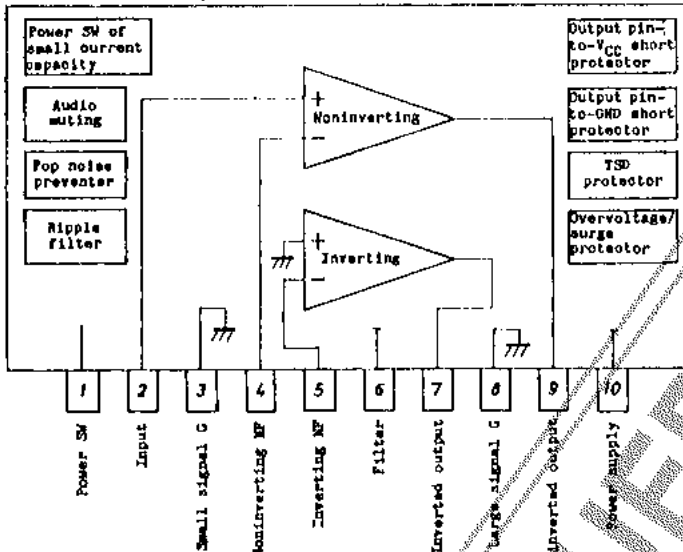
LA4465, 4466

Operating Characteristics at $T_a=25^{\circ}\text{C}$, See Sample Application Circuit 1.

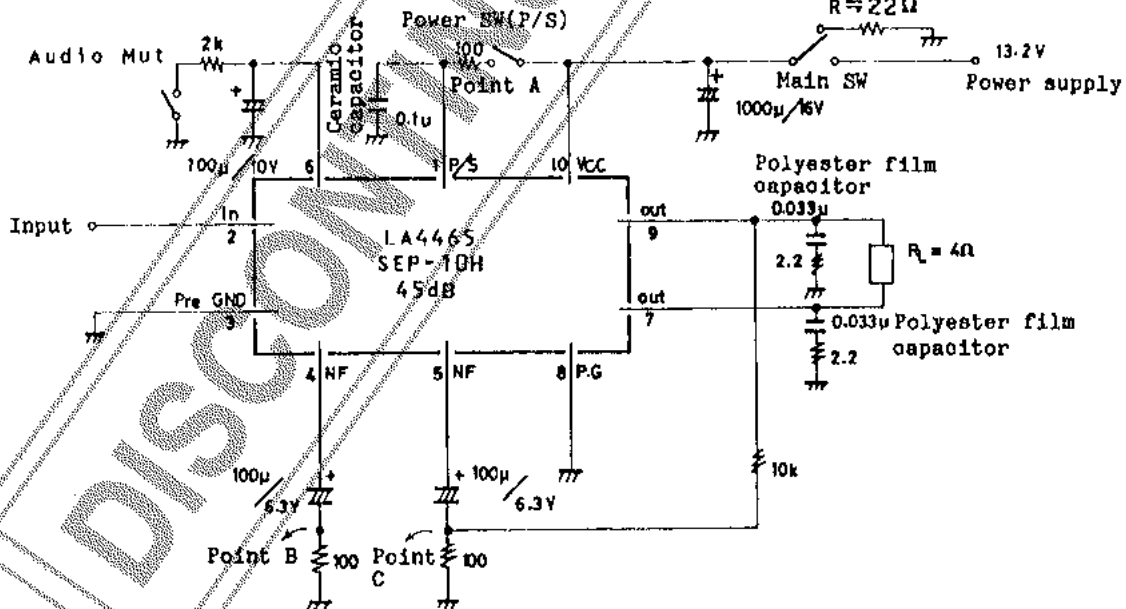
			min	typ	max	unit
Quiescent Current	I_{COO}		25	50	100	mA
Voltage Gain	VG		43	45	47	dB
Output Power	P_o	THD=10%	10	12		W
Total Harmonic Distortion	THD	$P_o=1\text{W}$		0.06	0.3	%
Output Noise Voltage	V_{NO}	$R_g=0, \text{B.P.F.}(20\text{Hz to } 20\text{kHz})$		0.2	0.4	mV
Output Noise Voltage		$R_g=10\text{kohms}, "$		0.4	0.8	mV
Audio Muting Attenuation	Att	$R_g=600\text{ohms}, V_o=0\text{dBm}, f=1\text{kHz}$		80		dB
Standby Current	I_{st}				1	mA
Ripple Rejection	Rr	$R_g=0, V_R=0\text{dBm}, f_R=100\text{Hz}$	40	46		dB

LA4465 Pin Assignment

(For the LA4466, the pin assignment is reversed.)



