



SANYO Semiconductors

DATA SHEET

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 Ta=25°C

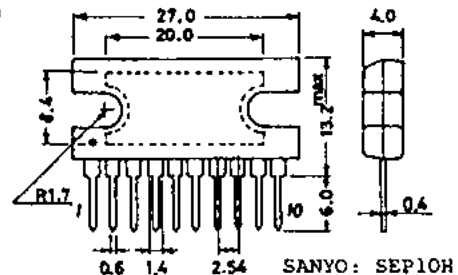
			unit
Maximum Supply Voltage	V _{CCmax}	Quiescent, t=30sec	26 V
		Quiescent	18 V
		Operating	16 V
Surge Supply Voltage	V _{CCsg}	t=0.2sec, single giant pulse, rise time 1msec.	50 V
Output Current	I _{op}		4 A
Thermal Resistance	θ _{jc}		3 °C/W
Junction Temperature	T _{jmax}		150 °C
Allowable Power Dissipation	P _{omax}		15 W
Operating Temperature	T _{opg}		-20 to +75 °C
Storage Temperature	T _{stg}		-40 to +150 °C

Operating Conditions at Ta=25°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 Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

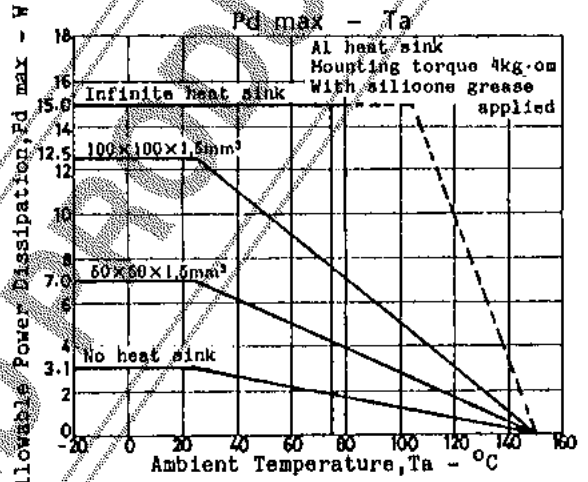
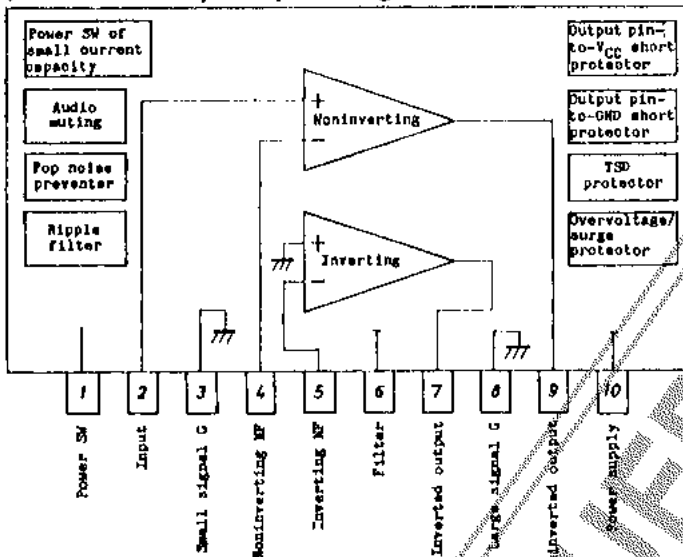
LA4465, 4466

Operating Characteristics at Ta=25°C, See Sample Application Circuit 1.

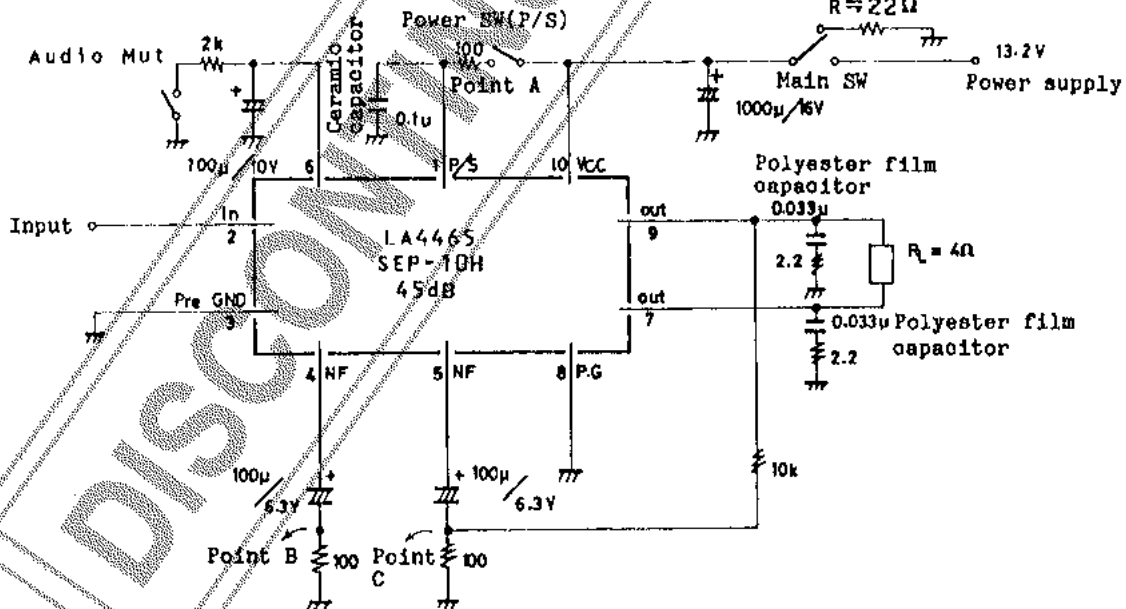
			min	typ	max	unit
Quiescent Current	I _{cc0}		25	50	100	mA
Voltage Gain	VG		43	45	47	dB
Output Power	P _o	THD=10%	10	12		W
Total Harmonic Distortion	THD	P _o =1W		0.06	0.3	%
Output Noise Voltage	V _{NO}	R _g =0, B.P.F.(20Hz to 20kHz)		0.2	0.4	mV
Output Noise Voltage		R _g =10kohms, "		0.4	0.8	mV
Audio Muting Attenuation	Att	R _g =600ohms, V _o =0dBm, f=1kHz		80		dB
Standby Current	I _{st}				1	mA
Ripple Rejection	R _r	R _g =0, V _R =0dBm, f _R =100Hz	40	46		dB

