

**isc Silicon PNP Power Transistor**
**BD330**
**DESCRIPTION**

- DC Current Gain-  
:  $h_{FE} = 85 \sim 375(\text{Min}) @ I_C = -0.5\text{A}$
- Collector-Emitter Sustaining Voltage -  
:  $V_{CEO(\text{SUS})} = -20\text{V}(\text{Min})$
- Complement to type BD329
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

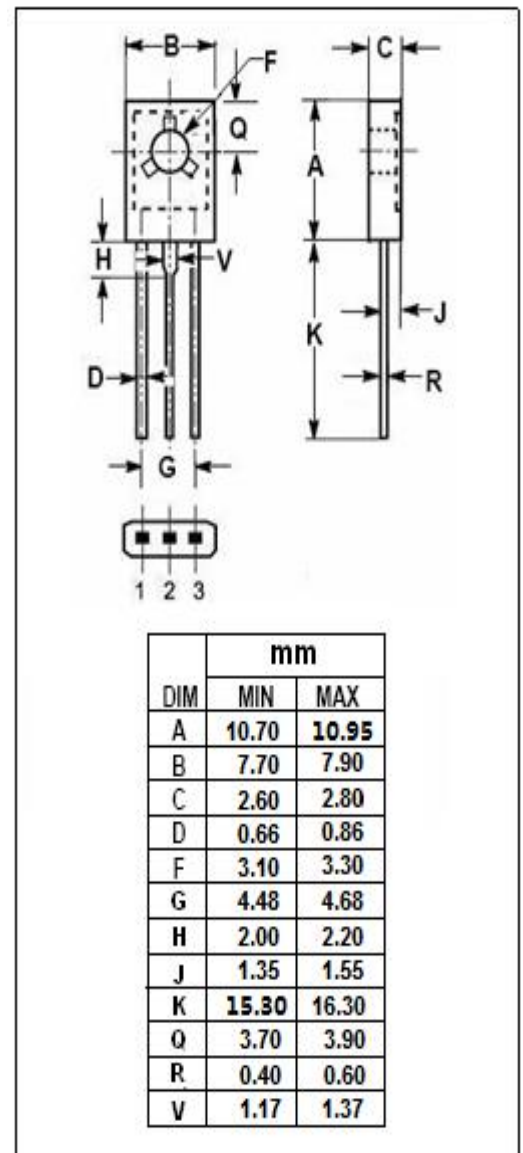
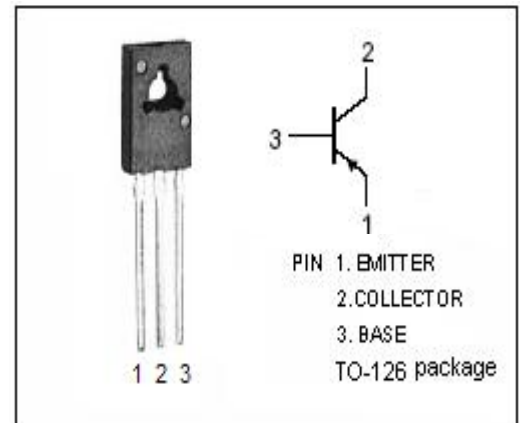
- Especially for battery equipped applications.

**ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-32	V
$V_{CEO}$	Collector-Emitter Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-3	A
$I_{BM}$	Base Current-Peak	-1	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	7	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	100	$^\circ\text{C}/\text{W}$



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BD330

## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}; I_B = 0$	-20			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}; I_B = -0.2\text{A}$			-0.5	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C = -5\text{mA}; V_{CE} = -10\text{V}$		-0.6		V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C = -2\text{A}; V_{CE} = -1\text{V}$			-1.2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -32\text{V}; I_E = 0$ $V_{CB} = -32\text{V}; I_E = 0, T_C = 150^{\circ}\text{C}$			-0.1 -10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-0.1	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C = -5\text{mA}; V_{CE} = -10\text{V}$	50			
$h_{FE-2}$	DC Current Gain	$I_C = -0.5\text{A}; V_{CE} = -1\text{V}$	85		375	
$h_{FE-3}$	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -1\text{V}$	40			
$f_T$	Current-Gain—Bandwidth Product	$I_C = -50\text{mA}; V_{CE} = -5\text{V}; f_{test} = 100\text{MHz}$		100		MHz

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