Sample Application Circuit 1



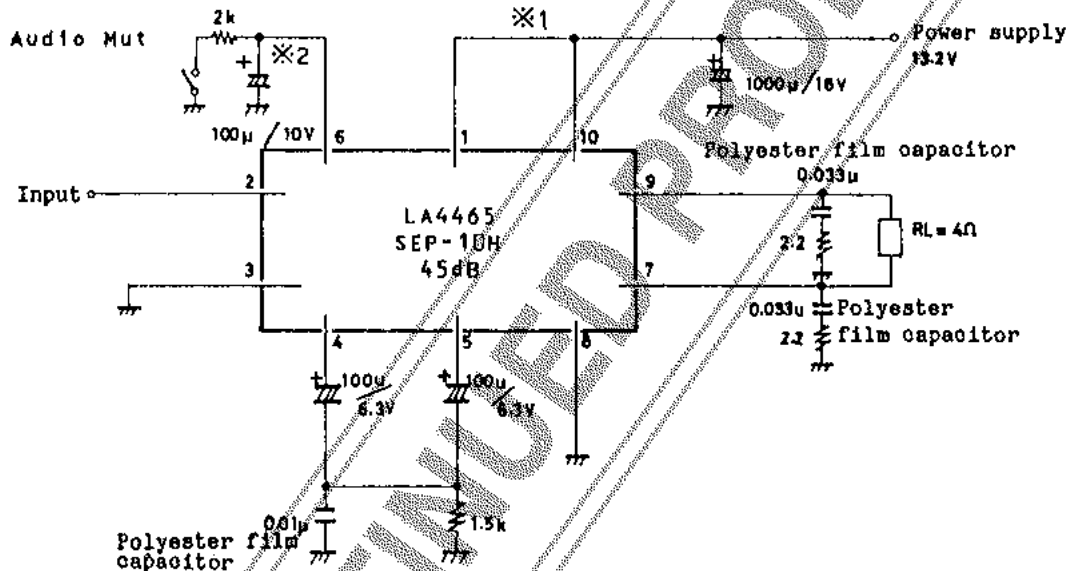
- Notes . A little residual noise is present at the power switch-OFF mode in the Sample Application Circuit shown above. To reduce the residual noise, short point B and point C. This does not apply to Sample Application Circuits 2 and 3.
- . If the external power is applied to point A of the power switch with the main switch turned OFF, the power switch control transistor inside the IC may deteriorate. (If the IC is inserted invertedly, the power switch control transistor will deteriorate.)

- . When performing ON/OFF repeat test using the main switch without using the power switch, connect a power capacitor discharging resistor ($R \approx 220\Omega$) to one end of the main switch as shown above, thereby resulting in much less pop noise caused by ON/OFF repeat.
- . If the output terminal is connected mistakenly (e.g. grounded), the IC will be out of and locked. The IC reset is performed by turning ON the main switch or power switch again.

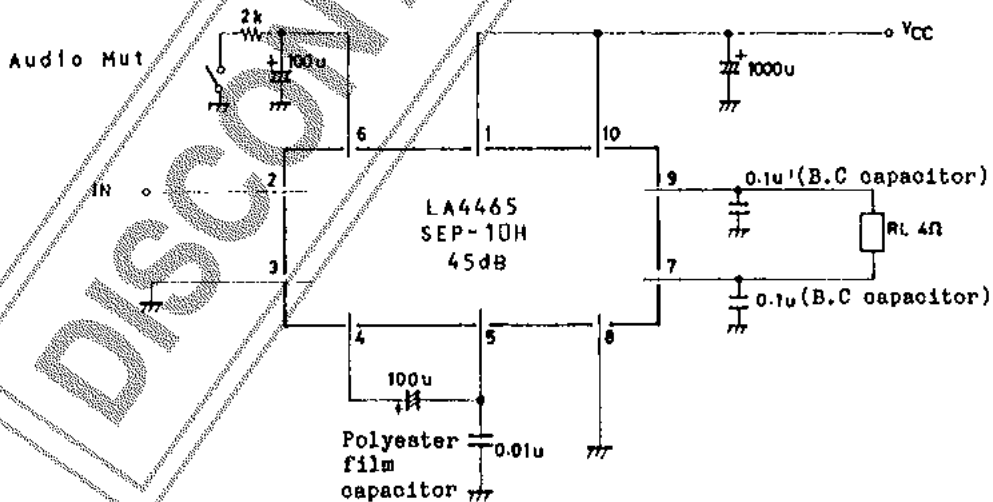
Sample Application Circuit 2: How to change the external parts when using the LA4465 in place the LA4460

<Differences>

- . Approximately 5dB lower because of $V_G=45\text{dB}$
- . Short pins ① - ⑩ of #1 externally. However, when used for the power switch, connect a resistor of 100ohms and a capacitor of 0.1uF in the same manner as in the Sample Application Circuit 1.
- . Filter capacitor of #2 (Used to improve pop noise SVRR)



Sample Application Circuit 3: Application where very few external parts (5 pcs.) are used



- . We think that this oscillation compensation method is effective for car stereo applications where no feedthrough type capacitor is used.
- . If the power switch is required, connect a resistor of 100ohms and a capacitor of 0.1uF as shown in the Sample Application Circuit 1.