

DUAL 2-A SOURCE DRIVER

- OUTPUT CURRENT UP TO 2.5 A
- WIDE RANGE OF SUPPLY VOLTAGE : + 8 V TO + 26 V
- CAN WITHSTAND OVERVOLTAGES OF AS HIGH AS 60 V BETWEEN V_{CC} AND GROUND
- OUTPUT VOLTAGE CAN SWING TO LOWER THAN GROUND
- "SENSE" AND "ALARM" OUTPUTS ARE OPEN COLLECTOR OUTPUTS

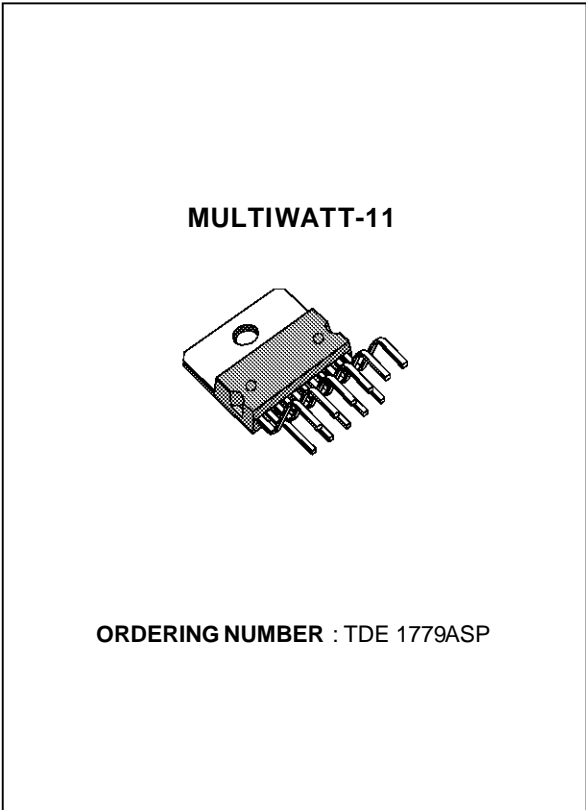
DESCRIPTION

The TDF1779A is a dual source driver delivering high output currents and the capability to drive highly inductive loads (Electrovalves, contractors, relays...).

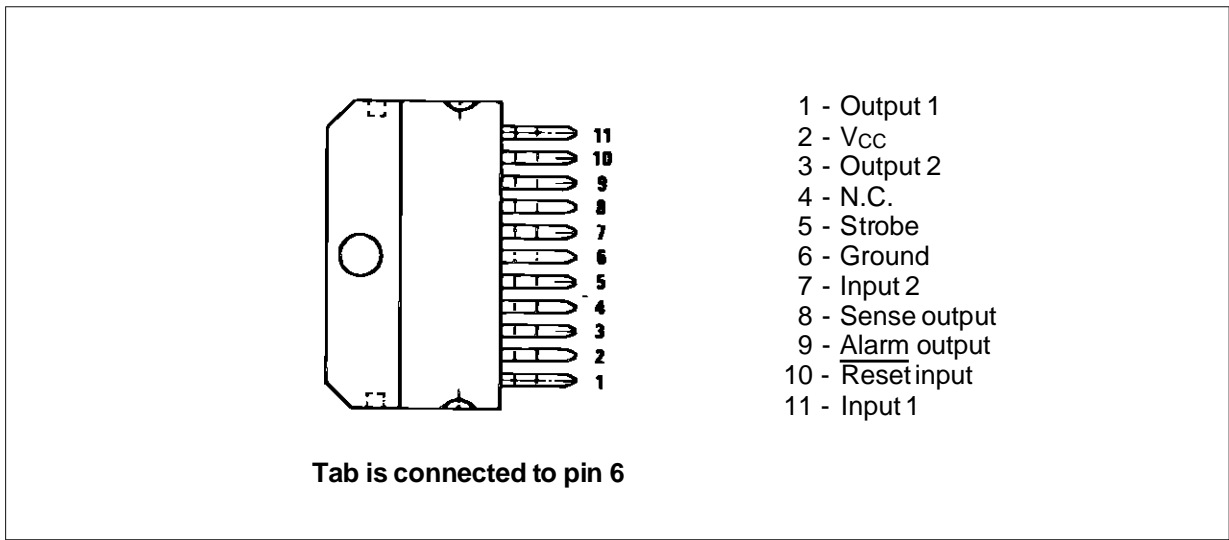
This device is essentially blow-out proof, each output is protected against short-circuits. If internal dissipation becomes too high, drivers will shut down to prevent excessive heating. An "ALARM" output is provided to indicate the action of the thermal protection. To reactivate the power outputs, the reset input must be forced to low state.

