Ordering number : EN4548A

Thick Film Hybrid IC

SANYO

No. 4548A

STK4028 II

AF Power Amplifier (Split Power Supply) (30 W min, THD = 0.4 %)

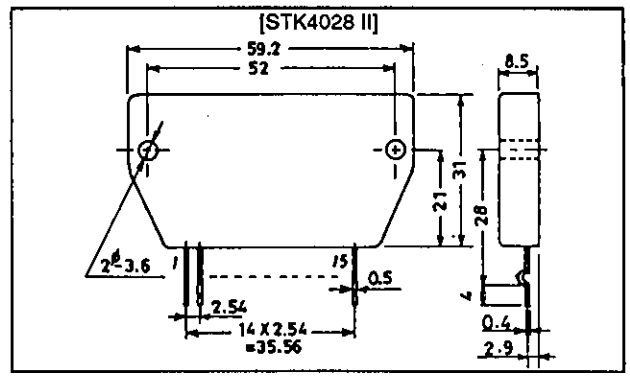
Features

- Compact packaging supports slimmer set designs
- Series designed for 20 up to 200 W and pin-compatibility
- Simpler heat sink design facilitates thermal design of slim stereo sets
- The pulse noises associated with turning the power on and off have been reduced by the adoption of fixed current circuits
- Supports addition of electronic circuits for thermal shutdown and load-short protection circuit as well as pop noise muting which occurs when the power supply switch is turned on and off

Package Dimensions

unit: mm

4033



Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		±42	V
Thermal resistance	θj-c		2.1	°C/W
Junction temperature	Tj		150	°C
Operating substrate temperature	Tc		125	°C
Storage temperature	T_{stg}		−30 to +125	°C
Available time for load shorted	t_S*1	V_{CC} = ±27.5 V, R_L = 8 Ω, f = 50 Hz, P_O = 30 W	2	s

Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		±27.5	V
Load resistance	R_L		8	Ω

Operating Characteristics at Ta = 25°C, V_{CC} = ±27.5 V, R_L = 8 Ω, VG = 40 dB, Rg = 600 Ω, 100 kHz LPF on, R_L (noninductive)

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Quiescent current	I_{CCO}	V_{CC} = ±33 V	10	20	50	mA
Output power	P_O (1)	THD = 0.4%, f = 20 Hz to 20 kHz	30			W
	P_O (2)	V_{CC} = ±25 V, THD = 1.0%, R_L = 4 Ω, f = 1 kHz	35			W
Total harmonic distortion	THD	P_O = 1.0 W, f = 1kHz			0.3	%
Frequency response	f_L, f_H	P_O = 1.0 W, $^{+0}_{-3}$ dB		20 to 50k		Hz
Input resistance	ri	P_O = 1.0 W, f = 1kHz		55		kΩ
Output noise voltage	V_{NO} *2	V_{CC} = ±33 V, Rg = 10 kΩ			1.2	mVrms
Neutral voltage	V_N	V_{CC} = ±33 V	−70	0	+70	mV

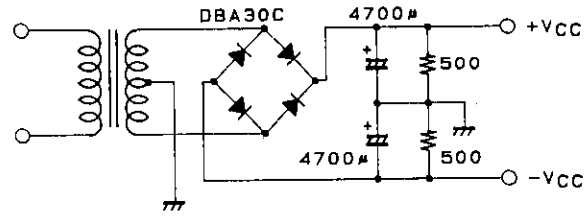
Note: Use rated power supply for test unless otherwise specified.

*1. Use the transformer power supply shown on the next page when measuring the available time for load shorted and the output noise voltage.

*2. Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.

SANYO Electric Co., Ltd. Semiconductor Business Headquarters

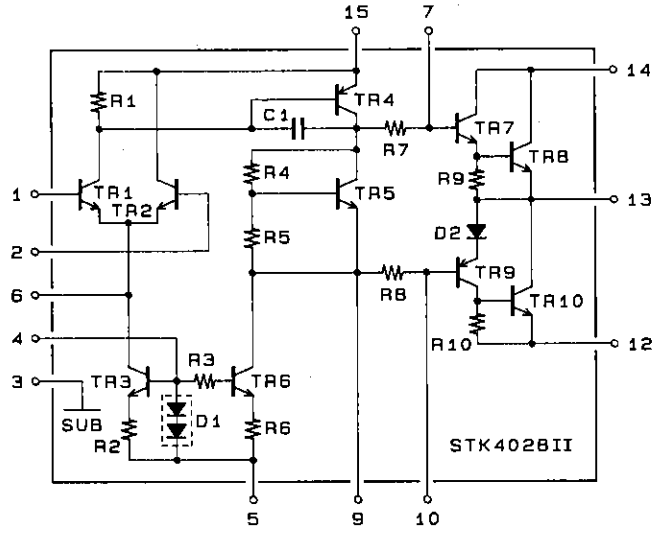
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN



