

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~+75°C)

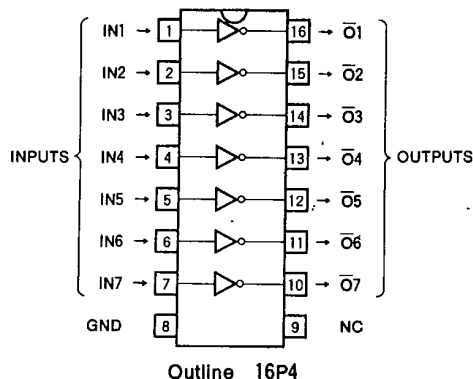
APPLICATION

LED or incandescent display digit driver

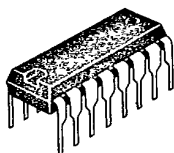
FUNCTION

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)

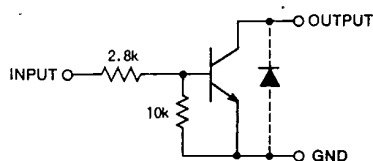


NC : NO CONNECTION



16-pin molded plastic DIP

CIRCUIT SCHEMATIC



Unit : Ω

ABSOLUTE MAXIMUM RATINGS (T_a = -20~+75°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°C	1.47	W
T _{opr}	Operating ambient temperature range		-20~+75	°C
T _{stg}	Storage temperature range		-55~+125	°C

RECOMMENDED OPERATIONAL CONDITIONS (T_a = -20~+75°C, unless otherwise noted)

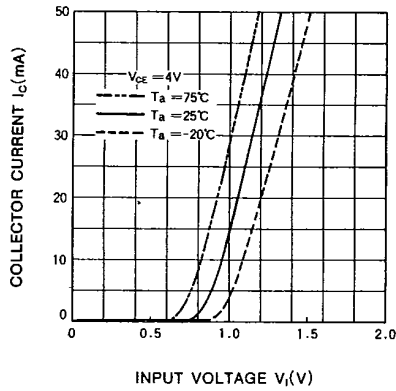
Symbol	Parameter	Limits			Unit
		Min	Typ	Max	
V _O	Output voltage	0		20	V
I _C	Collector current	0		20	mA
V _{IH}	"H" Input voltage	2.4		8	V
V _{IL}	"L" Input voltage	0		0.2	V

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

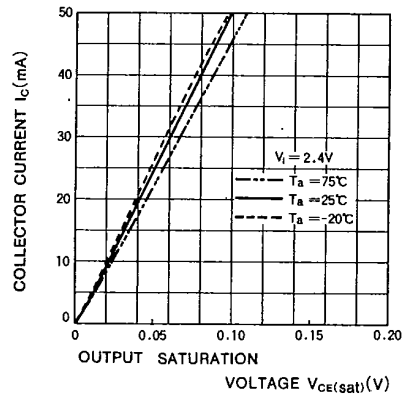
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$I_{O(leak)}$	Output leakage current	$V_{CE} = 20\text{V}$			20	μA
$V_{CE(sat)}$	Output saturation voltage	$V_I = 2.4\text{V}$		0.04	0.17	V
				0.08	0.23	
I_I	Input current	$V_I = 2.4\text{V}$		0.7	1.1	mA
h_{FE}	DC forward current gain	$V_{CE}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

TYPICAL CHARACTERISTICS

OUTPUT CURRENT CHARACTERISTICS



OUTPUT CHARACTERISTICS



DC CURRENT GAIN CHARACTERISTICS

