

# D.P.P. (DARLINGTON POWER PACK) thick film hybrid IC

CIRCUIT DRAWING  
No.6001-6003

## OUTPUT STAGE OF AF POWER AMP.

### Features

General output stage of power amplifier has a difficult and complex problem about heat sink designing and its setting. Sanyo's D.P.P. intends to decrease electronic parts and rationalize a manufacturing process by designing IC of only output stage of power amplifier.

- IMST system.
- Output stage for AF high power amplifier.
- Dual power supply.

- Darlington type pure / quasi-complementary circuit.
- These same pin assignment and pin interval lead to standardize a printed board.
- Metal substrate use IMST<sup>®</sup> makes good thermal stability.
- Able to design freely previous section of power amplifier. This leads tone control designing.

Type Number	Maximum Ratings at Ta=25°C							Operation Characteristics at Ta=25°C				
	Case Outline	Maximum Supply Voltage V <sub>CCmax.</sub>	Junction Temperature T <sub>J</sub>	Storage Temperature T <sub>stg</sub>	Thermal Resistance, $\theta$	Collector Current, I <sub>Cmax.</sub>	Allowable Load Shorting Time, t <sub>s</sub>	Supply Voltage at Rated Power at Output P <sub>L</sub> 1-80	Output Power, P <sub>o</sub> (f=20 to 20kHz)	Total Harmonic Distortion, THD(f=20 to 20kHz)	Quiescent Current, I <sub>cco</sub>	
Pure-Complementary Circuit	Quasi-Complementary Circuit	V	°C	°C	°C/W	A	sec	V	W	%	mA	
1-Channel Darlington Power Pack (Without emitter resistance)												
STK0080	4006	+65	150	-30 to +105	1.3	10	-	+46	80 min.	0.1 max.	40 typ, 80 max.	
STK0100	4006	+75	150	-30 to +105	1.1	12	-	+50	100 min.	0.1 max.	40 typ, 80 max.	
1-Channel Darlington Power Pack (With emitter resistance)												
STK1030	4004	+40	150	-30 to +105	2.4	5	2	+28.5	30 min.	0.02 max.	40 typ, 80 max.	
STK1040	4004	+48	150	-30 to +105	1.8	7	2	+33	40 min.	0.02 max.	40 typ, 80 max.	
STK1050	4004	+53	150	-30 to +105	1.8	7	2	+36	50 min.	0.02 max.	40 typ, 80 max.	
STK1060	4004	+56	150	-30 to +105	1.6	10	-	+40	60 min.	0.02 max.	40 typ, 80 max.	
STK1070	4006	+60	150	-30 to +125	1.3	10	-	+43	70 min.	0.02 max.	40 typ, 80 max.	
2-Channel Darlington Power Pack (With emitter resistance)												
STK2230	4015	+48	150	-30 to +105	2.1	4	2	+30	30x2 min.	0.01 max.	35 typ, 80 max.	
STK2240	4015	+54	150	-30 to +105	1.8	5	2	+33.5	40x2 min.	0.01 max.	35 typ, 80 max.	
STK2250	4015	+59	150	-30 to +105	1.8	5	2	+37	50x2 min.	0.01 max.	35 typ, 80 max.	

# STK075 SERIES

thick film hybrid IC

CIRCUIT DRAWING  
No.6004

## 20 TO 35W MIN AF POWER AMP.



### Features

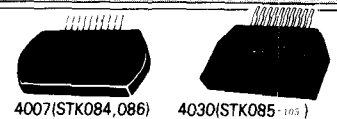
- © IMST, 1 Channel by 2 Power Supplies.
- AF output power STK 077: 20W min., STK 078: 24W min., STK 080: 30W min., STK 082: 35W min.
- Differential amp. constant current driving.
- Capable of tone controlling.
- STK 078-105 and STK 082-105 are for the use of T<sub>C</sub>=105°C.

# STK084, 085-105 086

thick film hybrid IC

CIRCUIT DRAWING  
No.6005

## 50 TO 70W MIN AF POWER AMP.



### Features

- © IMST, 1 Channel by 2 Power Supply.
- AF Output Power STK 084: 50 Wmin, STK 085-105: 60 Wmin, STK 086: 70 Wmin.
- Capable of setting protector for load shorting and tone controller.

