



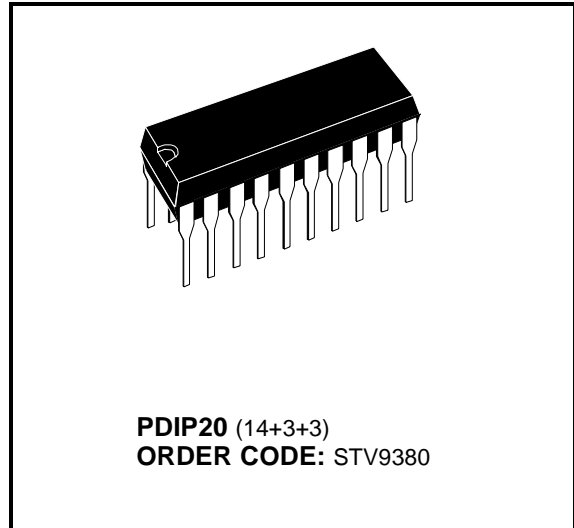
STV9380

CLASS-D VERTICAL DEFLECTION AMPLIFIER FOR TV AND MONITOR APPLICATION

TARGET SPECIFICATION

FEATURES

- High Efficiency Power Amplifier
- No Heatsink
- Split Supply
- Flyback Generator
- Output Current up to 2.5 APP
- Flyback Voltage up to 65V
- Suitable for DC Coupling Application

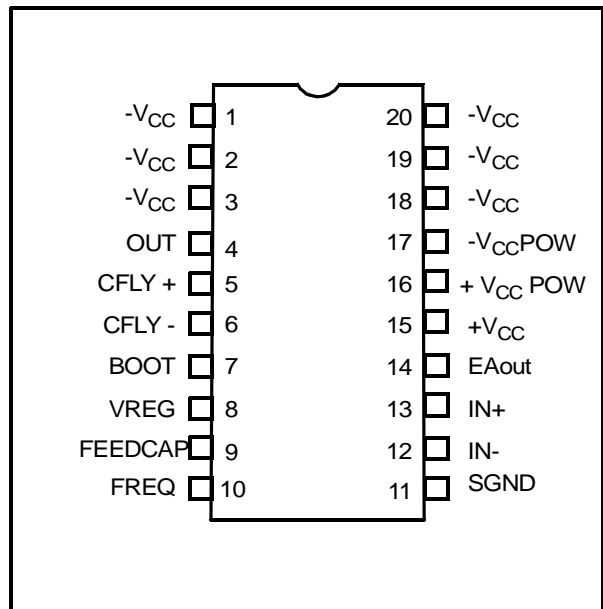


DESCRIPTION

Designed for monitors and TVs, the STV9380 is a class-D vertical deflection booster assembled in PDIP20 Package.

It operates with supplies up to +/- 16V, provides up to 2.5 App output current to drive the yoke. Fly-back voltage is close to 65V.

PIN CONNECTION



Version 1.1

1 - PIN FUNCTIONS

Pin Number	Name	Function
1	-V _{CC}	Negative supply
2	-V _{CC}	Negative supply
3	-V _{CC}	Negative supply
4	OUT	PWM Output
5	CFLY+	Flyback capacitor
6	CFLY-	Flyback capacitor
7	BOOT	Bootstrap capacitor
8	VREG	Internal voltage regulator
9	FEEDCAP	Feed-back integrated capacitor
10	FREQ	Frequency setting resistor
11	SGND	Signal Ground
12	IN-	Error amplifier inverting input
13	IN+	Error amplifier non-inverting input
14	EA out	Error amplifier output
15	+V _{CC}	Positive supply
16	+V _{CC} POW	Positive Power supply
17	-V _{CC} POW	Negative Power supply
18	-V _{CC}	Negative supply
19	-V _{CC}	Negative supply
20	-V _{CC}	Negative supply