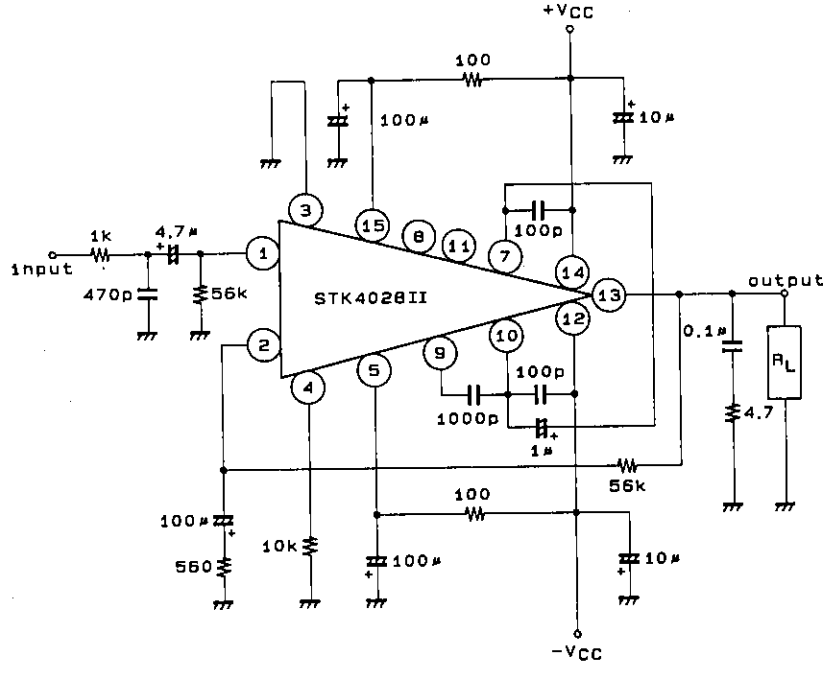
Unit (resistance:Ω , capacitance: F)

Specified Transformer Power Supply
(RP-25 equivalent)

Equivalent Circuit

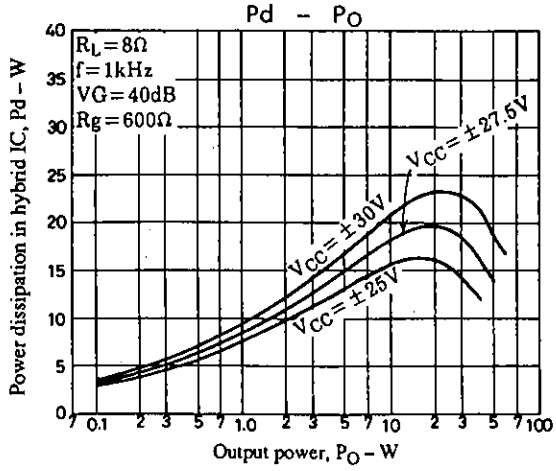


Sample Application Circuit: 30 W min AF Power Amplifier

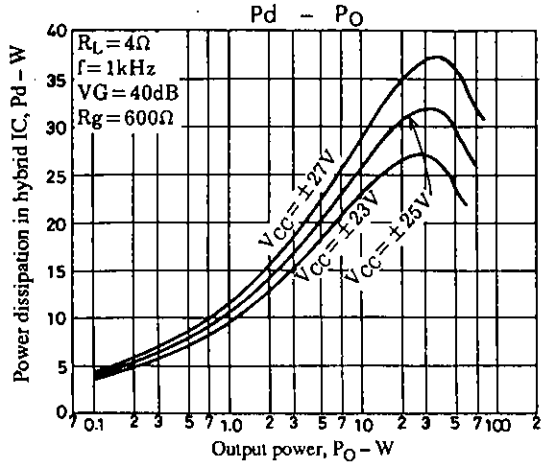


Unit (resistance:Ω , capacitance: F)

