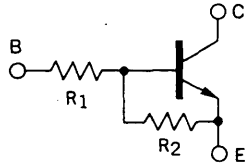


**DESCRIPTION** The BA1A4M is designed for use in medium speed switching circuit.

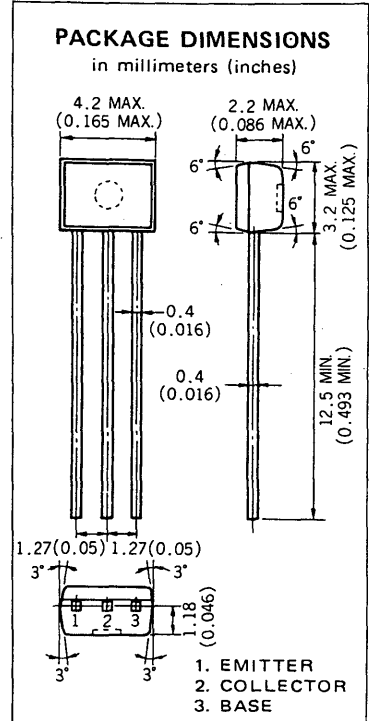
**FEATURE** • Bias resistors built in type NPN transistor equivalent circuit.



$R_1 = 10\text{ k}\Omega$   
 $R_2 = 10\text{ k}\Omega$

**ABSOLUTE MAXIMUM RATINGS**

- Maximum Temperatures
  - Storage Temperature . . . . .  $-55$  to  $+150\text{ }^\circ\text{C}$
  - Junction Temperature . . . . .  $150\text{ }^\circ\text{C}$  Maximum
- Maximum Power Dissipation ( $T_a = 25\text{ }^\circ\text{C}$ )
  - Total Power Dissipation . . . . . 250 mW
- Maximum Voltages and Currents ( $T_a = 25\text{ }^\circ\text{C}$ )
  - $V_{CBO}$  Collector to Base Voltage . . . . . 60 V
  - $V_{CEO}$  Collector to Emitter Voltage . . . . . 50 V
  - $V_{EBO}$  Emitter to Base Voltage . . . . . 10 V
  - $I_{C(DC)}$  Collector Current (DC) . . . . . 100 mA
  - $I_{C(pulse)}$  Collector Current (pulse) . . . . . 200 mA



**ELECTRICAL CHARACTERISTICS ( $T_a = 25\text{ }^\circ\text{C}$ )**

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_1$	Input Resistance	7.0	10.0	13.0	$\text{k}\Omega$	
$R_1/R_2$	Resistors Ratio	0.9	1.0	1.1	—	
$V_{IL}$	Low Level Input Voltage		1.1	0.8	V	$V_{CE} = 5.0\text{ V}, I_C = 100\text{ }\mu\text{A}$
$V_{IH}$	Hi Level Input Voltage	3.0	1.4		V	$V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$
$t_{on}$	Turn on Time		0.06	0.2	$\mu\text{s}$	$V_{CC} = 5.0\text{ V}, R_L = 1.0\text{ k}\Omega$ $V_{in} = 5.0\text{ V},$ $PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$
$t_{stg}$	Storage Time		2.0	5.0	$\mu\text{s}$	
$t_{off}$	Turn off Time		2.15	6.0	$\mu\text{s}$	
$h_{FE1}$	DC Current Gain	35	62	100	—	$V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$
$h_{FE2}$	DC Current Gain	80	230		—	$V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage		0.05	0.2	V	$I_C = 5.0\text{ mA}, I_B = 0.25\text{ mA}$
$I_{CBO}$	Collector Cutoff Current			0.1	$\mu\text{A}$	$V_{CB} = 50\text{ V}, I_E = 0$

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