LA 4 1 2 6 T	130	DIP	18H	3009A	2063	4.2W typ 2-Channel (9W/8Ω typ for Br.)	12	4.2×2/10.4	45×2	1.5/0.25	60
LA 4 1 8 5 T	132	SEP	14H	3023A	2073	4.2W typ 2-Channel (9W/8Ω typ for Br.)	12	4.2×2/10.4	45×2	1.5/0.25	60
LA 4 5 0 0	135	DIP	20H	3037A	2083	5.3W typ 2-Channel (9.5W/12V, 6Ω for Br.)	12	5.3×2/10.3	50×2	1.5/2V	30
LA 4 5 0 5	136	DIP	20H	3037A	2083	8.5W typ 2-Channel (16W/15V, 6Ω for Br.)	15	8.5×2/10.3	50×2	1.5/2V	30
LA 4 5 0 7	136	SEP	14H	3023A	2082	8.5W typ 2-Channel (16W/15V, 6Ω for Br.)	15	8.5×2/10.3	50×2	1.5/2V	30
LA 4 5 0 8	136	SEP	14H	3023A	2084	8.5W typ 2-Channel (16W/15V, 6Ω for Br.)	15	8.5×2/10.3	50×2	1.5/2V	30
※LA 4 5 4 0	138	SEP	18	-	2088	18W, Br. OLC Only (18W/15V, 4Ω)	15	18/10.4	46	0.1typ/2W	56typ
LA 4 4 2 2	134	SEP	10F	3018A	2078	5.8W typ AF Power Amp for Car Stereo, Car Radio	13.2	5.8/10.4	53	2.0/1	80
LA 4 4 4 0	134	SEP	14H	3023A	2079	6.0W typ 2-Channel (19W typ for Br.)	13.2	6.0×2/10.4	51.5×2	1.0/1	200
LA 4 4 4 5	134	SEP	12H	3049A	2080	5.5W typ 2-Channel	13.2	5.5×2/10.4	51.5×2	1.0/1	75typ
LA 4 4 6 0	135	SEP	10H	3024A	2081	12W typ AF Power Amp for Car Stereo, Car Radio (Br. only)	13.2	12/10.4	51	1.0/1	120
LA 4 4 6 1	135	SEP	10H	3024A	2081	12W typ AF Power Amp for Car Stereo, Car Radio (Br. only)	13.2	12/10.4	51	1.0/1	120
LA 4 1 7 0	131	DIP	14T	3005A	2070	2-Channel Amp for Headphone	14	-	9×2	1/0.1V	15
LA 4 1 7 5	131	DIP	14T	3005A	2071	2-Channel Amp for Recording Output, Headphone	12	-	38×2	0.5/1V	15
LA 4 5 2 0	137	DIP	20S	3021B	2086	2-Channel Preamp + Power Amp for Headphone	4.5to6	Pre 1V/1.10K Power 1V/1.32	35×2 45×2	-	25
○LA 4 5 3 0 M	137	MFP	20	3036B	2087	2-Channel Amp for Headphone	3	33m/10.32	45×2	0.2typ/5mW	8typ
LA 4 5 3 0 S	137	SEP	16	3020A	2087	2-Channel Amp for Headphone	3	33m/10.32	45×2	0.2typ/5mW	8typ
○LA 4 5 6 0 M	138	MFP	24	3045A	2090	Auto Reverse 2-Channel Preamp + Power Amp for Headphone	4.5to6	-	(35+45)×2	-	10typ

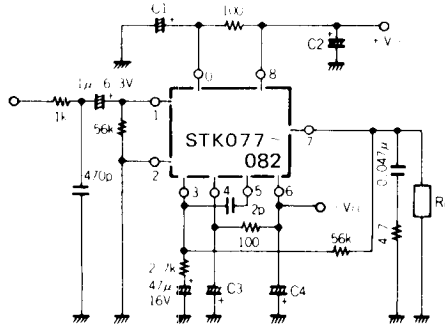
## ALL IN ONE/MONAUROAL AF POWER AMP'S (thick film hybrid integrated circuit)

