D.P.P.

thick film hybrid IC

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.

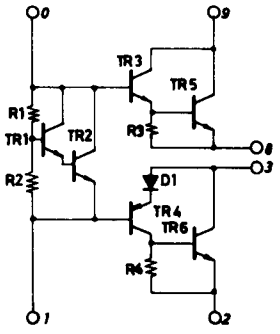
- IMST system.
- Output stage for AF high power amplifier.
- Dual power supply.
- Darlington type pure / quasi-complementary circuit.
- These same pin assignment and pin interval lead to standardize a printed board.
- Metal substrate use IMST© makes good thermal stability.
- Able to design freely previous 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 VCCmax.	Junction Temperature Tj	Storage Temperature, Tstg	Thermal Resistance, θ	Collector Current, ICmax.	Allowable Load Shorting Time, ts	Supply Voltage at Rated Power Output RL=8Ω	Output Power, Po f=20 to 20kHz	Total Harmonic Distortion, THD f=20 to 20kHz	Quiescent Current, Icco	Equivalent Circuit
Pure-Complementary Circuit	Quasi-Complementary Circuit		V	°C	°C	°C/W	A	sec	V	W	%	mA	
1-Channel Darlington Power Pack (Without emitter resistance)													
	STK 0025	4002	±35	150	-30 to +105	2.6	3	2	±24.4	23 min.	0.05 max.	40 typ, 80 max.	
	STK 0029	4002	±37	150	-30 to +105	2.4	5	2	±25.0	25 min.	0.1 max.	40 typ, 80 max.	
STK 0030		4002	±40	150	-30 to +105	2.4	4	2	±28.5	30 min.	0.1 max.	40 typ, 80 max.	
	STK 0039	4004	±45	150	-30 to +105	2.0	5	2	±31	35 min.	0.1 max.	40 typ, 80 max.	
STK 0040		4002	±48	150	-30 to +105	2.0	5	2	±33	40 min.	0.1 max.	40 typ, 80 max.	
	STK 0049	4004	±50	150	-30 to +105	1.8	5	2	±35	45 min.	0.1 max.	40 typ, 80 max.	
STK 0050		4004	±53	150	-30 to +105	1.8	5	2	±36	50 min.	0.1 max.	40 typ, 80 max.	
	STK 0059	4004	±52.5	150	-30 to +105	1.6	7	—	±38	55 min.	0.1 max.	40 typ, 80 max.	
STK 0060		4006	±55	150	-30 to +105	1.4	7	—	±40	60 min.	0.1 max.	40 typ, 80 max.	
STK 0070		4006	±55	150	-30 to +105	1.4	7	—	±43	70 min.	0.1 max.	40 typ, 80 max.	
STK 0080		4006	±65	150	-30 to +105	1.3	10	—	±46	80 min.	0.1 max.	40 typ, 80 max.	
	STK 0105	4007	±75	150	-30 to +105	1.0	10	—	±50	100 min.	0.1 max.	40 typ, 80 max.	
STK 0040II		4002	±48	150	-30 to +105	1.8	5	1	±36	40 min.	0.01 max.	40 typ, 70 max.	
STK 0050II		4004	±53	150	-30 to +105	1.6	6	1	±39	50 min.	0.01 max.	40 typ, 70 max.	
STK 0060II		4006	±55	150	-30 to +105	1.3	8	1	±41	60 min.	0.01 max.	40 typ, 70 max.	
STK 0070II		4006	±60	150	-30 to +105	1.3	10	1	±45	70 min.	0.01 max.	40 typ, 70 max.	
STK 0080II		4006	±65	150	-30 to +105	1.2	12	1	±47	80 min.	0.01 max.	40 typ, 70 max.	
1-Channel Darlington Power Pack (With emitter resistance)													
STK 1030		4004	±40	150	-30 to +105	2.4	5	2	±28.5	30 min.	0.02 max.	40 typ, 80 max.	
	STK 1035	4004	±40	150	-30 to +105	2.4	5	2	±28.5	30 min.	0.02 max.	40 typ, 80 max.	
	STK 1039	4004	±46.1	150	-30 to +105	1.85	6	2	±30	35 min.	0.02 max.	40 typ, 80 max.	
STK 1040		4004	±48	150	-30 to +105	1.8	7	2	±33	40 min.	0.02 max.	40 typ, 80 max.	
	STK 1045	4004	±48	150	-30 to +105	1.8	7	2	±33	40 min.	0.02 max.	40 typ, 80 max.	
	STK 1049	4004	±50	150	-30 to +105	1.8	7	2	±34	45 min.	0.02 max.	40 typ, 80 max.	
STK 1050		4004	±53	150	-30 to +105	1.8	7	2	±36	50 min.	0.02 max.	40 typ, 80 max.	
	STK 1059	4004	±53	150	-30 to +105	1.6	7	—	±38	55 min.	0.02 max.	40 typ, 80 max.	
STK 1060		4004	±56	150	-30 to +105	1.6	10	—	±40	60 min.	0.02 max.	40 typ, 80 max.	
STK 1050II		4020	±55	150	-30 to +105	1.6	6	1	±38	50 min.	0.01 max.	40 typ, 70 max.	
STK 1060II		4020	±56	150	-30 to +105	1.3	8	1	±40	60 min.	0.01 max.	40 typ, 70 max.	
STK 1070II		4020	±63	150	-30 to +105	1.3	10	1	±43	70 min.	0.01 max.	40 typ, 70 max.	
STK 1080II		4020	±65	150	-30 to +105	1.2	10	1	±45	80 min.	0.01 max.	40 typ, 70 max.	
2-Channel Darlington Power Pack (Without emitter resistance)													
	STK 2025	4015	±40	150	-30 to +105	2.6	3	2	±24	20x2 min.	0.02 max.	40 typ, 80 max.	
	STK 2029	4015	±43	150	-30 to +105	2.2	4	2	±25.5	25x2 min.	0.02 max.	40 typ, 80 max.	
2-Channel Darlington Power Pack (With emitter resistance)													
	STK 2135	4015	±48	150	-30 to +105	2.1	4	2	±28.5	30x2 min.	0.02 max.	40 typ, 80 max.	
	STK 2139	4015	±50	150	-30 to +105	1.85	5	2	±30	35x2 min.	0.02 max.	40 typ, 80 max.	
	STK 2145	4015	±54	150	-30 to +105	1.8	7	2	±32	40x2 min.	0.02 max.	40 typ, 80 max.	
STK 2230		4015	±48	150	-30 to +105	2.1	4	2	±30	30x2 min.	0.01 max.	35 typ, 80 max.	
STK 2240		4015	±54	150	-30 to +105	1.8	5	2	±33.5	40x2 min.	0.01 max.	35 typ, 80 max.	
STK 2250		4015	±59	150	-30 to +105	1.8	5	2	±37	50x2 min.	0.01 max.	35 typ, 80 max.	
1-Channel No Switching Darlington Power Pack													
STK 8250		4006	±56	150	-30 to +105	1.8	5	2	±38	50 min.	0.01 max.	80 max.	
STK 8260		4006	±59	150	-30 to +105	1.4	7	2	±42	60 min.	0.01 max.	80 max.	
STK 8270		4006	±60	150	-30 to +105	1.4	7	2	±44	70 min.	0.01 max.	80 max.	
STK 8280		4006	±65	150	-30 to +105	1.4	7	2	±47	80 min.	0.01 max.	80 max.	
STK 8250II		4020	±55	150	-30 to +105	1.6	6	1	±38	50 min.	0.005 max.	70 max.	
STK 8260II		4020	±56	150	-30 to +105	1.3	8	1	±40	60 min.	0.005 max.	40 typ, 70 max.	
STK 8270II		4020	±63	150	-30 to +105	1.3	10	1	±44	70 min.	0.005 max.	40 typ, 70 max.	
STK 8280II		4020	±65	150	-30 to +105	1.2	12	1	±45	80 min.	0.01 max.	70 max.	

