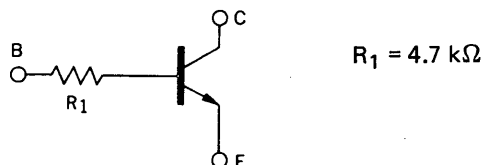


**DESCRIPTION** The BA1L3Z is designed for use in medium speed switching circuit.

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



### ABSOLUTE MAXIMUM RATINGS

#### Maximum Temperatures

Storage Temperature . . . . .  $-55$  to  $+150$  °C

Junction Temperature . . . . .  $150$  °C Maximum

#### Maximum Power Dissipation ( $T_a = 25$ °C)

Total Power Dissipation . . . . . 250 mW

#### Maximum Voltages and Currents ( $T_a = 25$ °C)

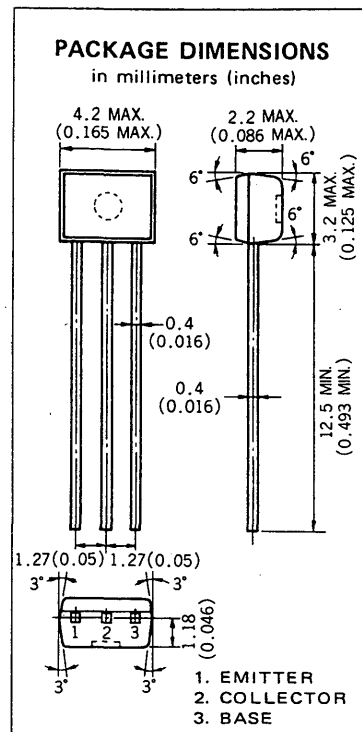
$V_{CBO}$  Collector to Base Voltage . . . . . 60 V

$V_{CEO}$  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 ( $T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$R_1$	Input Resistance	3.29	4.7	6.11	$\text{k}\Omega$	
$V_{IL}$	Low Level Input Voltage		0.54	0.5	V	$V_{CE} = 5.0 \text{ V}, I_C = 100 \mu\text{A}$
$V_{IH}$	Hi Level Input Voltage	1.2	0.71		V	$V_{CE} = 0.2 \text{ V}, I_C = 5.0 \text{ mA}$
$t_{on}$	Turn On Time		0.03	0.2	$\mu\text{s}$	$V_{CC} = 5.0 \text{ V}, R_L = 1.0 \text{ k}\Omega,$ $V_{in} = 5.0 \text{ V},$ $PW = 2 \mu\text{s}, \text{Duty Cycle} \leq 2\%$
$t_{stg}$	Storage Time		3.2	5.0	$\mu\text{s}$	
$t_{off}$	Turn Off Time		3.4	6.0	$\mu\text{s}$	
$h_{FE1}$	DC Current Gain	135	450	600	—	$V_{CE} = 5.0 \text{ V}, I_C = 5.0 \text{ mA}$
$h_{FE2}$	DC Current Gain	100	380		—	$V_{CE} = 5.0 \text{ V}, I_C = 50 \text{ mA}$
$V_{CE(sat)}$	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 ( $T_a = 25^\circ\text{C}$ )