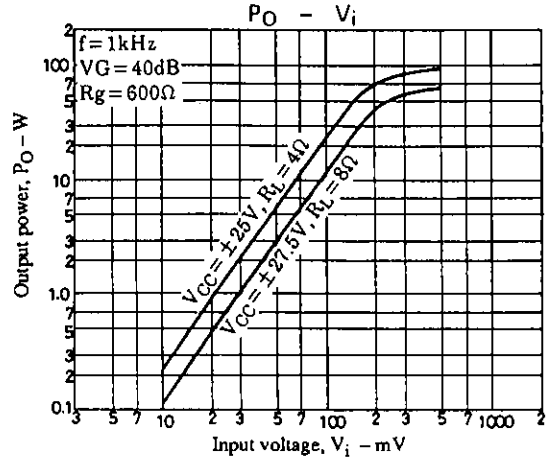
Pd – P_O



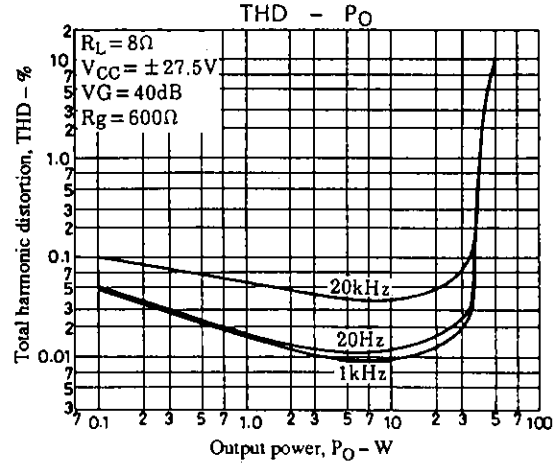
Pd – P_O



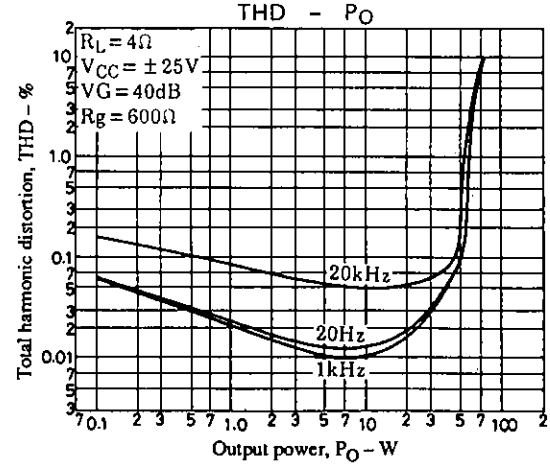
P_O – V_i



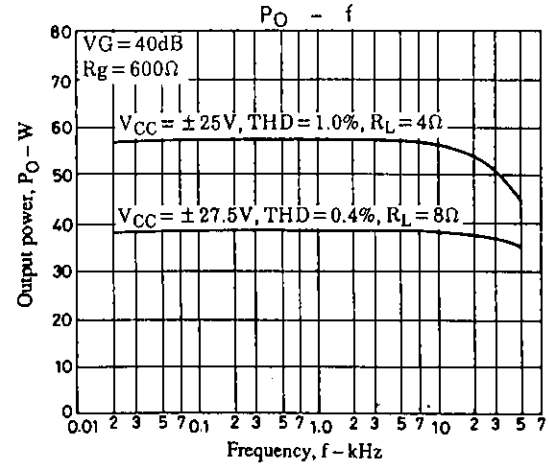
THD – P_O



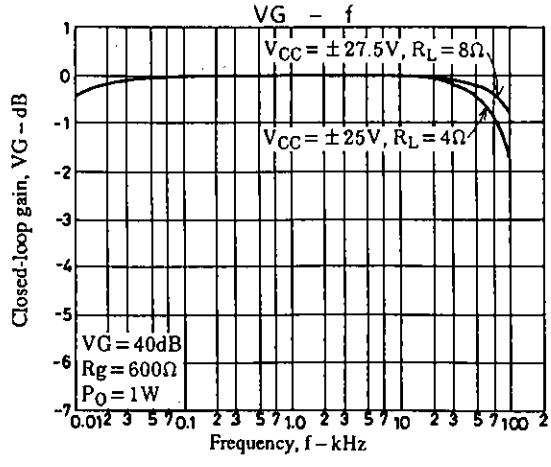
THD – P_O



P_O – f



VG – f



VG – f