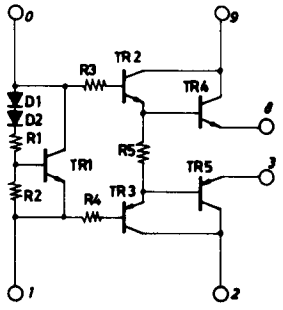
Shown on the next page.

PDF

EQUIVALENT CIRCUIT



STK 0025, 0029, 0039, 0049, 0059



STK 0030, 0040, 0050, 0060, 0070
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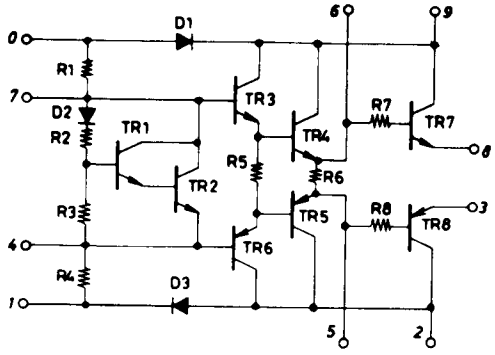
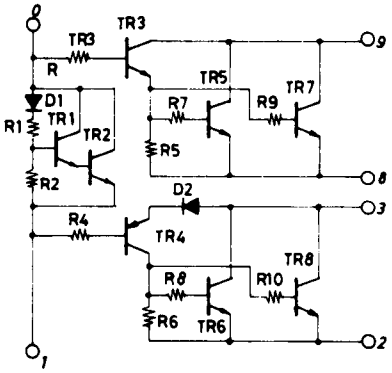
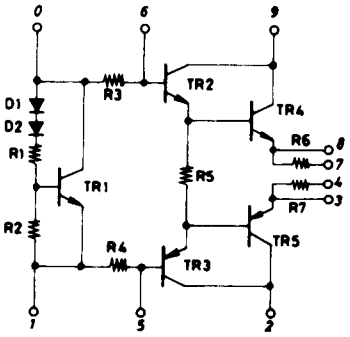


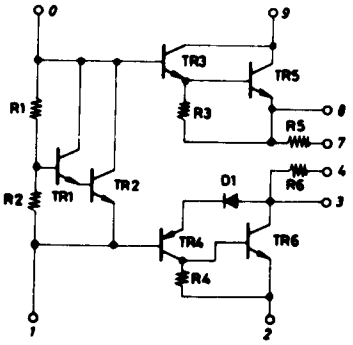
STK 0040II, 0050II, 0060II, 0070II, 0080II