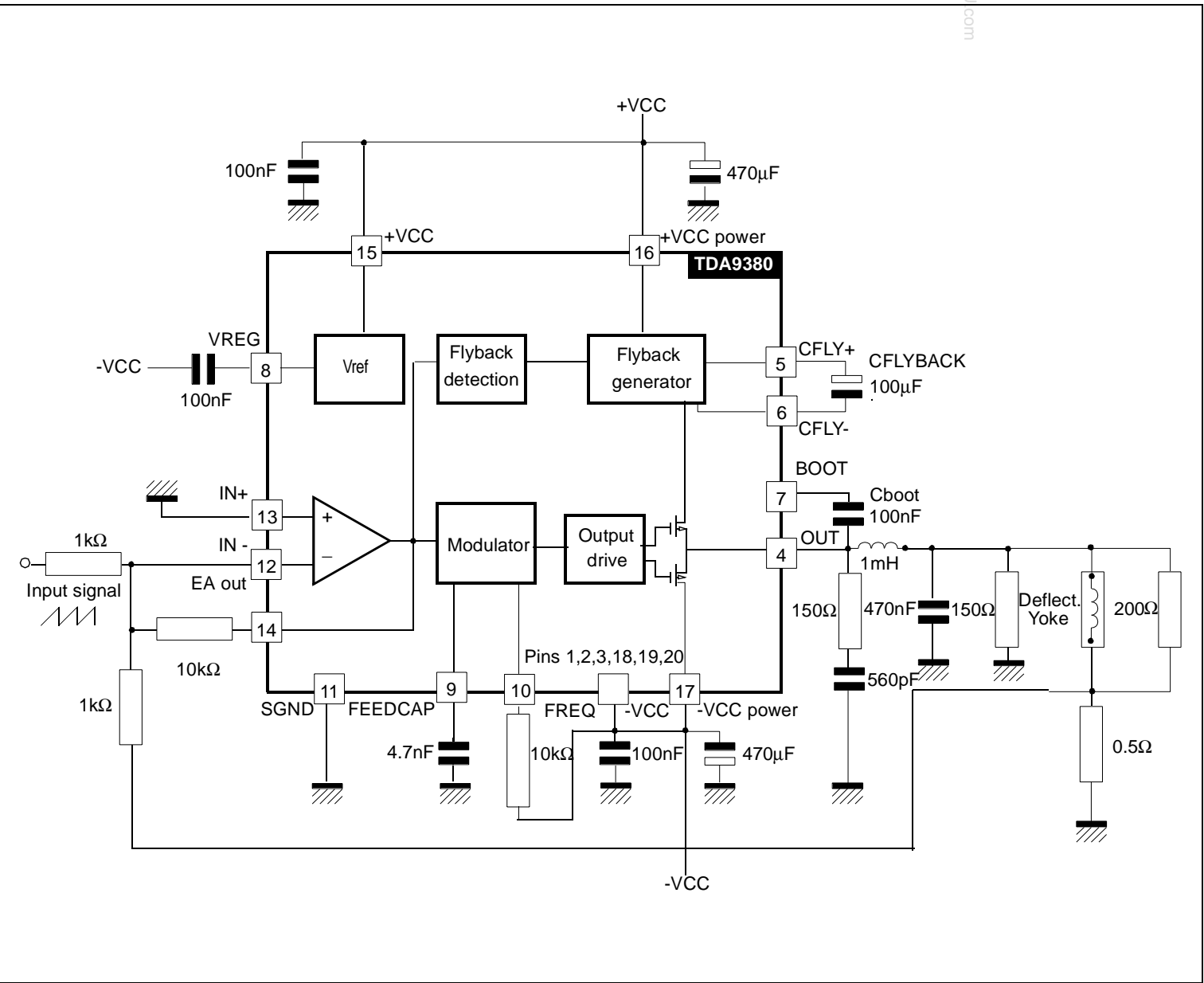
