

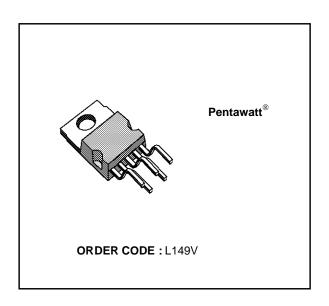
4A LINEAR DRIVER

- HIGH OUTPUT CURRENT (4A peak)
- HIGH CURRENT GAIN (10.000 typ.)
- OPERATION UP TO ±20 V
- THERMAL PROTECTION
- SHORT CIRCUIT PROTECTION
- OPERATION WITHIN SOA
- HIGH SLEW-RATE (30 V/µs)

DESCRIPTION

The L149 is a general purpose power booster in Pentawatt ® package consisting of a quasi-complentary darlington output stage with the associated biasing system an inhibit facility.

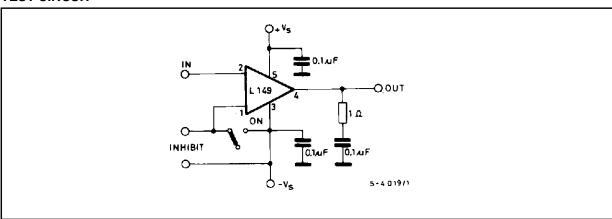
The device is particularly suited for use with an operational amplifier inside a closed loop configuration to increase output current.



ABSOLUTE MAXIMUM RATINGS

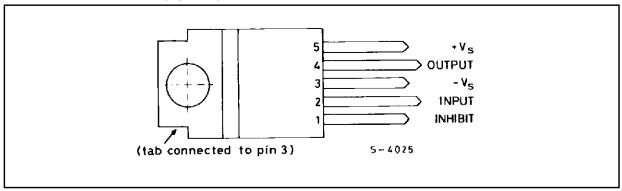
Symbol	Parameter	Value	Unit
Vs	Supply Voltage	±20	V
Vi	Input Voltage		Vs
V ₅ - V ₄	Upper Power Transistor VCE	40	V
V ₄ - V ₃	Lower Power Transistor V _{CE}	40	V
Io	DC Output Current	3	Α
Io	Peak Output Current (internally limited)	4	А
V _{INH}	Input Inhibit Voltage	- Vs + 5 - Vs - 1.5	V
P _{tot}	Total Power Dissipation at T _{case} = 75 °C)	25	W

TEST CIRCUIT

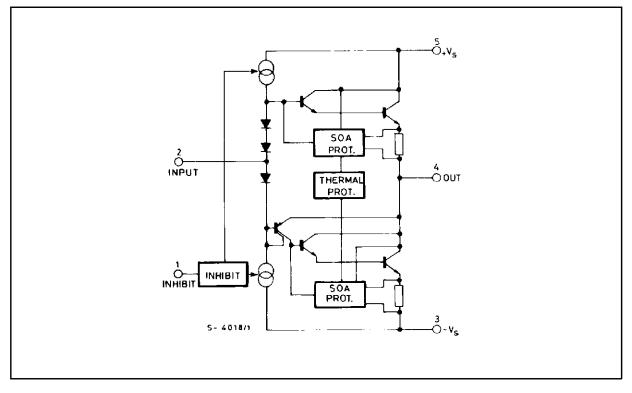


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CONNECTION DIAGRAM (top view)



SCHEMATIC DIAGRAM



THERMAL DATA

Symbol	Parameter	Value	Unit
Rth-j-case	Thermal resistance junction-case max	3	°C/W

ELECTRICAL CHARACTERISTICS $(T_j = 25 \, {}^{\circ}\text{C}, \, V_s = \pm \, 16\text{V})$

Symbol	Parameter	Test conditions	Min.	Тур.	Max.	Unit
Vs	Supply Voltage				± 20	V
I _d	Quiescent Drain Current	V _s = ± 16 V		30		mA
l _{in}	Input current	$V_s = \pm 16 \text{ V}$ $Vi = 0V$		200	400	μΑ
h _{FE}	DC current drain	$V_s = \pm 16 \text{ V}$ lo = 3A	6000	10000		-
G∨	Voltage gain	$V_s = \pm 16 \text{ V}$ Io = 1.5A		1		-
V _{CEsat}	Saturation voltage (for each transistor)	Io = 3A			3.5	V
Vos	Input offset voltage	V _s = ± 16 V			0.3	V
V _{INH}	Inhibit input voltage (pins 1-3)	ON condition			± 0.3	V
		OFF condition	± 1.8			·
R _{INH}	Inhibit input resistance			2.0		ΚΩ
SR	Slew rate			30		V/µs
В	Power bandwidth	$V_{0} = \pm 10V, d = 1\%, R_{L} = 8\Omega$		200		KHz