"SENSE" information of both power outputs are ORed together and then processed internally.

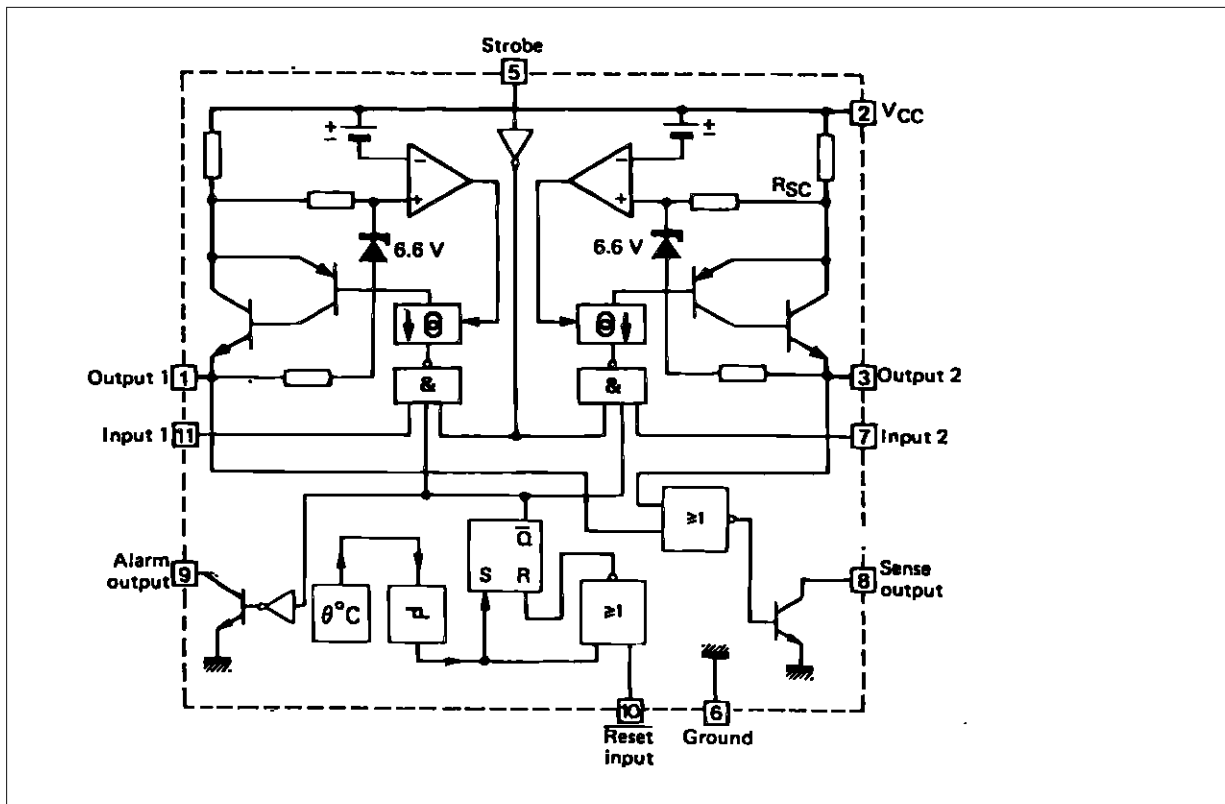
A "STROBE" input is also provided to offer the possibility of disabling the power outputs.



PIN CONNECTION



BLOCK DIAGRAM



MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CC}	Supply Voltage	35 V (60 V/10 ms)	V
V _I , V _{reset}	Input Voltage (Pins 7, 10 and 11)	- 30 to + 50	V
V _{strobe}	Strobe Input Voltage	- 0.5 to V _{CC}	V
I _O	Output Current	Internally Limited	A
P _{tot}	Power Dissipation	Internally Limited	W
T _{oper}	Operating Ambient temperature Range	- 40 to + 85	°C