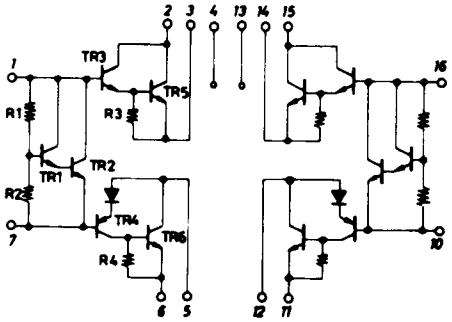
STK 0105



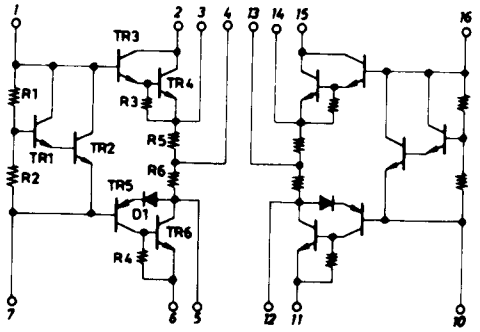
STK 1030, 1040, 1050, 1060



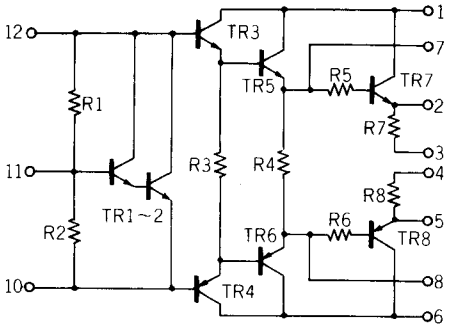
STK 1035, 1039, 1045, 1049, 1059



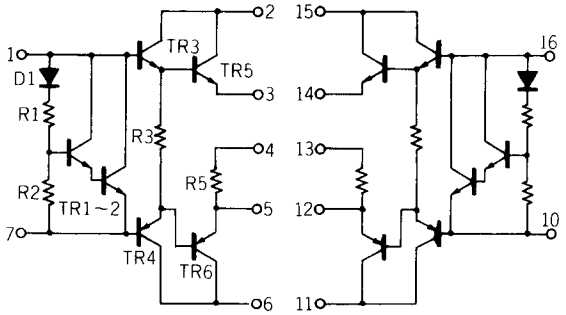
STK 2025, 2029



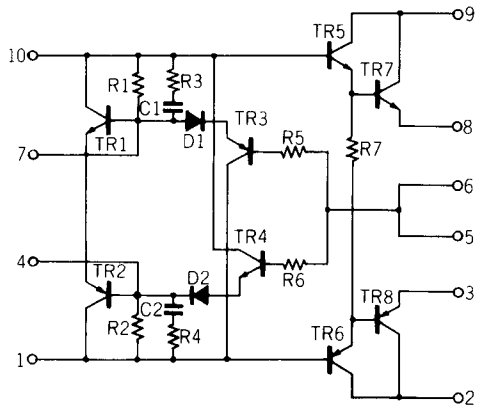
STK 2135, 2139, 2145



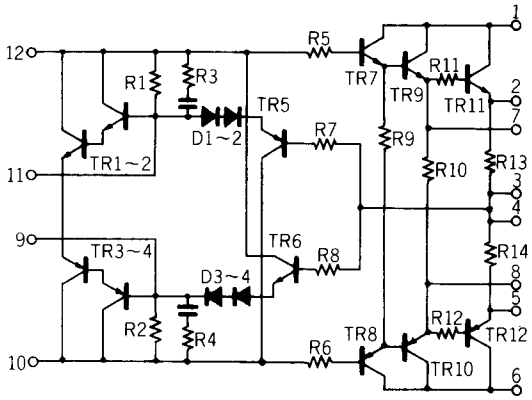
