

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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DATA SHEET (Preliminary)

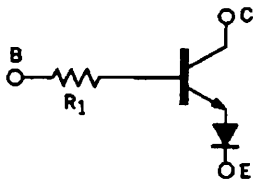
RENESAS

NPN SILICON TRANSISTOR BA3L4Z

DESCRIPTION The BA3L4Z is Diode and Resistor Built-in type NPN transistor designed for transistor switch of Key Matrix Connection.

FEATURES

- Built-in Diode block reverse current.

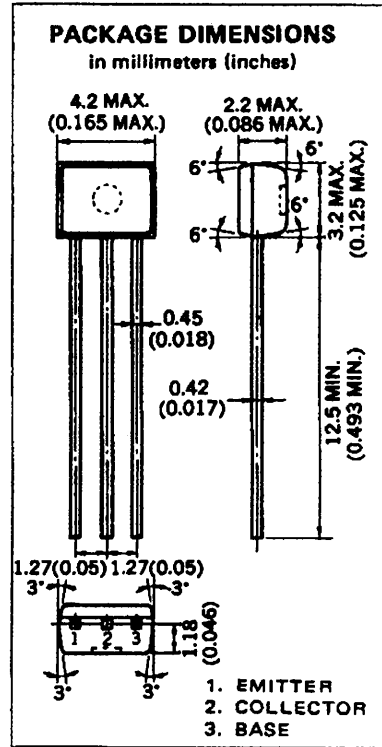


$R_1 = 47 \text{ k}\Omega$

- Complementary to BN3L4Z

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures			
Storage Temperature	-55 to +150 °C	
Junction Temperature	150 °C Maximum	
Maximum Power Dissipation ($T_a = 25 \text{ °C}$)			
Toral Power Dissipation	250	mW
Maximum Voltages and Current ($T_a = 25 \text{ °C}$)			
V_{CBO}	Collector to Base Voltage	20	V
V_{CEO}	Collector to Emitter Voltage	20	V
V_{EBO}	Emitter to Base Voltage	5	V
$I_{C(DC)}$	Collector Current (DC)	20	mA
V_R	Reverse Voltage (Diode)	6	V



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
R_1	Input Resistance	32.9	47.0	61.1	k Ω	
h_{FE}^*	DC Current Gain	30	120		-	$V_{CE} = 5.0 \text{ V}, I_C = 1.0 \text{ mA}$
$V_{CE(sat)1}^*$	Collector Saturation Voltage		0.8	1.0	V	$I_C = 0.1 \text{ mA}, I_B = 0.01 \text{ mA}$
$V_{CE(sat)2}^*$	Collector Saturation Voltage		1.0	1.2	V	$I_C = 1.0 \text{ mA}, I_B = 0.1 \text{ mA}$
I_{CEX}	Diode Reverse Current			1.0	μA	$V_I = 5 \text{ V}, V_{EC} = 5.5 \text{ V}$
I_{CBO}	Collector Cutoff Current			0.1	μA	$V_{CB} = 20 \text{ V}, I_E = 0$

* Pulsed : $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2 \%$

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