LA4465 Pin Assignment

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



Sample Application Circuit 1



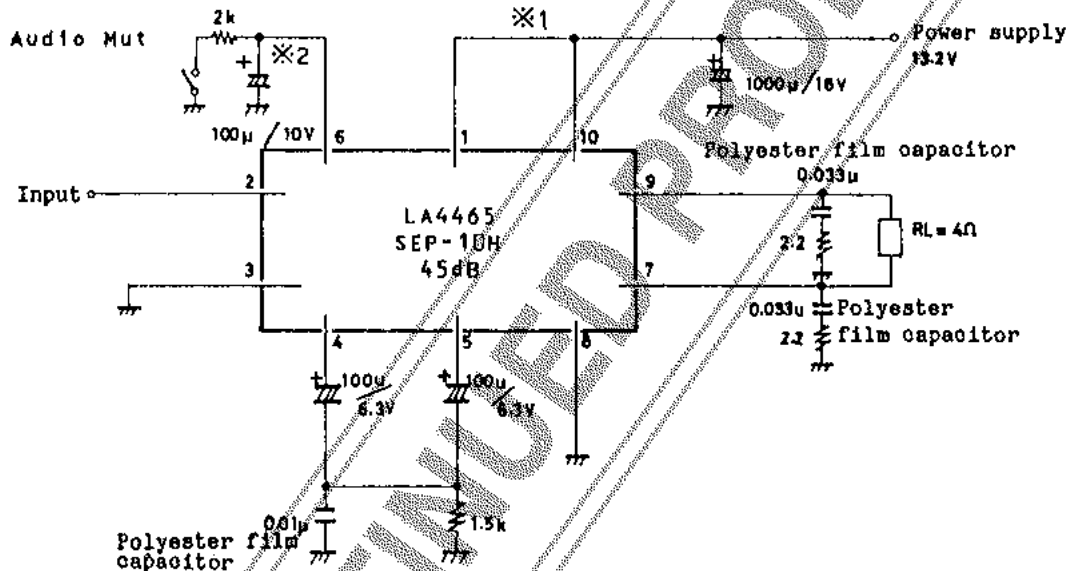
- Notes . A little residual noise is present at the power switch-OFF mode in the Sample Application Circuit shown above. To reduce the residual noise, short point B and point C. This does not apply to Sample Application Circuits 2 and 3.
- . If the external power is applied to point A of the power switch 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.

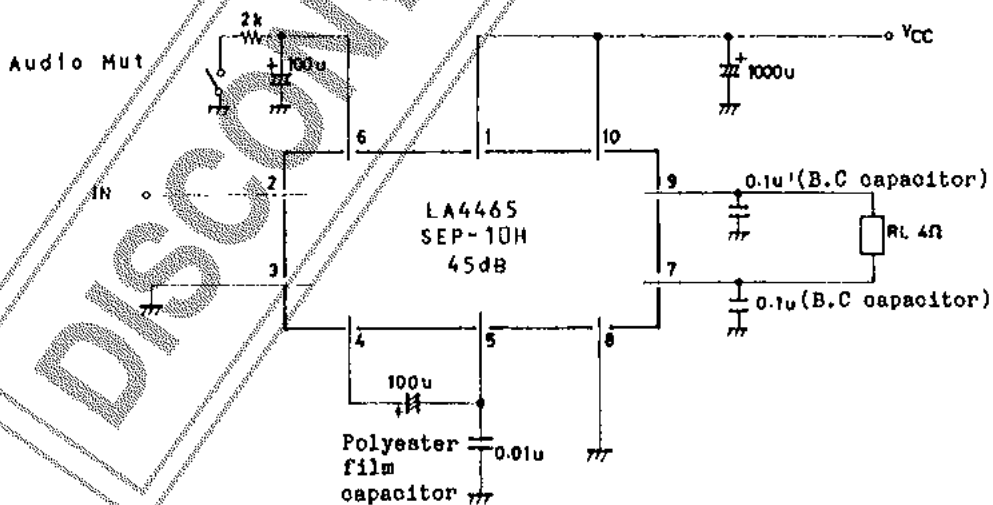
Sample Application Circuit 2: How to change the external parts when using the LA4465 in place the LA4460

<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.