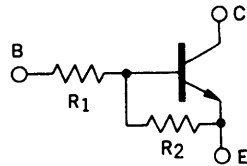


**DESCRIPTION** The BA1A4P is designed for use in medium speed switching circuit.

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

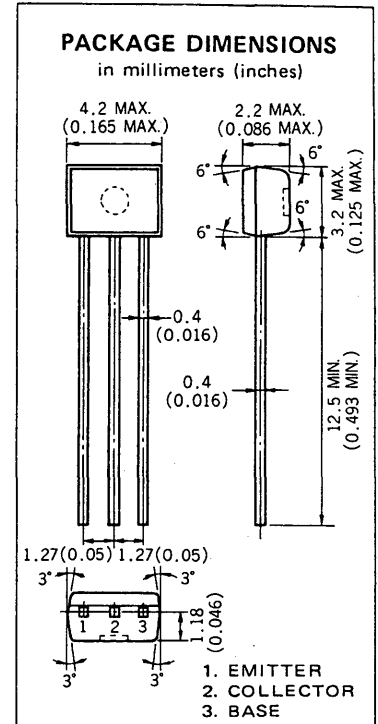


$R_1 = 10\text{ k}\Omega$

$R_2 = 47\text{ k}\Omega$

### ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation ( $T_a = 25\text{ °C}$ )	
Total Power Dissipation	250 mW
Maximum Voltages and Currents ( $T_a = 25\text{ °C}$ )	
$V_{CBO}$ Collector to Base Voltage	60 V
$V_{CEO}$ Collector to Emitter Voltage	50 V
$V_{EBO}$ Emitter to Base Voltage	5.0 V
$I_{C(DC)}$ Collector Current (DC)	100 mA
$I_{C(pulse)}$ Collector Current (pulse)	200 mA



### ELECTRICAL CHARACTERISTICS ( $T_a = 25\text{ °C}$ )

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_1$	Input Resistance	7.0	10.0	13.0	$\text{k}\Omega$	
$R_2$	Input Resistance	32.9	47.0	61.1	$\text{k}\Omega$	
$V_{IL}$	Low Level Input Voltage		0.65	0.5	V	$V_{CE} = 5.0\text{ V}, I_C = 100\text{ }\mu\text{A}$
$V_{IH}$	Hi Level Input Voltage	3.0	0.89		V	$V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$
$t_{on}$	Turn On Time		0.1	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		3.0	5.0	$\mu\text{s}$	
$t_{off}$	Turn Off Time		3.2	6.0	$\mu\text{s}$	
$h_{FE1}$	DC Current Gain	85	210	340	—	$V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$
$h_{FE2}$	DC Current Gain	95	370		—	$V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage		0.04	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 ( $T_a = 25^\circ\text{C}$ )