THERMAL CHARACTERISTICS

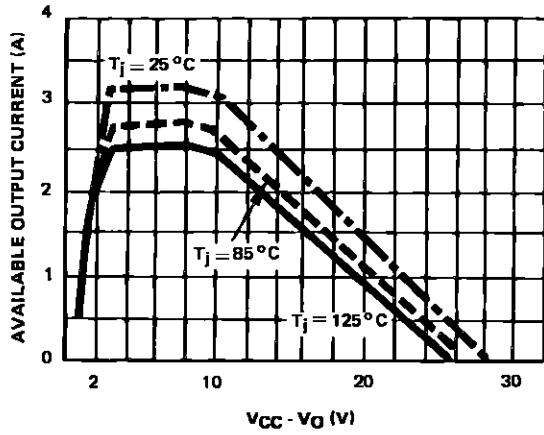
Symbol	Parameter	Value	Unit
R _{th (j-c)}	Junction-case Thermal Resistance	Max. 3	°C/W
R _{th (j-a)}	Junction-ambient Thermal Resistance	Max. 40	°C/W

ELECTRICAL OPERATING CHARACTERISTICS(V_{CC} = + 24V, -40°C < T_j < + 85°C, unless otherwise specified)

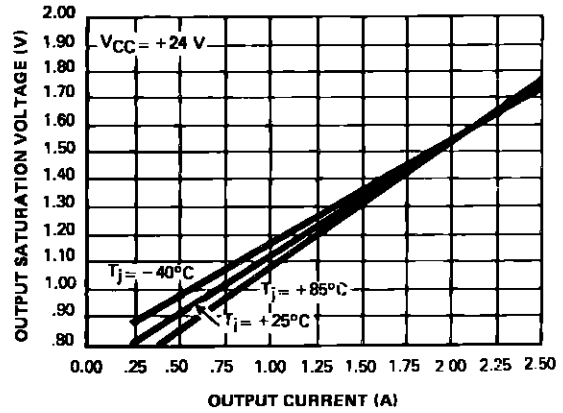
Symbol	Parameter	Min.	Typ.	Max.	Unit
V _{CC}	Power Supply Voltage	8	-	26	V
I _{CC}	Power Supply Current (pin 6), I _{O1} = I _{O2} = 2A	-	-	20	mA
V _{IL} V _{IH}	Logic Input Voltage (pin 7,10,11)	- 2	- -	0.8 -	V
V _I	Logic Input Threshold (pin 5)	-	0.8	-	V
I _{IH}	High Level Input Current (pins 7,10,11) V _I = + 2V	-	20	50	μA
I _{IL}	Low Level Input Current (pins 7,10,11) V _I = + 0.8V	- 5	0	+ 5	μA
-	Off State Output Voltage (pins 8,9) I(8) = I(9) = 2 mA	-	-	0.4	V
V _{CC} - V _{O1} V _{CC} - V _{O2}	Output Saturation Voltage (V(7) high, V(11) High, I _O = 2A)	-	1.5	1.8	V
I _{OL}	Low Level Output Current pins 1,3) V(7) Low, V(11) Low, V _O = 0V	-	400	1000	μA
V _{CC} - V _{O1} V _{CC} - V _{O2}	Switch-off Output Voltage (inductive load) Note 1	-	-	45	V
I _{O1} , I _{O2}	Available Ouptut Current (pins 1,3), V(7) high, V(11p) high, V _{CC} - V _O = 26V, T _j = 25°C	10	-	-	mA
I _O Alarme	Available "Alarme" Output Current, V(9) = + 4V	4	8	-	mA
I _O Sense	Available "Sense Ouptut Current, V(8) = + 4V	4	8	-	mA
I _{IH} Sense	Output Sensing high Level Input Current (pins 1,3) V _I = +2V	-	1	2	mA

