

DESCRIPTION

The M54517P, 7-channel sink driver, consists of 14 NPN transistors connected to form seven high current gain driver pairs.

FEATURES

- Output sustaining voltage to 25V
- High output sink current to 400mA
- PMOS Compatible input
- Wide operating temperature range ($T_a = -20 \sim +75^\circ\text{C}$)

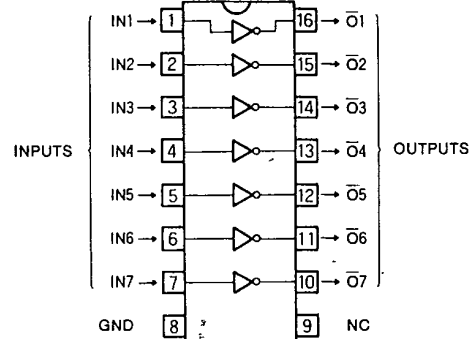
APPLICATION

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

FUNCTION

The M54517P is comprised of seven NPN darlington driver pairs with $20k\Omega$ series input resistors. All emitters and the substrate are connected to pin 8. The output are capable of sinking 400mA and will withstand 25V in the OFF state.

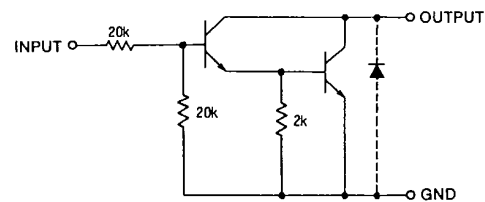
PIN CONFIGURATION (TOP VIEW)



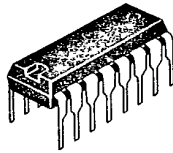
Outline 16P4

NC : NO CONNECTION

CIRCUIT SCHEMATIC



Unit : Ω



16-pin molded plastic DIP

ABSOLUTE MAXIMUM RATINGS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Rating	Unit
V_{CEO}	Output sustaining voltage	Transistor OFF	$-0.5 \sim +25$	V
I_C	Collector current	Transistor ON	400	mA
V_i	Input voltage		25	V
P_d	Power dissipation	$T_a = 25^\circ\text{C}$	1.47	W
T_{opr}	Operating ambient temperature range		$-20 \sim +75$	$^\circ\text{C}$
T_{stg}	Storage temperature range		$-55 \sim +125$	$^\circ\text{C}$

MITSUBISHI ELEK (LINEAR) 80 DE 6249826 0009250 7

7-UNIT 400mA DARLINGTON TRANSISTOR ARRAY

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RECOMMENDED OPERATIONAL CONDITIONS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

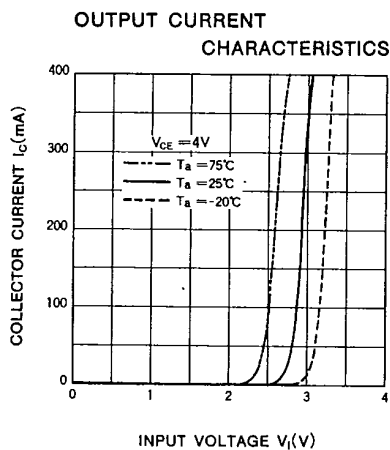
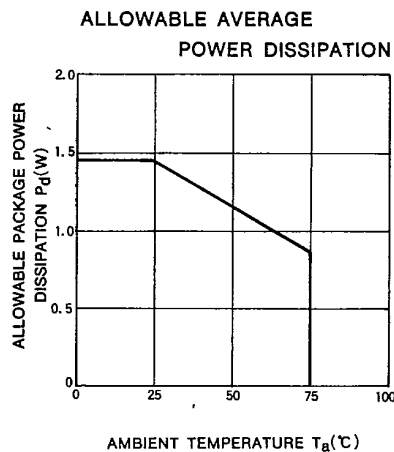
Symbol	Parameter	Limits			Unit
		Min	Typ	Max	
V_O	Output voltage	0		25	V
I_C	Collector current per channel			400	mA
				200	
V_{IH}	"H" Input voltage			20	V
				20	
V_{IL}	"L" Input voltage	0		0.5	V

ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ*	Max	
$V_{(BR)CEO}$	Output sustaining voltage	$I_{CEO} = 100\mu\text{A}$	25			V
$V_{CE(sat)}$	Output saturation voltage	$V_I = 8\text{V}, I_C = 400\text{mA}$		1.15	2.2	V
		$V_I = 5\text{V}, I_C = 200\text{mA}$		0.95	1.4	
I_I	Input current	$V_I = 17\text{V}$		0.8	1.8	mA
h_{FE}	DC forward current gain	$V_{CE} = 4\text{V}, I_C = 400\text{mA}, T_a = 25^\circ\text{C}$	1000	4500		—

* : A typical value is at $T_a = 25^\circ\text{C}$.

TYPICAL CHARACTERISTICS



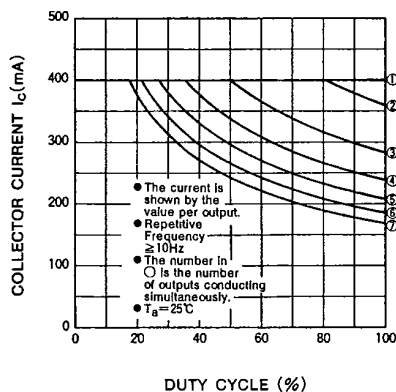
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7-UNIT 400mA DARLINGTON TRANSISTOR ARRAY

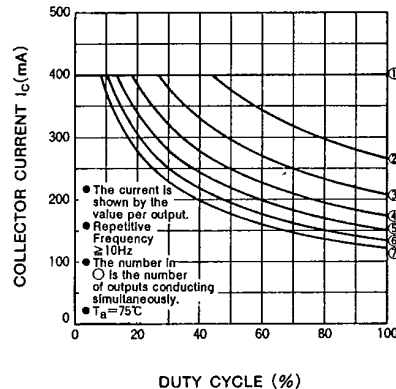
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80C 09251 D T-43-25

**ALLOWABLE COLLECTOR CURRENT
AS A FUNCTION OF DUTY CYCLE**



**ALLOWABLE COLLECTOR CURRENT
AS A FUNCTION OF DUTY CYCLE**



**DC CURRENT GAIN
CHARACTERISTICS**