STK 1050II, 1060II, 1070II, 1080II



STK 2230, 2240, 2250

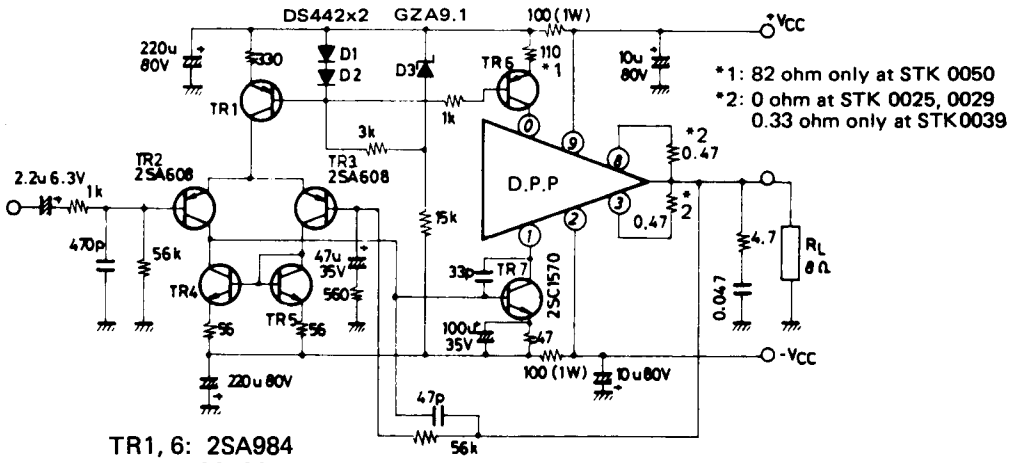


STK 8250, 8260, 8270, 8280



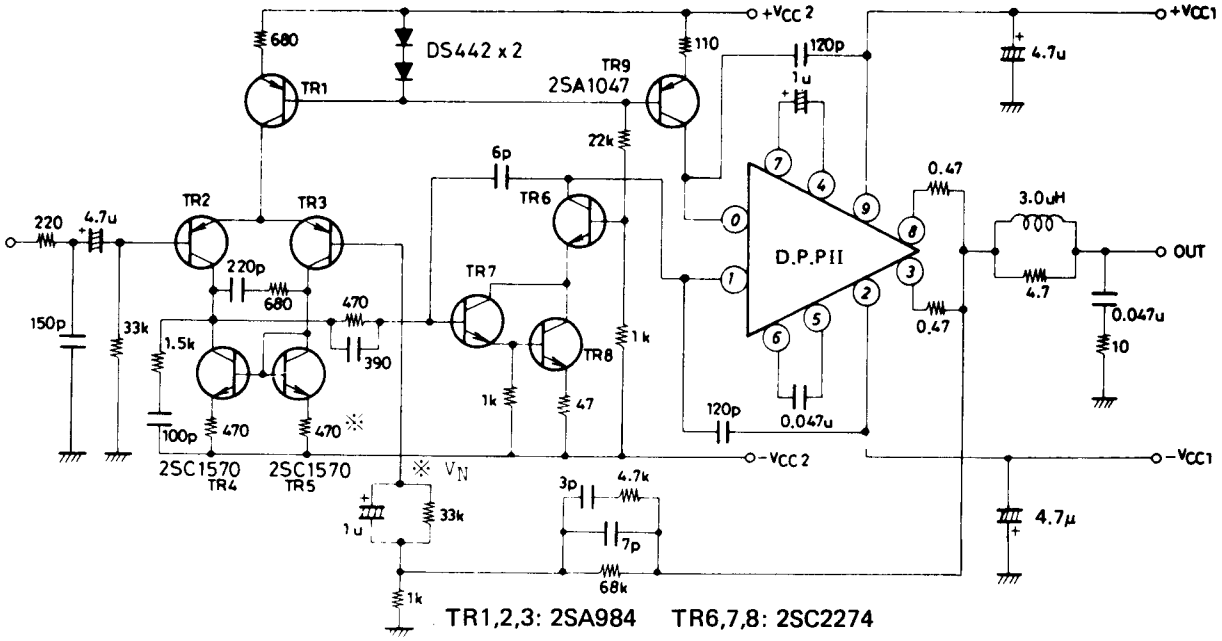
STK 8250II, 8260II, 8270II, 8280II

APPLICATION: AF Power Amp.



TR1, 6: 2SA984
TR4, 5 2SC2274

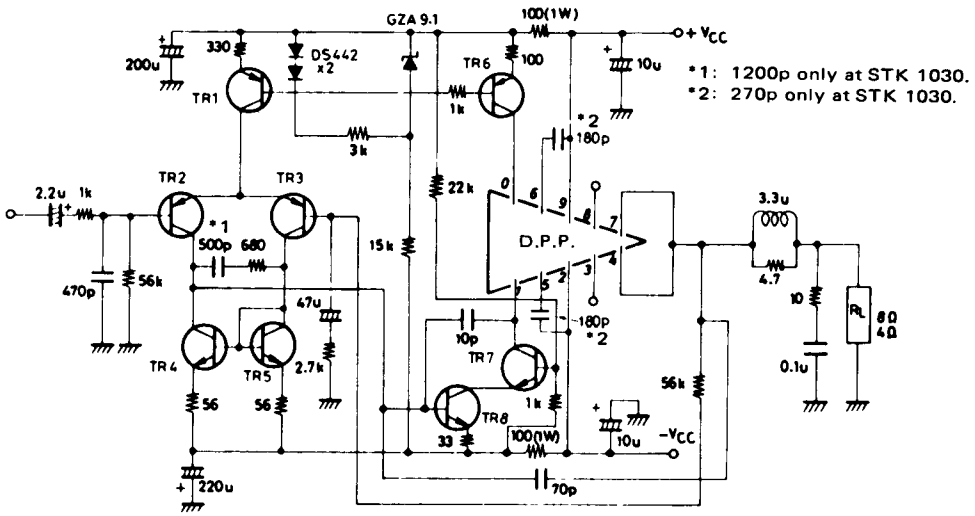
STK 0025, 0029, 0030, 0039, 0040, 0049, 0050, 0059, 0060, 0070, 0080, 0105