Note 1 : An external discharge circuit is required for inductive loads

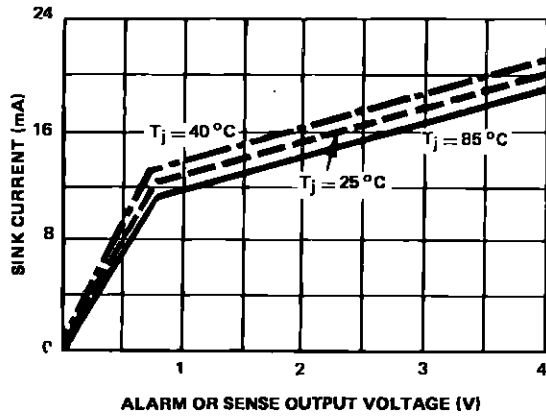
AVAILABLE OUTPUT CURRENT



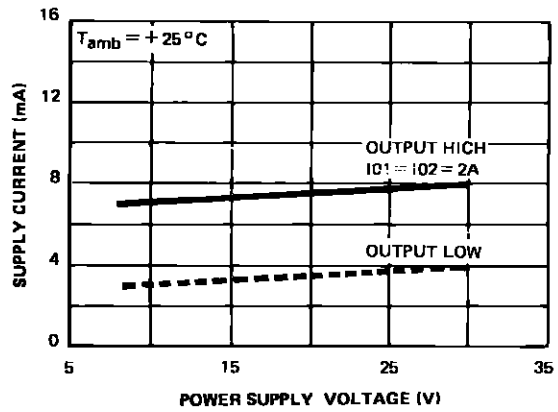
OUTPUT SATURATION VOLTAGE

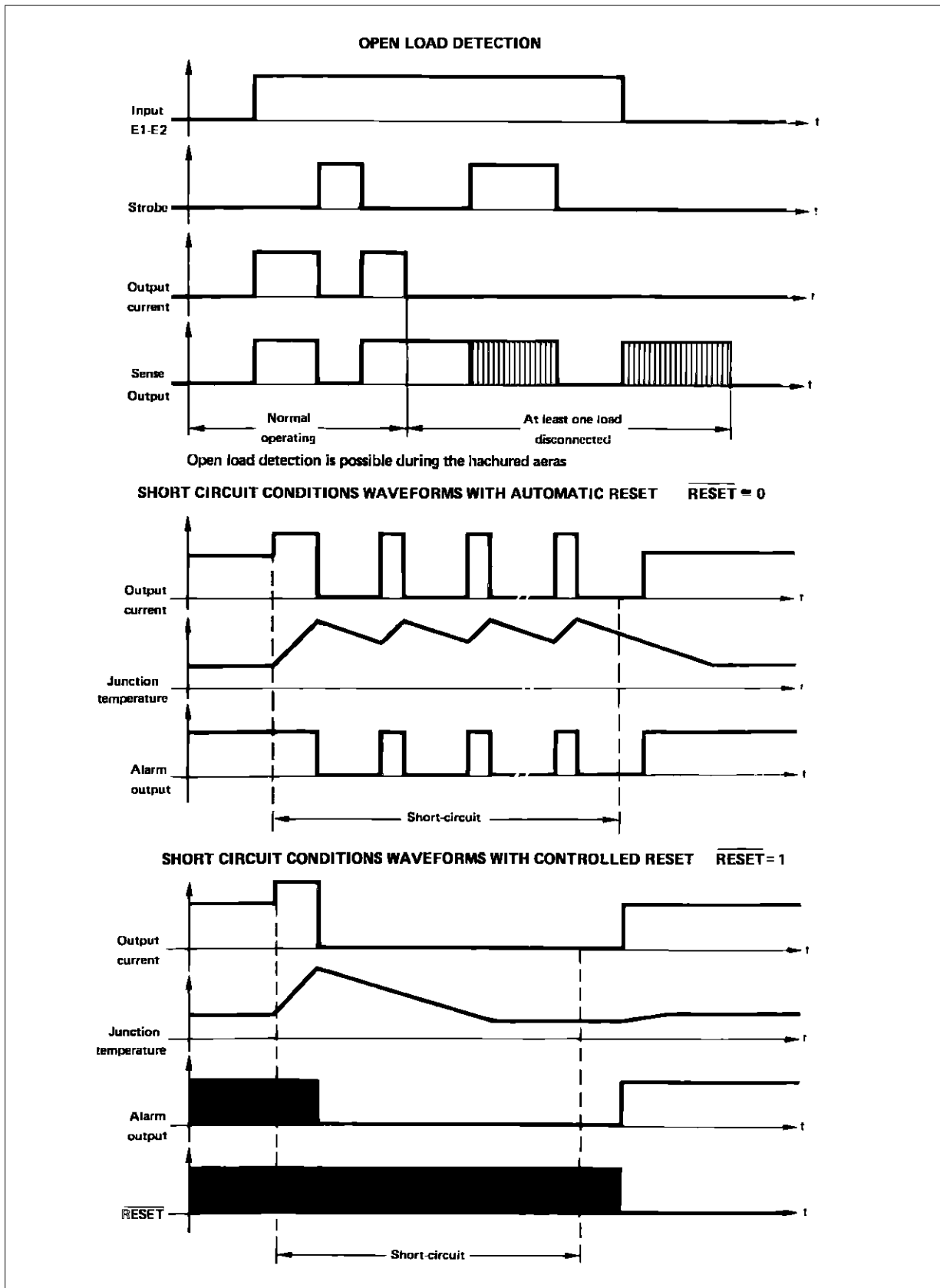


