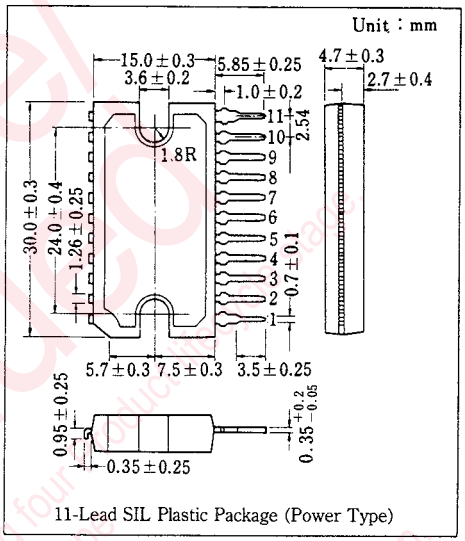
AN5520

TV Vertical Deflection Output Circuit

■ Outline

The AN5520 is an integrated circuit designed for color TV vertical deflection output circuit. Combining with the deflection signal processing circuit AN5410 can facilitate the vertical output circuit design.



11-Lead SIL Plastic Package (Power Type)

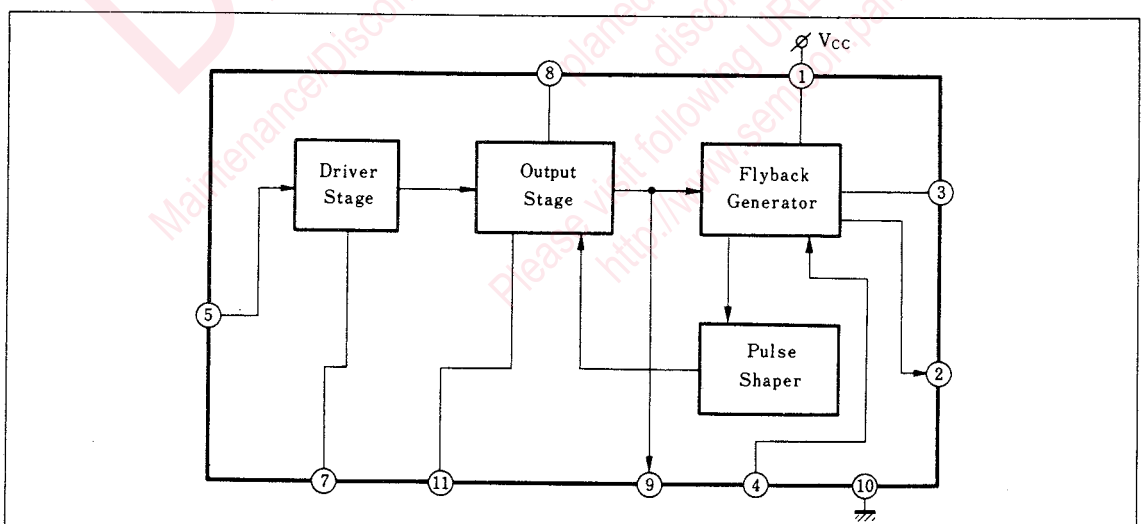
■ Features

- Low power consumption, direct deflection coil driving capability (Flyback voltage two times as high as supply voltage is supplied during flyback period only)
- High breakdown voltage : 60V

■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	V_{CC}	7	Drive Tr. Collector
2	BLK Pulse Output	8	Supply Voltage for Output
3	Pulse Amp. Output	9	Output
4	Trigger Pulse Input	10	GND
5	Input	11	Output Tr. Base
6	NC	—	—

■ Block Diagram

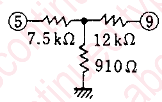


■ Absolute Maximum Rating (Ta=25℃)

Item		Symbol	Rating		Unit
Voltage	Supply Voltage	V_{1-10}	27.6		V
	Circuit Voltage	V_{4-10}	0	1.5	V
		V_{5-10}	0	2.5	V
		V_{8-10}	0	60	V
Current	Total Current Consumption	I_{tot}	350		mA
	Circuit Current	I_2	−1.0	1.0	mA
		I_3	−900	900	mA_{p-p}
		I_9	−900	900	mA
Power Dissipation		P_D	5.5		W
Temperature	Operating Ambient Temperature	T_{opr}	−20～+70		℃
	Storage Temperature	T_{stg}	−55～+150		℃

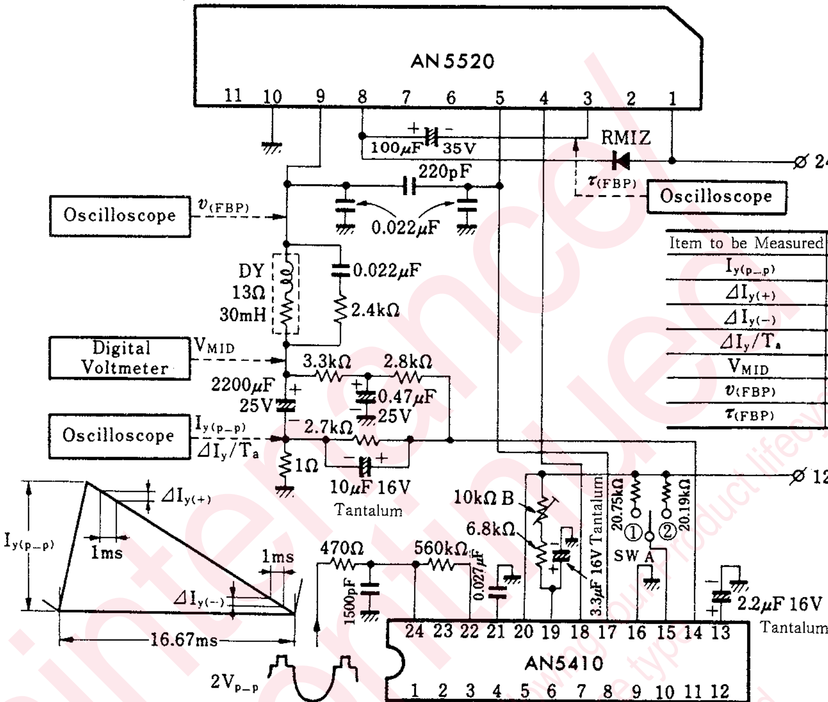
Note : ⊕ and ⊖ are flow-in and flow-out currents to/from the circuit, respectively.