TR1,2,3: 2SA984 TR6,7,8: 2SC2274

STK 0040II, 0050II, 0060II, 0070II, 0080II

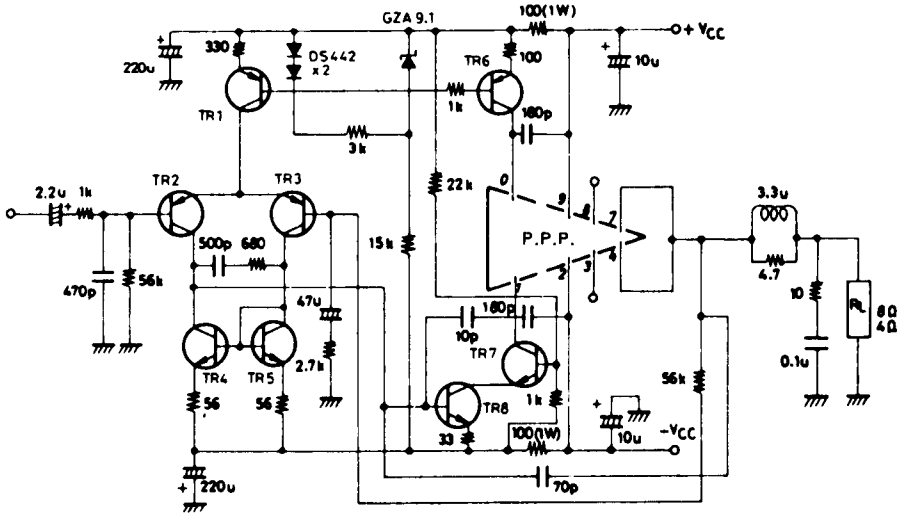
See the operation characteristics on this specification.



*1: 1200p only at STK 1030.
*2: 270p only at STK 1030.

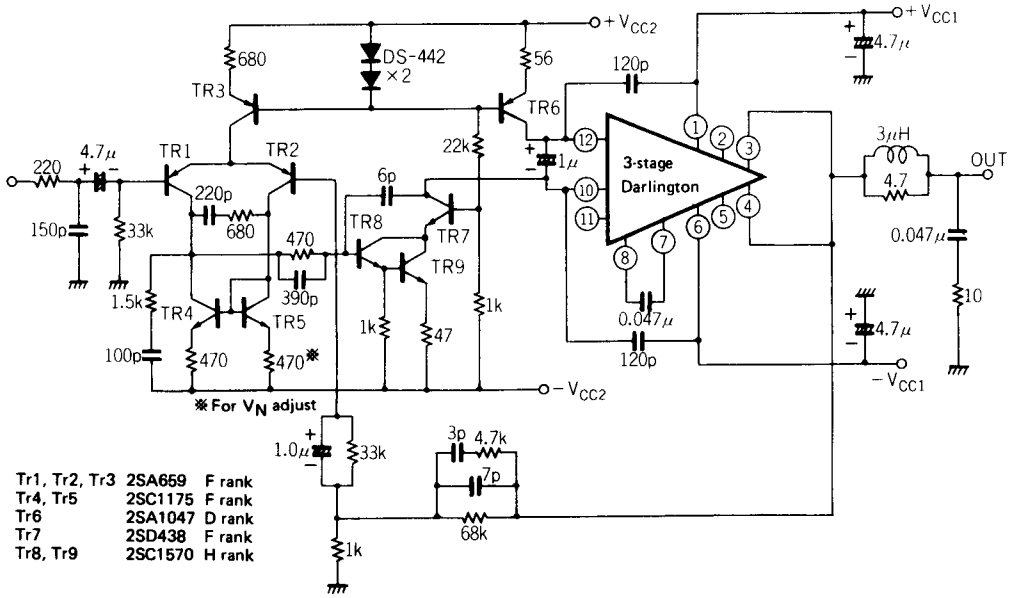
TR1, 6: 2SA984 equivalent, TR2, 3: 2SA608 equivalent, TR4, 5: 2SC2274 equivalent, TR7: 2SC1570 equivalent, TR8: 2SC1175 equivalent

STK 1030, 1040, 1050, 1060



T1,6: 2SA984 equivalent, TR2,3: 2SA608 equivalent, TR4,5: 2SC2274 equivalent, TR7: 2SC1570 equivalent, TR8: 2SC1175 equivalent