AVAILABLE ALARM OR SENSE OUTPUT CURRENTS



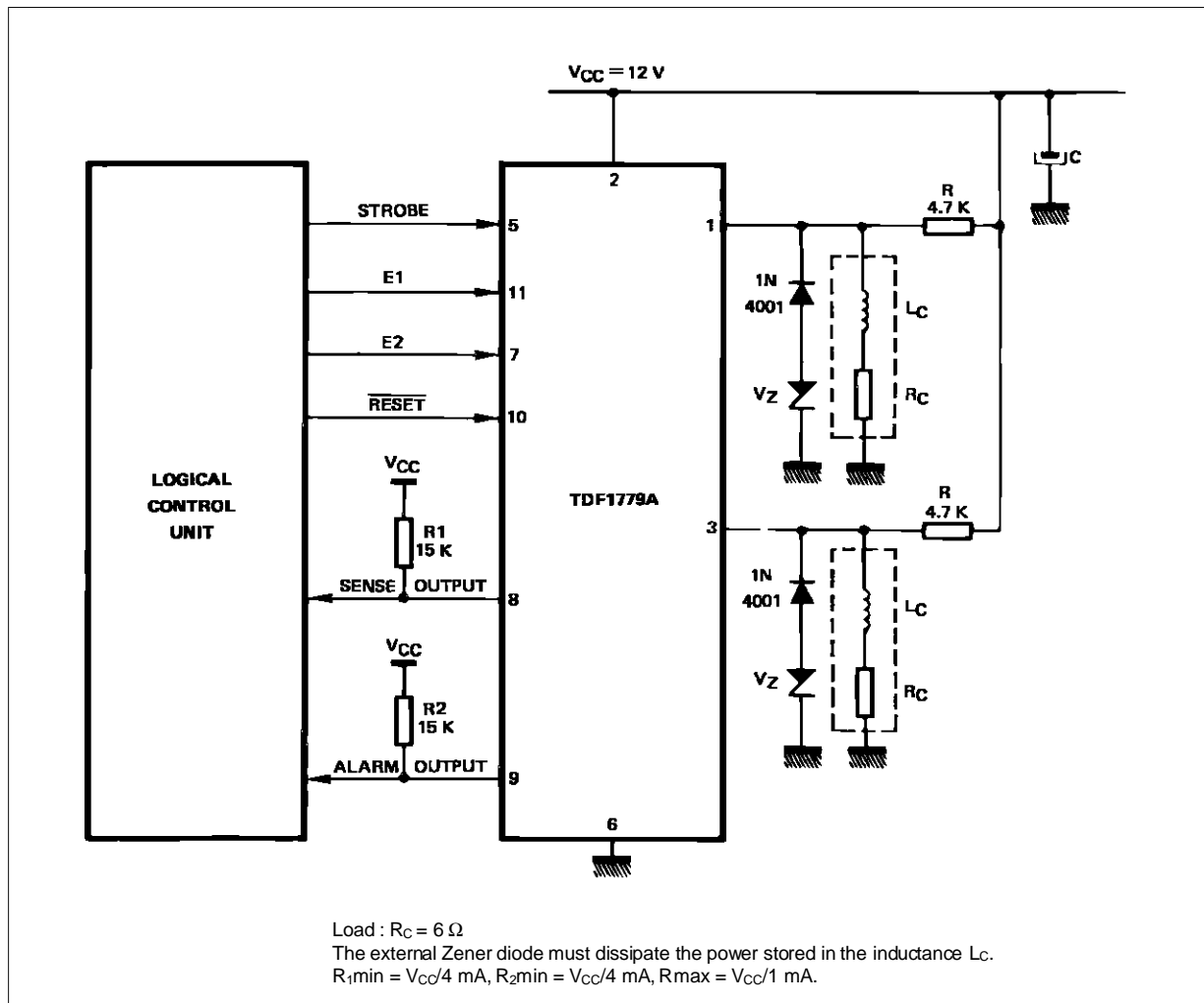
POWER SUPPLY CURRENT





TDF1779A

TYPICAL APPLICATION WITH TDF1779A TWO LOADS 12 V - 2 A



MAIN FEATURES

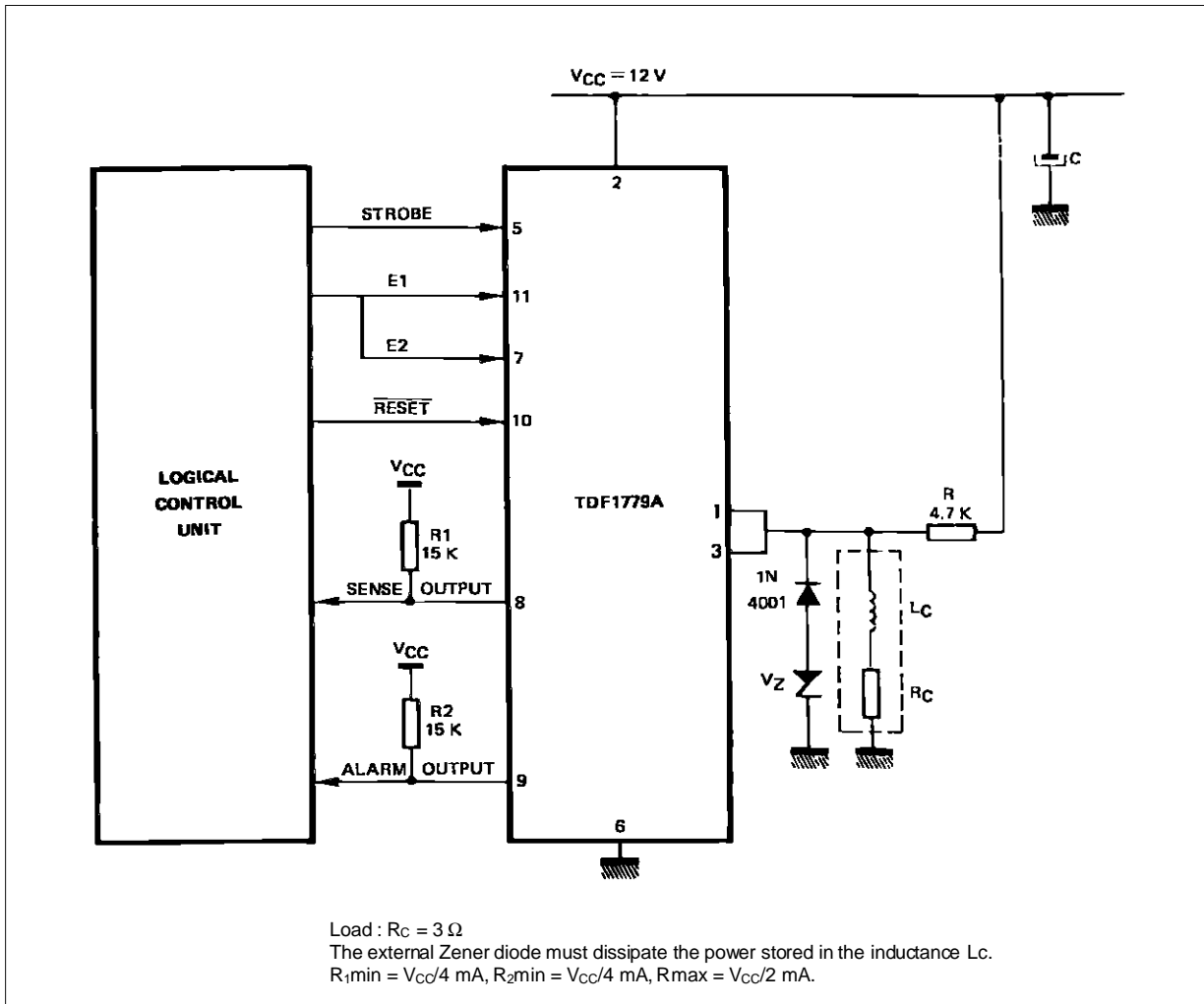
This application is protected against for short circuit and overload.

The load disconnection is detected when inputs E_1 and E_2 are low and the sense output is high.

When thermal protection is activated the pin 9 is low. Inputs are TTL compatible.

Sense output, Alarm output are open collector.