APPLICATION INFORMATION

Figure 1. High slew-rate power operational amplifier (SR = $13V/\mu s$)

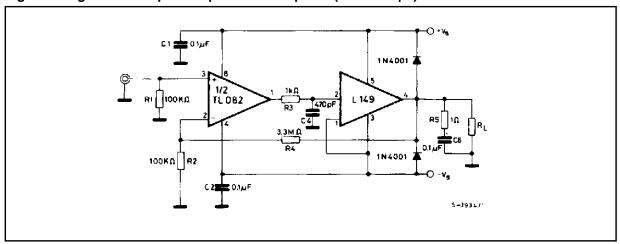


Figure 2. Maximum saturation voltage vs. output current.

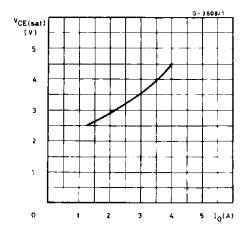


Figure 4: Supply voltage rejection vs. frequency.

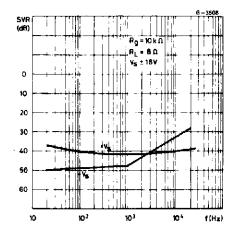


Figure 6. Distorsion vs. output power (f = 1KHz).

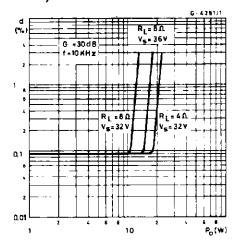


Figure 3. Current limiting characteristics.

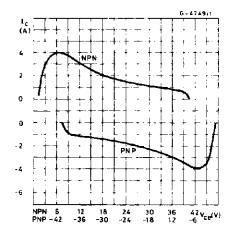


Figure 5: Distorsion vs. output power (f = 1 KHz).

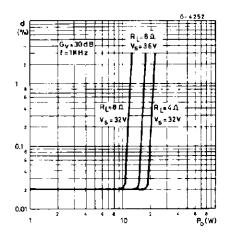
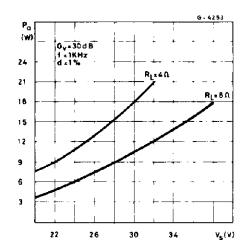
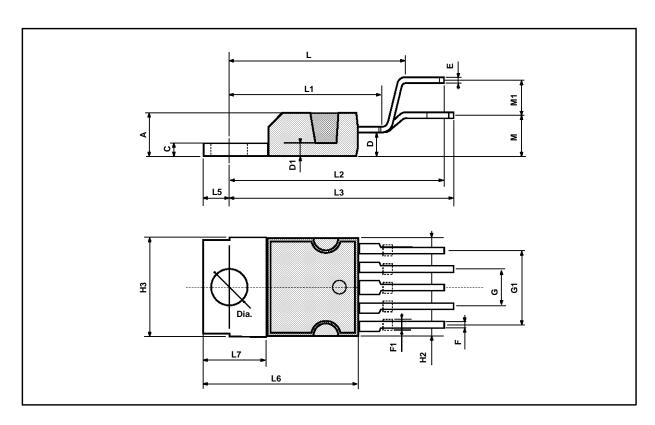


Figure 7. Output power vs. supply voltage.



PENTAWATT PACKAGE MECHANICAL DATA

DIM.		mm			inch	
DIN.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
Α			4.8			0.189
С			1.37			0.054
D	2.4		2.8	0.094		0.110
D1	1.2		1.35	0.047		0.053
E	0.35		0.55	0.014		0.022
F	0.8		1.05	0.031		0.041
F1	1		1.4	0.039		0.055
G		3.4		0.126	0.134	0.142
G1		6.8		0.260	0.268	0.276
H2			10.4			0.409
H3	10.05		10.4	0.396		0.409
L		17.85			0.703	
L1		15.75			0.620	
L2		21.4			0.843	
L3		22.5			0.886	
L5	2.6		3	0.102		0.118
L6	15.1		15.8	0.594		0.622
L7	6		6.6	0.236		0.260
М		4.5			0.177	
M1		4			0.157	
Dia	3.65		3.85	0.144		0.152



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