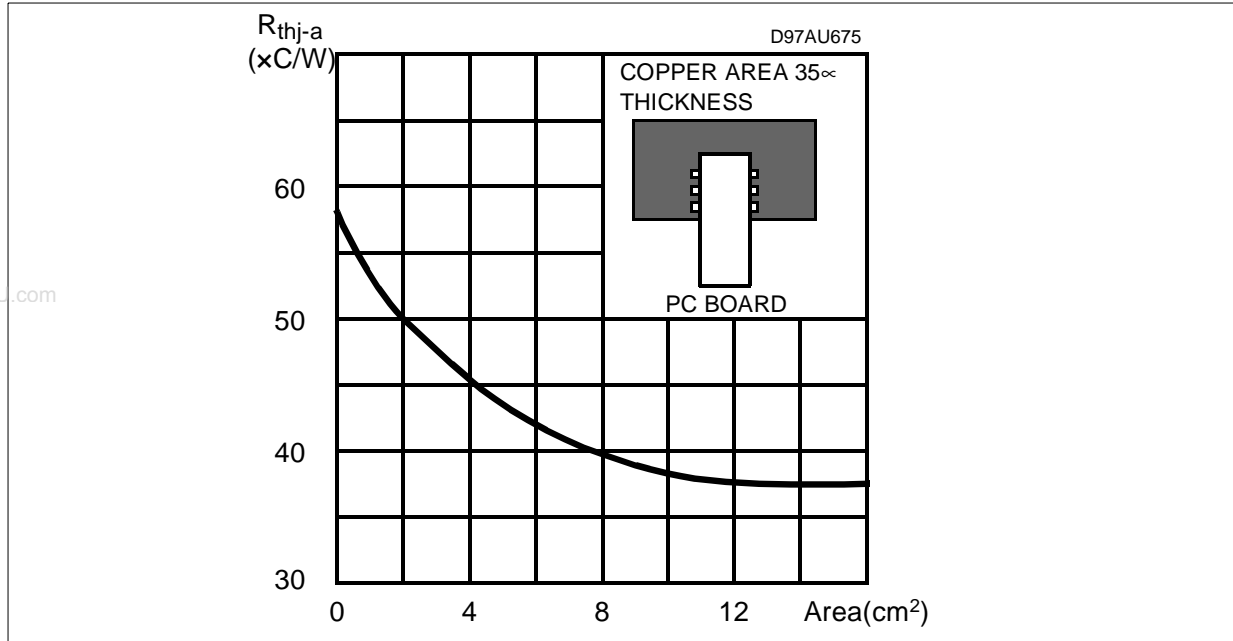


