

DESCRIPTION

The M54515P, transistor array, consists of seven NPN transistors and is connected in a common-emitter configuration.

FEATURES

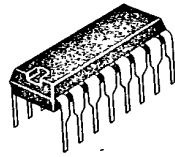
- Output breakdown voltage to 17V
- 16mA output sink current capability
- Wide operating temperature range ($T_a = -20 \sim +75^\circ\text{C}$)

APPLICATION

LED or incandescent display driver

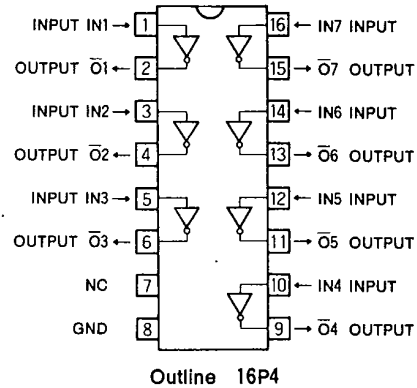
FUNCTION

The M54515P is comprised of seven NPN transistors. All emitters and the substrate are connected together to pin 8. The outputs are capable of sinking 16mA and will withstand 17V in the OFF state.



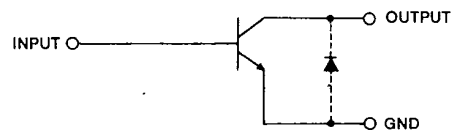
16-pin molded plastic DIP

PIN CONFIGURATION (TOP VIEW)



NC : NO CONNECTION

CIRCUIT SCHEMATIC



Unit : Ω

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	$-0.5 \sim +17$	V
V_i	Input voltage		1.2	V
I_C	Collector current	Transistor ON	16	mA
T_{opr}	Operating ambient temperature range		$-20 \sim +75$	$^\circ\text{C}$
T_{stg}	Storage temperature range		$-55 \sim +125$	$^\circ\text{C}$

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		17	V
I_O	Collector current per channel	0		16	mA

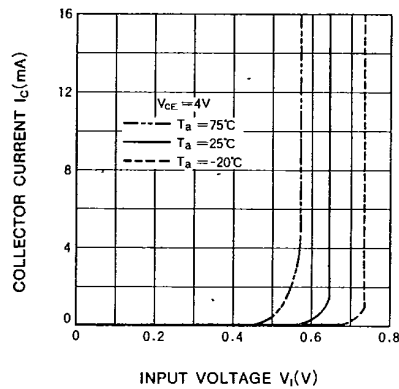
ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$, unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	Output sustaining voltage	$I_{OH} = 100\mu\text{A}$	17			V
$V_{CE(sat)}$	Output saturation voltage	$I_{OL} = 16\text{mA}$, $I_B = 0.5\text{mA}$		0.14	0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_{OL} = 16\text{mA}$, $I_B = 0.5\text{mA}$		0.64	1.2	V
h_{FE}	DC forward current gain	$V_{CE} = 5\text{V}$, $I_C = 16\text{mA}$, $T_a = 25^\circ\text{C}$	32	50		—
$I_{OL(Leak)}$	Output leakage current	$V_O = 17\text{V}$, $V_I = 0.2\text{V}$			700	μA

TYPICAL CHARACTERISTICS

OUTPUT CURRENT

CHARACTERISTICS



DC CURRENT GAIN

CHARACTERISTICS