■ Electrical Characteristics (Ta=25℃)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Operating Ambient Temperature	$Iy_{(p-p)}$	1	Ta=70℃	1.31	1.45	1.59	A_{p-p}
Deflection Current Linearity	$\Delta Iy_{(+)}$	1		60		110	mA_{p-p}
	$\Delta Iy_{(-)}$	1		60		110	mA_{p-p}
Deflection Current Change with Ambient Temperature*	$\Delta Iy/Ta$	1	Ta=−20～+70℃	−1.5		1.5	%
Center Voltage	V_{MID}	1		11.9	12.4	12.9	V
Flyback Pulse Amplitude	$V_{(FBP)}$	1		47			V
Flyback Pulse Width	$\tau_{(BLP)}$	1		0.9	1.02	1.08	ms
Static Circuit Current	I_{CQ}		V_{8-10}=24V V_{1-10}=24V V_{4-10}=0V 	7	15	30	mA
Output Tr Saturation Voltage	V_{8-9}		$V_{8-10}=V_{1-10}$=24V, V_{4-10}=0V 33Ω between Pins⑨and⑩, V_{5-10}=0.3V		3.0	4.0	V
	V_{9-10}		$V_{8-10}=V_{1-10}$=24V, V_{4-10}=0V 33Ω between Pins⑨and⑧, V_{5-10}=1.3V		1.3	2.0	V
Q_{21} Saturation Voltage	V_{3-10}		V_{1-10}=24V, 1.2kΩ between Pins①and③ V_{4-10}=0V			0.5	V
Thermal Resistance	$Rth_{(j-c)}$					8	℃/W

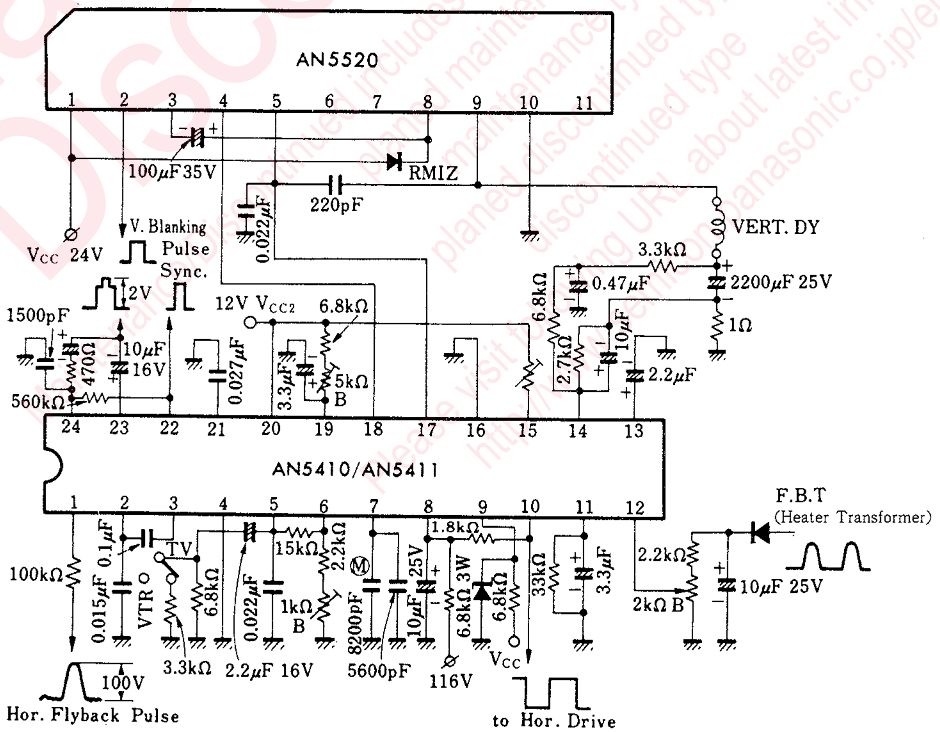
* Design reference value

Test Circuit 1 ($I_{y(p-p)}$, $\Delta I_{y(+)}$, $\Delta I_{y(-)}$, $\Delta I_y/T_a$, V_{MID}, $v_{(FBP)}$, $\tau_{(BLP)}$)



Item to be Measured	SW-A
$I_{y(p-p)}$	2
$\Delta I_{y(+)}$	1
$\Delta I_{y(-)}$	1
$\Delta I_y/T_a$	1
V_{MID}	1
$v_{(FBP)}$	1
$\tau_{(FBP)}$	1

■ Application Circuit



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