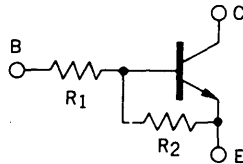


**DESCRIPTION** The AA1L4M is designed for use in medium speed switching circuit.

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



$R_1 = 47\text{ k}\Omega$

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

### 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 . . . . .  $300\text{ mW}$

#### Maximum Voltages and Currents ( $T_a = 25\text{ }^\circ\text{C}$ )

$V_{CBO}$  Collector to Base Voltage . . . . .  $60\text{ V}$

$V_{CEO}$  Collector to Emitter Voltage . . . . .  $50\text{ V}$

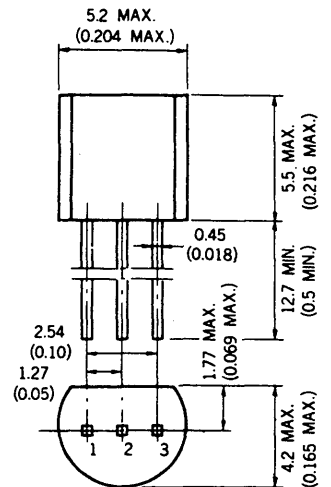
$V_{EBO}$  Emitter to Base Voltage . . . . .  $10\text{ V}$

$I_{C(DC)}$  Collector Current (DC) . . . . .  $100\text{ mA}$

$I_{C(pulse)}$  Collector Current (pulse) . . . . .  $200\text{ mA}$

### PACKAGE DIMENSIONS

in millimeters (inches)



1. EMITTER EIAJ : SC-43B  
2. COLLECTOR JEDEC : TO-92  
3. BASE IEC : PA33

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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_1$	Input Resistance	32.9	47.0	61.1	$\text{k}\Omega$	
$R_1/R_2$	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	5.0	1.7		V	$V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$
$t_{on}$	Turn on Time		0.27	0.7	$\mu\text{s}$	$V_{CC} = 5.0\text{ V}, R_L = 1.0\text{ k}\Omega$ $V_{in} = 5.0\text{ V},$ $PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$
$t_{stg}$	Storage Time		2.0	5.0	$\mu\text{s}$	
$t_{off}$	Turn off Time		2.48	6.0	$\mu\text{s}$	
$h_{FE1}$	DC Current Gain	85	240	340	—	$V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$
$h_{FE2}$	DC Current Gain	95	640		—	$V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$
$V_{CE(sat)}$	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 ( $T_a = 25^\circ\text{C}$ )