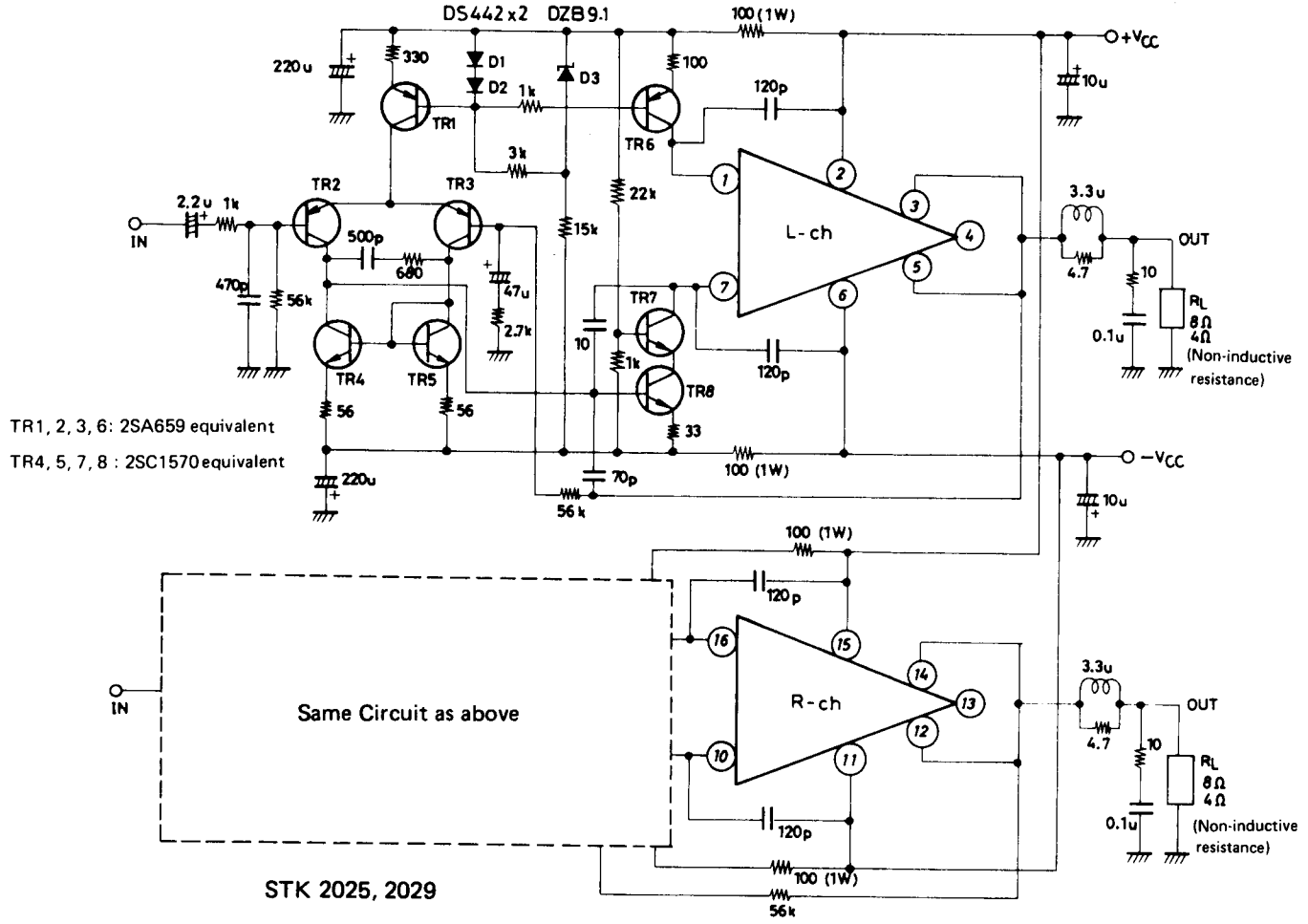
STK 1035, 1039, 1045, 1049, 1059



Tr1, Tr2, Tr3	2SA659	F rank
Tr4, Tr5	2SC1175	F rank
Tr6	2SA1047	D rank
Tr7	2SD438	F rank
Tr8, Tr9	2SC1570	H rank