### ●STK075 SERIES

Type Number	Page	Case			Circuit Drawing No.	Circuit Functions & Applications ★Dual-Supply Operation	Recommended $V_{CC}, R_L$ [V], [Ω]	Main Characteristics/ $T_a=25^\circ\text{C}$ , recommended operating conditions			
		Package	Pins	Package No.				$I_{CCO}$ [mAmax]	$P_o/THD$ [Wmin/%]	$THD/P_o$ [%max/W]	f response [Hz]
STK077	255	SEP	10	4007	6004	★ 20Wmin AF Power Amp	±22.0.8	100	20/0.3	0.3/0.1~20	10 to 100k
STK078	255	SEP	10	4007	6004	★ 24Wmin AF Power Amp	±25.0.8	100	24/0.2	0.2/0.1~24	10 to 100k
STK080	255	SEP	10	4007	6004	★ 30Wmin AF Power Amp	±27.0.8	100	30/0.2	0.2/0.1~30	10 to 100k
STK082	255	SEP	10	4007	6004	★ 35Wmin AF Power Amp	±30.0.8	100	35/0.2	0.2/0.1~35	10 to 100k
STK084	255	SEP	10	4007	6005	★ 50Wmin AF Power Amp	±35.0.8	100	50/0.2	0.2/1~50	10 to 100k
STK085-105	255	SEP	10	4030	6005	★ 60Wmin AF Power Amp	±38.0.8	100	60/0.2	0.2/1~60	10 to 100k
STK086	255	SEP	10	4007	6005	★ 70Wmin AF Power Amp	±42.0.8	100	70/0.2	0.2/1~70	10 to 100k

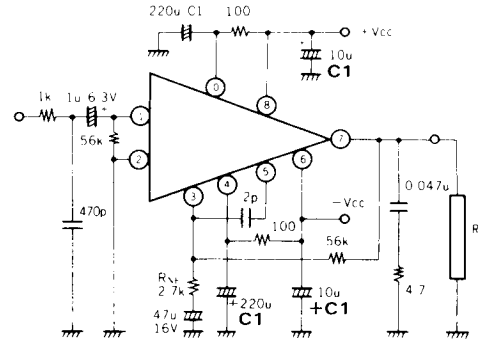
(Note) Type Numbers for  $T_c=105^\circ\text{C}$  are also available.

**6004:STK077,078,080,082  
APPLICATION**



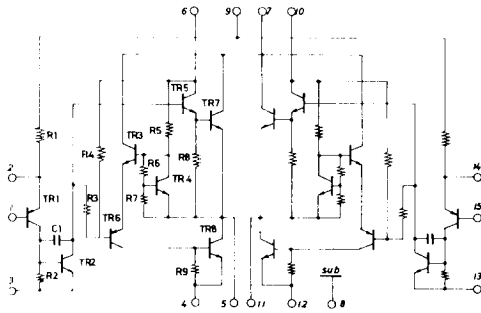
	STK077, 78	STK 080, 82
C1	220μ/35V	220μ/50V
C2	10μ/35V	10μ/50V
C3	220μ/35V	220μ/50V
C4	10μ/35V	10μ/50V

**6005:STK084, 085-105, 086  
APPLICATION:AF Power Amp.**

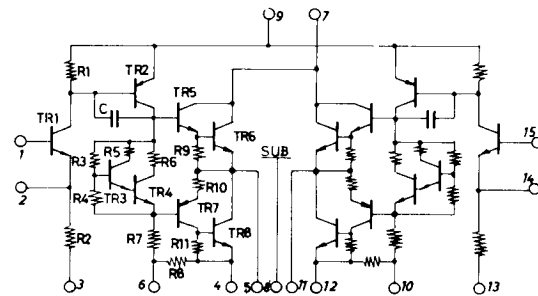


	C1
STK 084, 085-105	50V
STK 086	63V

**6006:STK430 III  
EQUIVALENT CIRCUIT**



**6007:STK433,435,436  
EQUIVALENT CIRCUIT**



**6008:STK437,439,441,443  
EQUIVALENT CIRCUIT**

