M54564P

8-UNIT 500mA SOURCE TYPE DARLINGTON TRANSISTOR ARRAY

DESCRIPTION

The M54564P, 8-channel source driver, is designed for interfacing between low power digital logic and a fluorescent display.

FEATURES

- High output sustaining voltage to 50V
- High output source current to 500mA
- CMOS, TTL Compatible input
- Internal pull-down resistors
- Wide operating temperature range (T_a = −20~+75℃)

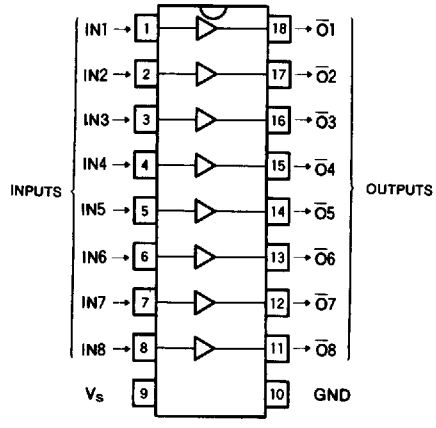
APPLICATION

Relay and printer driver, LED, incandescent or fluorescent display driver, Interfacing for standard MOS/BIPOLAR logics

FUNCTION

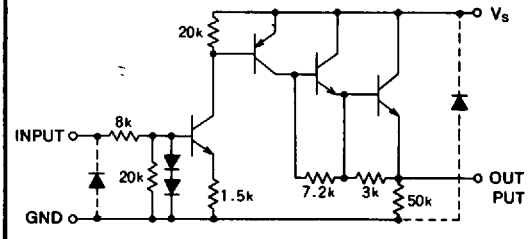
The driver of the M54564P is comprised of a NPN invertor and compound PNP/NPN/NPN output source driver and the output is turned ON by an active high input level. Each output has 50kΩ pull-down resistor suitable for driving fluorescent displays. The outputs are capable of driving 500mA and are rated for operation with output voltage up to 50V.

PIN CONFIGURATION (TOP VIEW)



Outline 18P4

CIRCUIT SCHEMATIC



The diodes shown by broken line are parasite diodes and must not be used

Unit : Ω

ABSOLUTE MAXIMUM RATINGS (T_a = −20~+75℃, unless otherwise noted)

Symbol	Parameter	Conditions	Ratings	Unit
V_{CEO}	Output sustaining voltage		−0.5~+50	V
V_S	Supply voltage		50	V
V_I	Input voltage		0~+30	V
I_O	Output current		−500	mA
P_d	Power dissipation	T_a=25℃	1.79	W
T_{opr}	Operating temperature		−20~+75	℃
Tstg	Storage temperature		−55~+125	℃

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RECOMMENDED OPERATIONAL CONDITIONS (T_a = −20~+75℃, unless otherwise noted)

Symbol	Parameter		Limits			Unit
			Min	Typ	Max	
V_S	Supply voltage		0		50	V
I_O	Output current per channel	Percent duty cycle less than 8%	0		−350	mA
		Percent duty cycle less than 55%	0		−100	
V_{IH}	High-level input voltage	I_O=−350mA	2.4		25	V
V_{IL}	Low-level input voltage		0		0.2	V

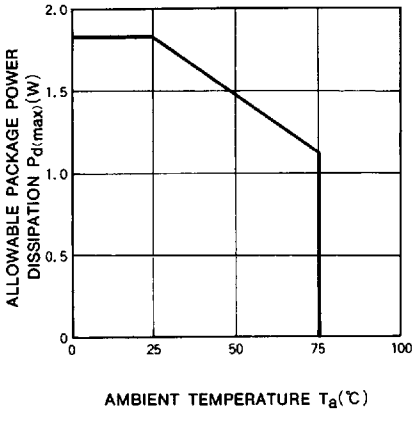
ELECTRICAL CHARACTERISTICS (T_a = −20~+75℃, unless otherwise noted)

Symbol	Parameter	Test conditions		Limits			Unit
				Min	Typ*	Max	
$I_{S(leak)}$	Supply leak current	V_S=50V, V_I=0.2V				100	μA
$V_{CE(sat)}$	Output saturation voltage	V_S=10V	I_O=−350mA		1.6	2.4	V
		V_I=4V	I_O=−100mA		1.45	2	
I_I	Input current	V_I=4V			0.4	0.7	mA
		V_I=25V			2.9	4.7	
I_S	Supply current	V_S=50V, V_I=4V			5.6	6.5	mA

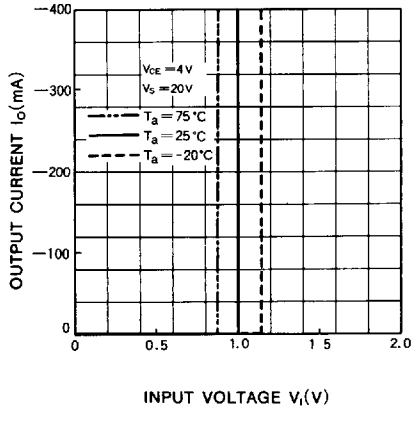
* : Typical values are at T_a=25℃.

TYPICAL CHARACTERISTICS

ALLOWABLE AVERAGE POWER DISSIPATION



OUTPUT CURRENT CHARACTERISTICS



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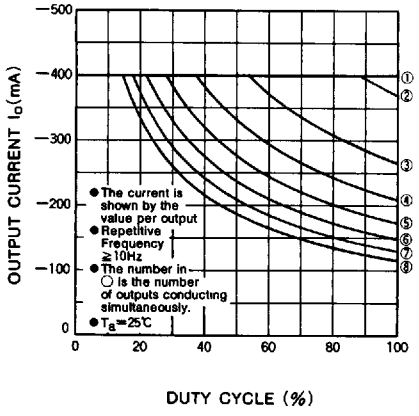
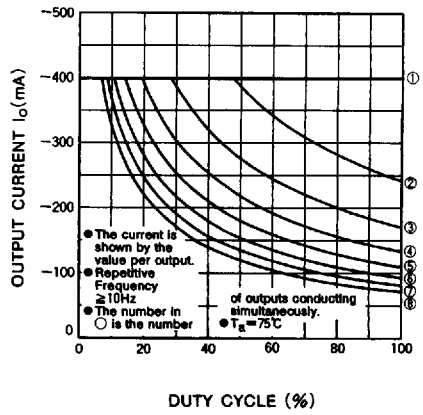
ALLOWABLE OUTPUT CURRENT AS A FUNCTION OF DUTY CYCLE



ALLOWABLE OUTPUT CURRENT AS A FUNCTION OF DUTY CYCLE



INPUT CHARACTERISTICS