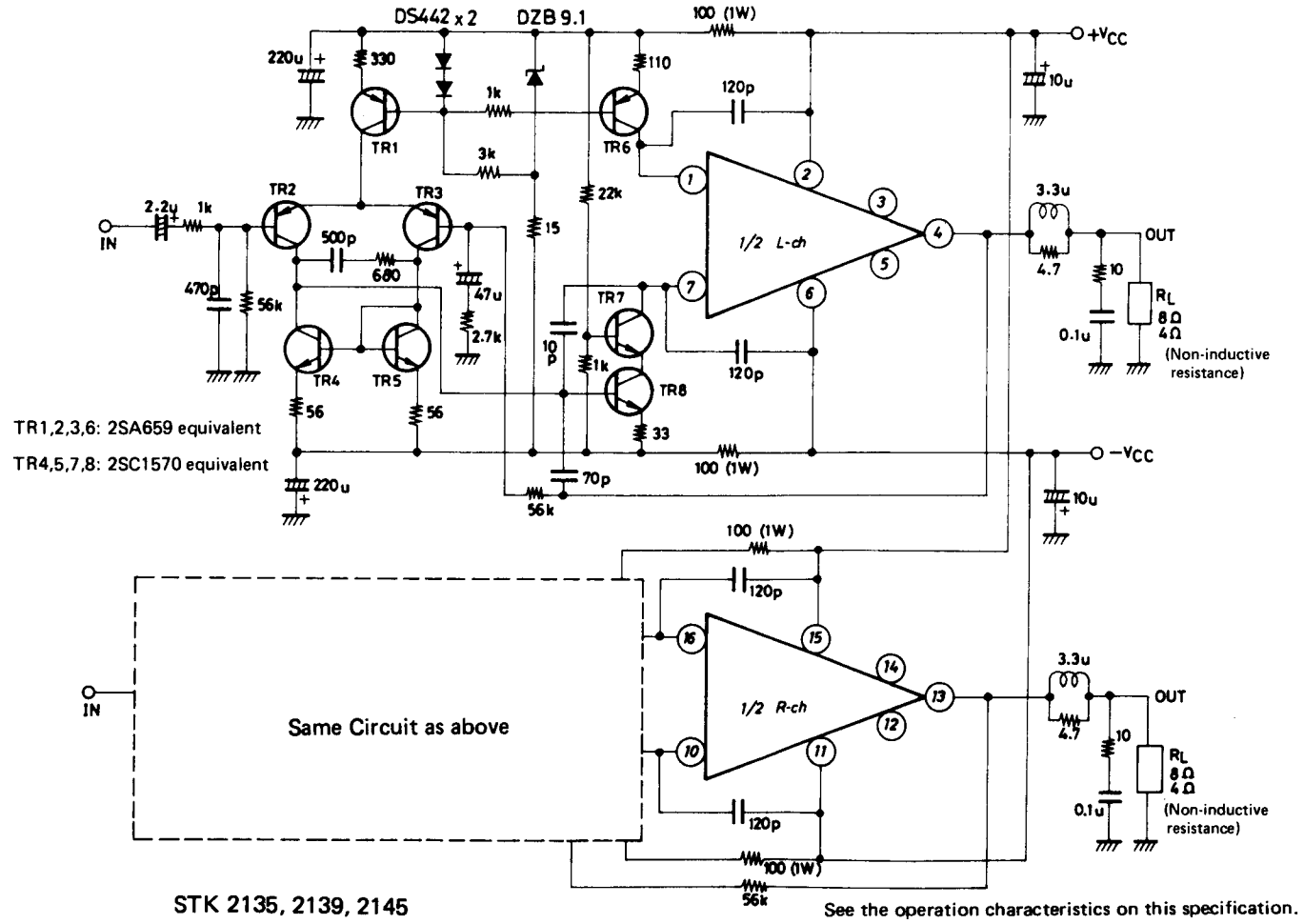
STK 1050II, 1060II, 1070II, 1080II

See the operation characteristics on this specification.



TR1, 2, 3, 6: 2SA659 equivalent

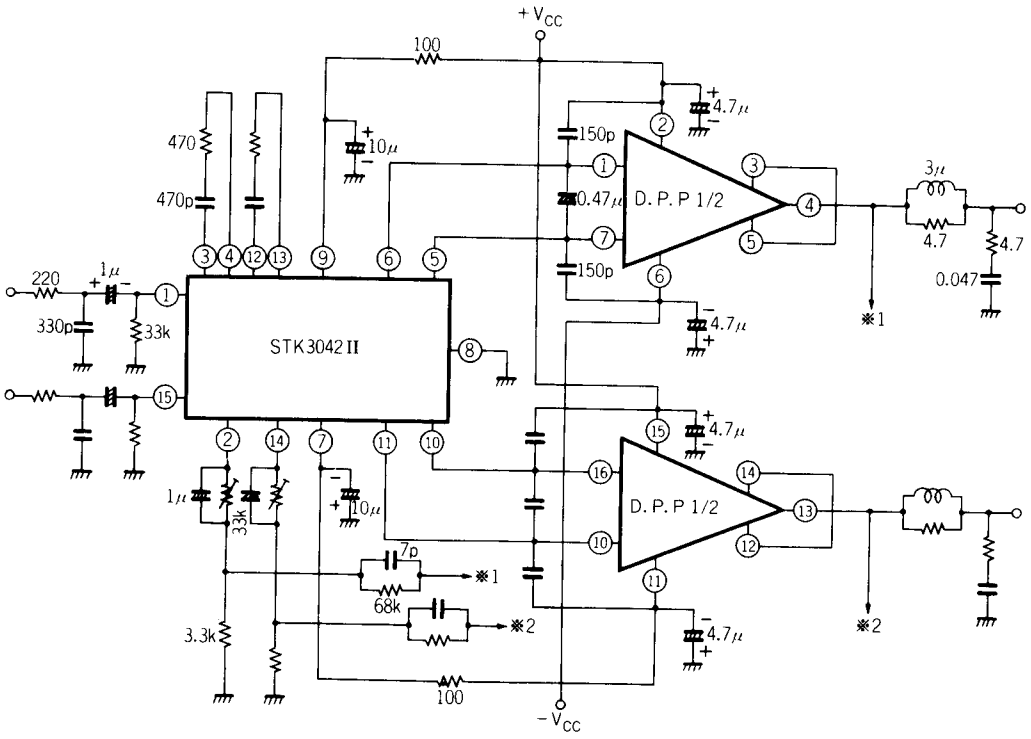
TR4, 5, 7, 8 : 2SC1570 equivalent



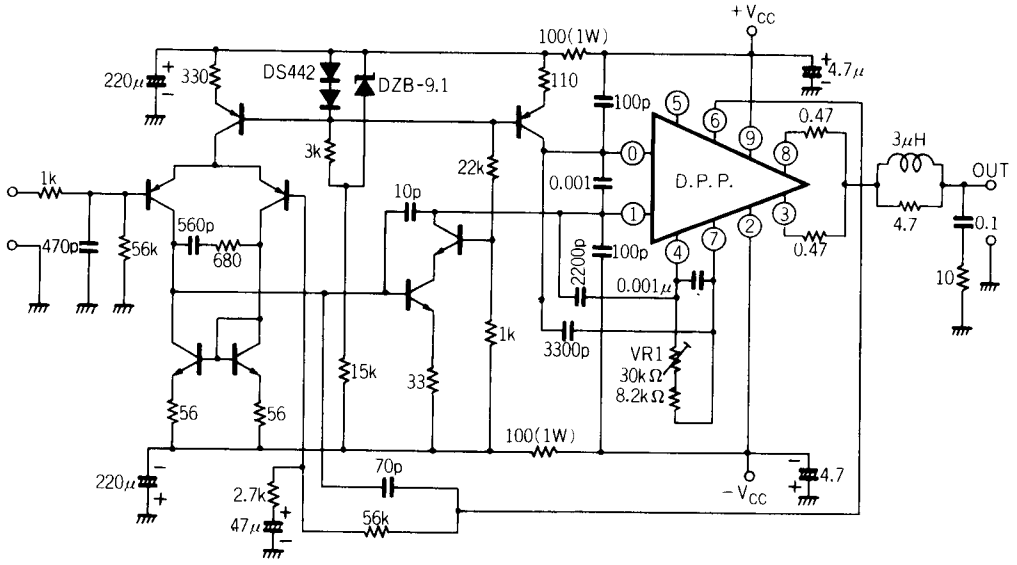
TR1,2,3,6: 2SA659 equivalent

TR4,5,7,8: 2SC1570 equivalent

See the operation characteristics on this specification.

