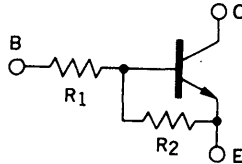


NEC

NPN SILICON TRANSISTOR AA1A4M

DESCRIPTION The AA1A4M is designed for use in medium speed switching circuit.

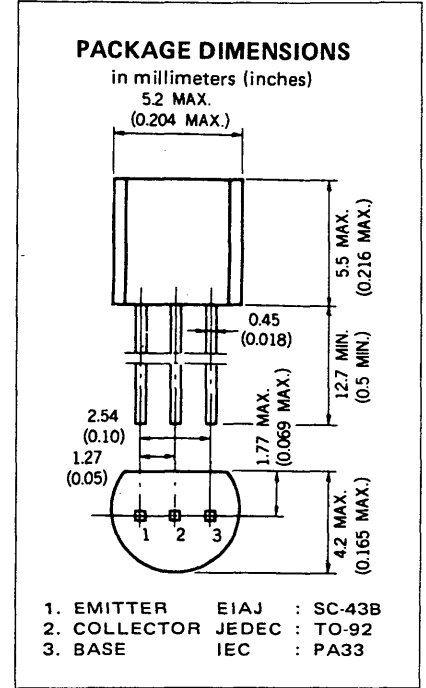
FEATURE • Bias resistors built-in type NPN transistor equivalent circuit.



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

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	300 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	k Ω	
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	μs	$V_{CC} = 5.0\text{ V}, R_L = 1.0\text{ k}\Omega$ $V_{in} = 5.0\text{ V},$ $PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$
t_{stg}	Storage Time		2.0	5.0	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 ($T_a = 25^\circ\text{C}$)

