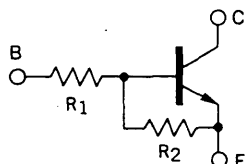


DESCRIPTION The BA1A4M is designed for use in medium speed switching circuit.

FEATURE

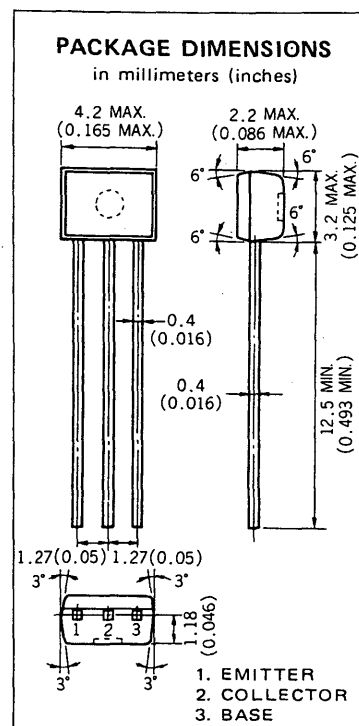
- Bias resistors built in type NPN transistor equivalent circuit.



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

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures			
Storage Temperature		-55 to +150 °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	10	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_1/R_2	Resistors Ratio	0.9	1.0	1.1	—	
V_{IL}	Low Level Input Voltage		1.1	0.8	V	$V_{CE} = 5.0 \text{ V}, I_C = 100 \mu\text{A}$
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	μs	$V_{CC} = 5.0 \text{ V}, R_L = 1.0 \text{ k}\Omega$ $V_{in} = 5.0 \text{ V},$ $PW = 2 \mu\text{s}, \text{Duty Cycle} \leq 2 \%$
t_{stg}	Storage Time		2.0	5.0	μs	
t_{off}	Turn off Time		2.15	6.0	μs	
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	μA	$V_{CB} = 50 \text{ V}, I_E = 0$

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