

# M54515P

7-UNIT 16mA TRANSISTOR ARRAY

6249826 MITSUBISHI ELEK (LINEAR)

80C 09236 D7-43-25

### 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 ( $T_a = -20 \sim +75^\circ\text{C}$ )

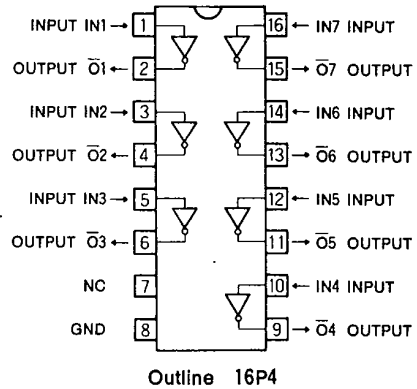
### APPLICATION

LED or incandescent display driver

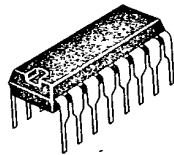
### FUNCTION

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.

### PIN CONFIGURATION (TOP VIEW)

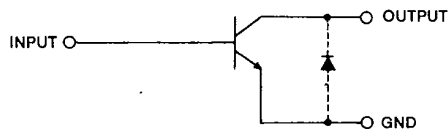


NC : NO CONNECTION



16-pin molded plastic DIP

### CIRCUIT SCHEMATIC



Unit :  $\Omega$

### 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~+17	V
$V_i$	Input voltage		1.2	V
$I_c$	Collector current	Transistor ON	16	mA
$T_{opr}$	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		17	V
$I_c$	Collector current per channel	0		16	mA

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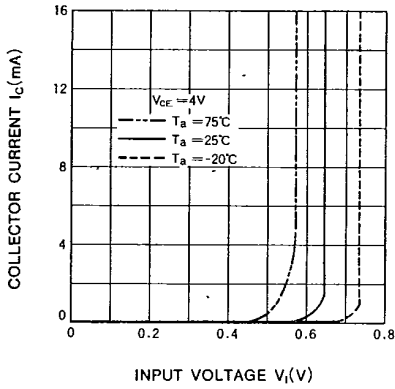
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**ELECTRICAL CHARACTERISTICS** ( $T_a = -20 \sim +75^\circ\text{C}$ , unless otherwise noted)

Symbol	Parameter	Test conditions	Limits			Unit
			Min	Typ	Max	
$V_{(BR)CEO}$	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		—
$I_{C(Leak)}$	Output leakage current	$V_O = 17\text{V}$ , $V_I = 0.2\text{V}$			700	$\mu\text{A}$

**TYPICAL CHARACTERISTICS**

**OUTPUT CURRENT CHARACTERISTICS**



**DC CURRENT GAIN CHARACTERISTICS**