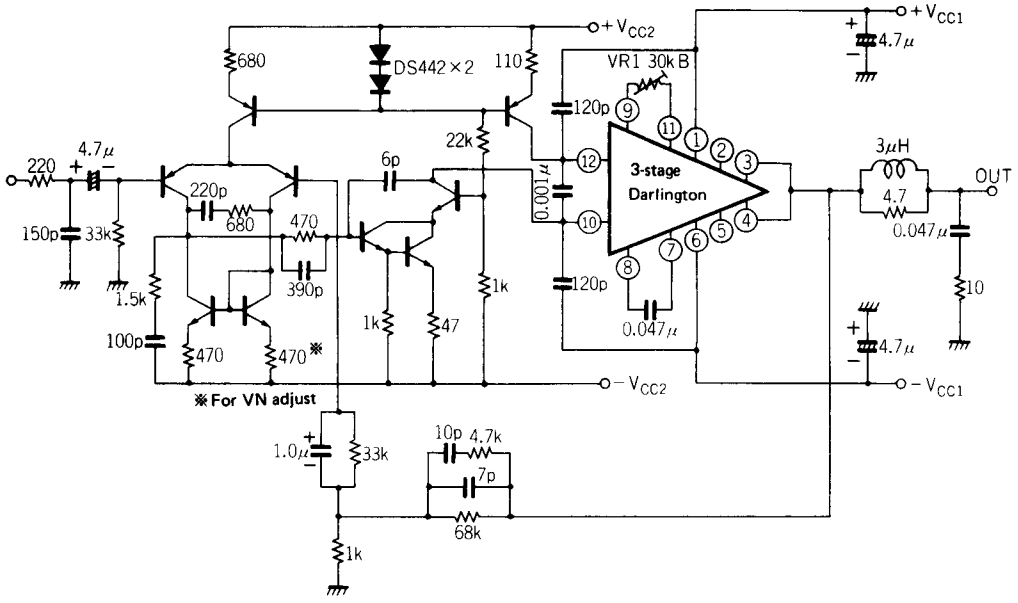


STK 2230, 2240, 2250



STK 8250, 8260, 8270, 8280

See the operation characteristics on this specification.



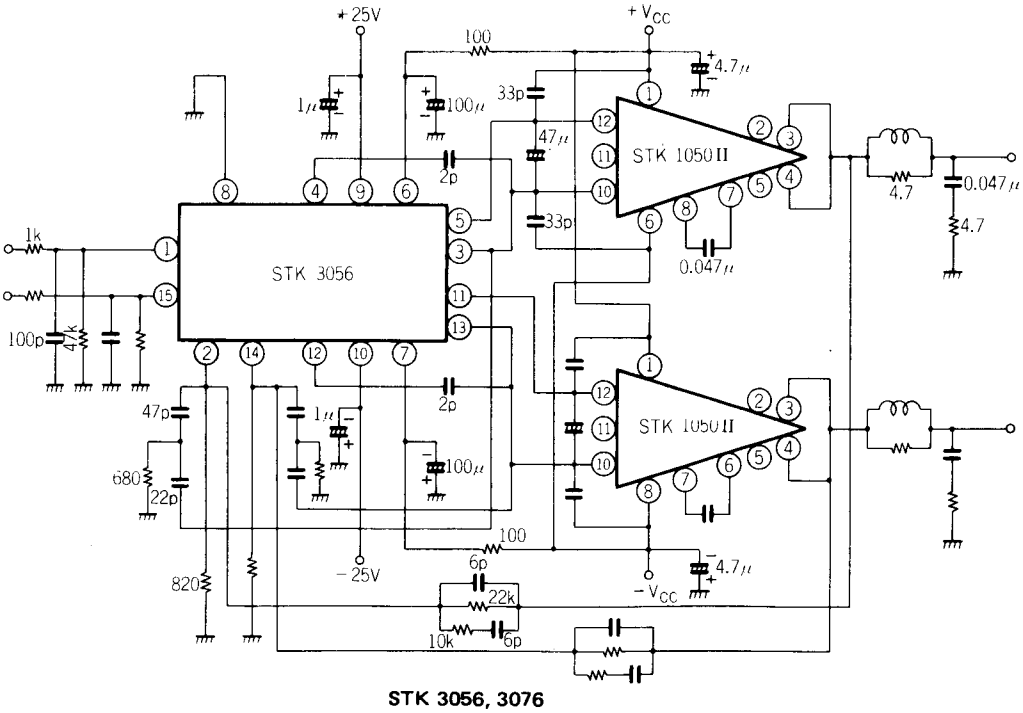
STK 8250II, 8260II, 8270II, 8280II

See the operation characteristics on this specification.

Continued from page 389

STK3056, 3076 APPLICATION: Using DPP-II series as output stage.

DPP-II series: STK 1050II to the use of STK 3056.
STK 1070II to the use of STK 3076.



STK 3056, 3076

See the operation characteristics on this specification.