

MITSUBISHI BIPOLAR DIGITAL ICs
 MITSUBISHI ELEK (LINEAR) 80 DE 6249826 0009234 9 **M54514AP**
 6249826 MITSUBISHI ELEK (LINEAR) 80C 09234 DT-43-25
7-UNIT 50mA TRANSISTOR ARRAY

DESCRIPTION

The M54514AP, 7-channel sink drivers, consists of 7 NPN transistors with 2.8kΩ series input resistors.

FEATURES

- Output breakdown voltage to 20V
- 50mA output sink current capability
- Low output saturation voltage
- Wide operating temperature range ($T_a = -20 \sim +75^\circ\text{C}$)

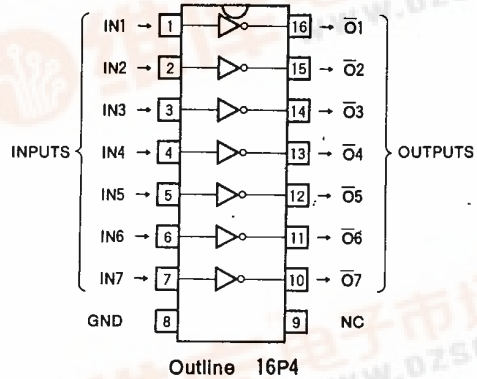
APPLICATION

LED or incandescent display digit driver

FUNCTION

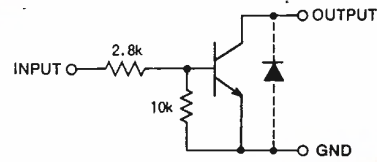
The M54514AP is comprised of seven NPN drivers. Each input has a voltage divider by 2.8kΩ and 10kΩ resistors. All emitters and the substrate are connected together to pin 8. The open collector outputs are capable of sinking 50mA and will withstand 20V in the OFF state.

PIN CONFIGURATION (TOP VIEW)

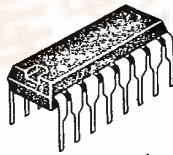


NC : NO CONNECTION

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	Ratings	Unit
V_{CEO}	Output sustaining voltage	Transistor OFF	-0.5~+20	V
I_C	Collector current	Transistor ON	50	mA
V_i	Input voltage		10	V
P_d	Power dissipation	$T_a = 25^\circ\text{C}$	1.47	W
T_{opr}	Operating ambient temperature range		-20~+75	$^\circ\text{C}$
T_{stg}	Storage temperature range		-55~+125	$^\circ\text{C}$

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		20	V
I_C	Collector current		0		20	mA
V_{IH}	"H" Input voltage	$I_C = 50\text{mA}$	2.4		8	V
V_{IL}	"L" Input voltage		0		0.2	V



MITSUBISHI ELEK {LINEAR} 80 DE 6249826 0009235 0 M54514AP

7-UNIT 50mA TRANSISTOR ARRAY

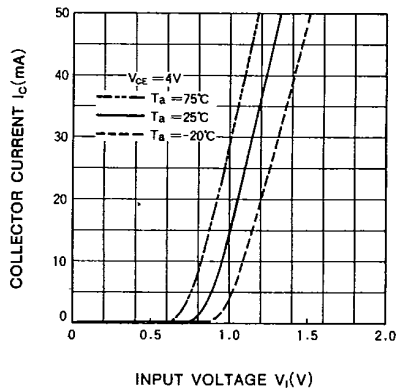
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ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

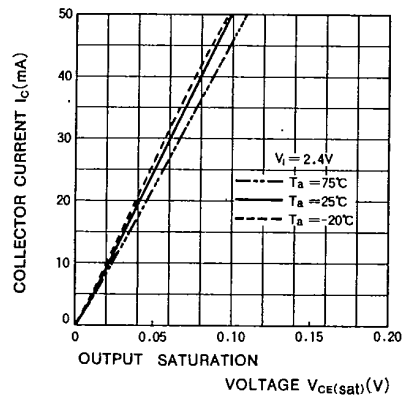
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$I_{O(leak)}$	Output leakage current	$V_O = 20\text{V}$			20	μA
$V_{CE(sat)}$	Output saturation voltage	$V_I = 2.4\text{V}$ $I_C = 20\text{mA}$ $I_C = 40\text{mA}$		0.04 0.08	0.17 0.23	V
I_I	Input current	$V_I = 2.4\text{V}$		0.7	1.1	mA
h_{FE}	DC forward current gain	$V_{CE} = 4\text{V}, I_C = 40\text{mA}, T_a = 25^\circ\text{C}$	80	200		—

TYPICAL CHARACTERISTICS

OUTPUT CURRENT CHARACTERISTICS



OUTPUT CHARACTERISTICS



DC CURRENT GAIN CHARACTERISTICS