TDF1779A HIGH CURRENT APPLICATION WITH LOAD 12 V - 4 A

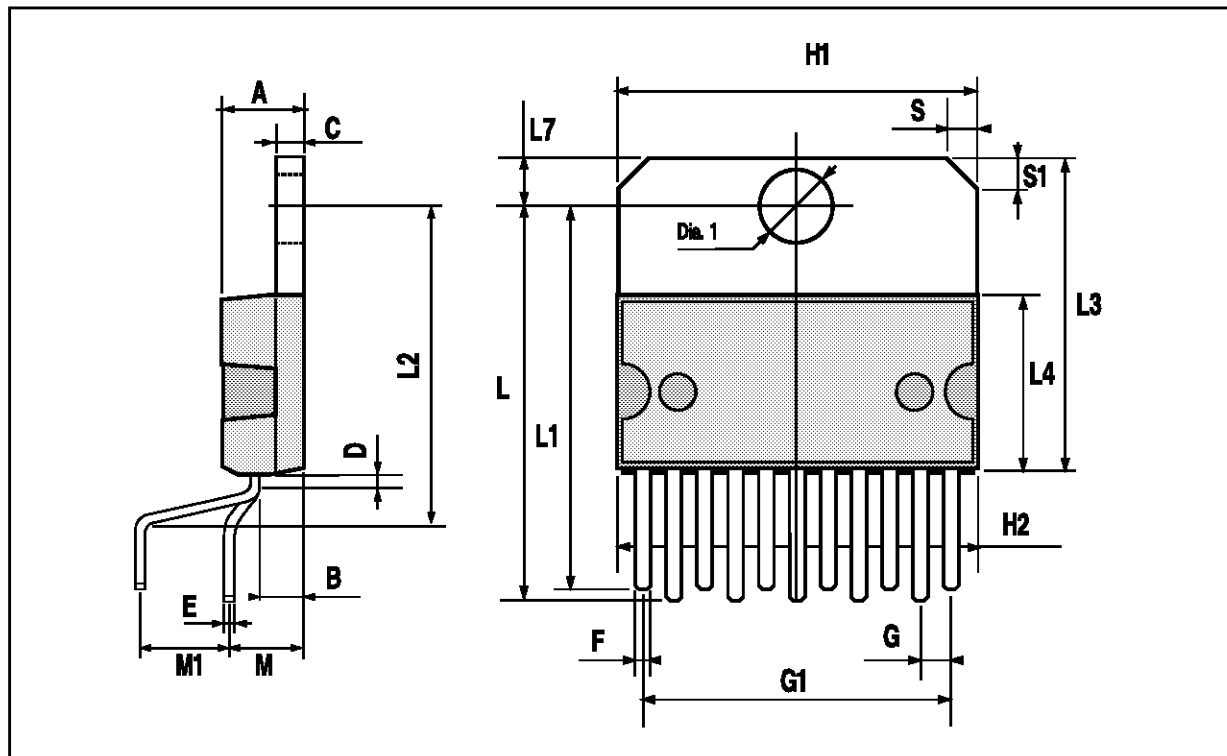


MAIN FEATURES

This application has the same features as the dual 2 A - 12 V application.

MULTIWATT11 PACKAGE MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			5			0.197
B			2.65			0.104
C			1.6			0.063
D		1			0.039	
E	0.49		0.55	0.019		0.022
F	0.88		0.95	0.035		0.037
G	1.45	1.7	1.95	0.057	0.067	0.077
G1	16.75	17	17.25	0.659	0.669	0.679
H1	19.6			0.772		
H2			20.2			0.795
L	21.9	22.2	22.5	0.862	0.874	0.886
L1	21.7	22.1	22.5	0.854	0.87	0.886
L2	17.4		18.1	0.685		0.713
L3	17.25	17.5	17.75	0.679	0.689	0.699
L4	10.3	10.7	10.9	0.406	0.421	0.429
L7	2.65		2.9	0.104		0.114
M	4.25	4.55	4.85	0.167	0.179	0.191
M1	4.73	5.08	5.43	0.186	0.200	0.214
S	1.9		2.6	0.075		0.102
S1	1.9		2.6	0.075		0.102
Dia1	3.65		3.85	0.144		0.152



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved
MULTIWATT 11® is a Registered Trademark of the SGS-THOMSON Microelectronics

SGS-THOMSON Microelectronics GROUP OF COMPANIES
Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands - Singapore -
Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A.