Figure 1. Test and Application Circuit

Figure 2. Rth with “on board” Square Heatsink vs. copper area



2 - ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
VCC	DC Supply Voltage	± 18	V
T_{stg}, T_j	Storage and Junction Temperature	-40 to +150	$^{\circ}C$
T_{op}	Operating Temperature Range	0 to +70	$^{\circ}C$
VESD	ESD Susceptibility - Human Body Model (100 pF discharge through 1.5 k Ω)	± 2	kV
I _{out}	Output current	± 1.6	A

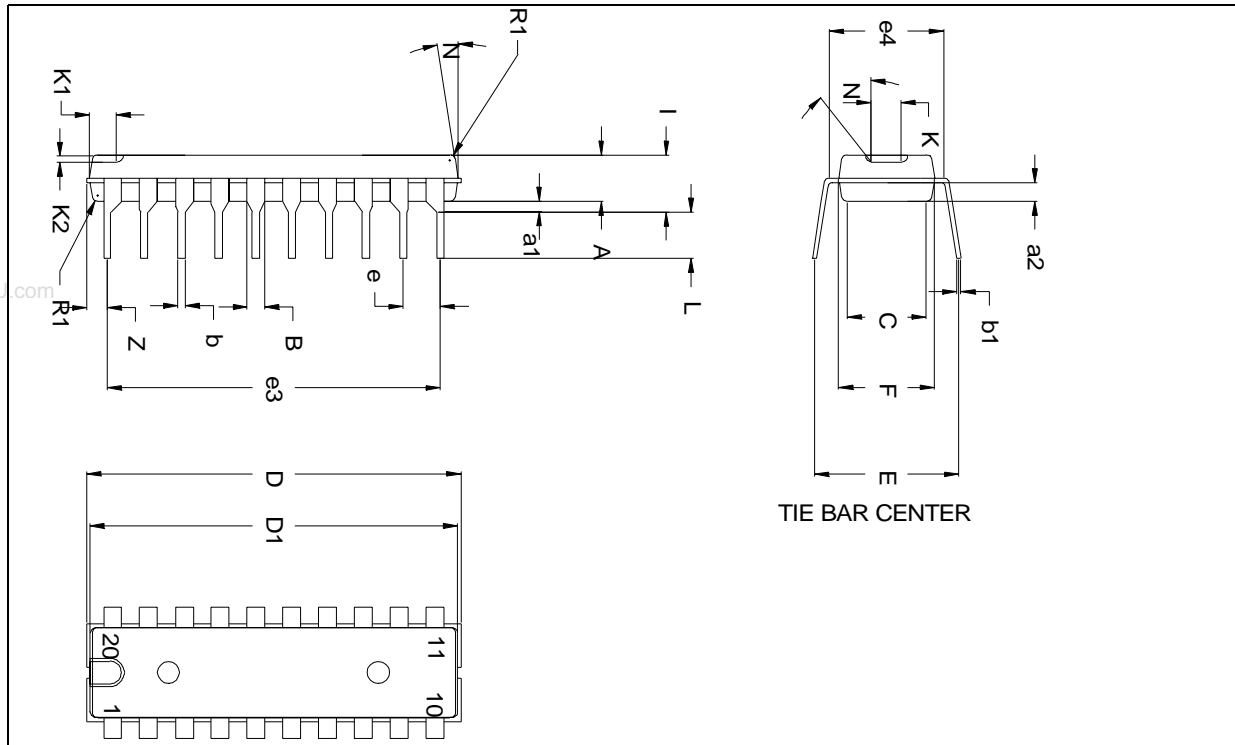
3 - THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{thj-amb}$	Thermal resistance Junction to ambient	80	$^{\circ}C/W$
$R_{thj-pin}$	Thermal Resistance Junction to Pin	12	$^{\circ}C/W$

4 - ELECTRICAL CHARACTERISTICS (refer to Figure 1 on page 3)T_{amb} = 25°C unless otherwise specified, V_{cc} = ±12V

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V _{cc}	Supply range		±10		±16	V
I _{out}	Maximum recommended output current				±1.25	A
I _q	Quiescent supply current	Input voltage = 0		TBD	TBD	mA
I ₁₃ , I ₁₂	Amplifier Input bias current			-0.1		µA
V _{OS}	Output Offset voltage	Input voltage = 0	-50		+50	mV
SVR	Supply voltage rejection	TBD		TBD		dB
Fly _{thr}	Flyback detection threshold positive slope	V(14)		1.5		V
Fly _{thf}	Flyback detection threshold negative slope	V(14)		0.5		V
η	Efficiency = P _o /(P _o + P _d)	P _o = 3 W		TBD		
F _{sw}	Switching frequency		120	140	160	kHz
F _{sw - op}	Switching frequency operative range		100		200	kHz
R _{freq}	Frequency controller resistor range		7	10	14	kΩ

5 - PACKAGE MECHANICAL DATA



Dimensions	Millimeters			Inches		
	Typ.	Min.	Max.	Typ.	Min.	Max.
A	3.30	3.18	3.43	0.130	0.125	0.135
a1	0.762	0.508	1.016	0.030	0.020	0.040
a2	1.30			0.051		
B	1.27	0.85	1.40	0.050	0.033	0.055
b	0.508	0.45	0.53	0.020	0.018	0.021
b1	0.43	0.38	0.48	0.017	0.015	0.019
C		5.20	6.00		0.205	0.236
D	24.65	24.55	24.77	0.970	0.966	0.975
D1	24.38	24.33	24.45	0.959	0.958	0.962
E	8.80	8.40	9.10	0.346	0.331	0.358
e	2.54	2.29	2.79	0.100	0.090	0.110
e3	22.86	22.60	23.11	0.900	0.890	0.910
e4	7.62	7.36	7.87	0.300	0.290	0.310
F	6.35	6.22	6.47	0.250	0.245	0.255
I	4.06	3.81	4.31	0.160	0.150	0.170
L	3.30	3.00	3.70	0.130	0.118	0.146
N	10d			10d		
R1	0.40			0.016		
K	2.00	1.90	2.16	0.079	0.075	0.085
K1	2.40	2.30	2.50	0.094	0.090	0.098
K2	0.50	0.45	0.55	0.020	0.018	0.022
Z			1.27			0.050

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