

## isc Silicon PNP Power Transistor

BD180

## DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 40-250(\text{Min}) @ I_C = -0.15\text{A}$
- Collector-Emitter Sustaining Voltage -  
:  $V_{CEO(\text{SUS})} = -80\text{V}(\text{Min})$
- Complement to type BD179
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

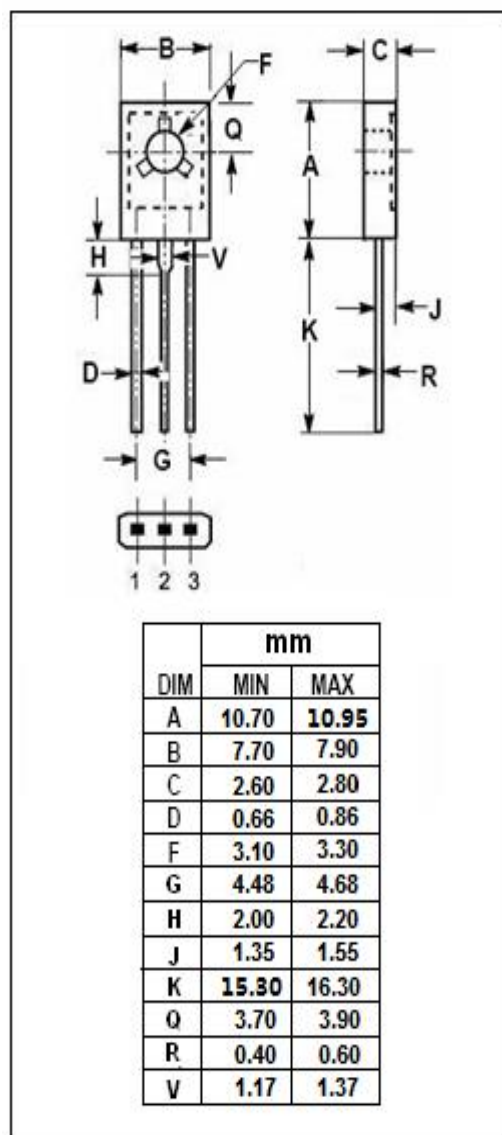
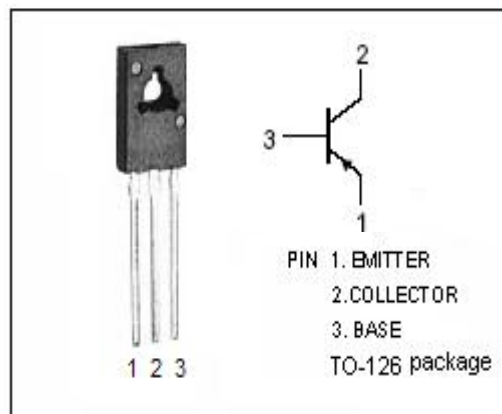
- Designed for medium power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-80	V
$V_{CEO}$	Collector-Emitter Voltage	-80	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-3	A
$I_{CM}$	Collector Current-Pulse	-7	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	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	8.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



**isc Silicon PNP Power Transistor****BD180****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	$I_C = -50\text{mA}$ ; $I_B = 0$	-80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}$ ; $I_B = -0.1\text{A}$			-0.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1\text{A}$ ; $V_{CE} = -2\text{V}$			-1.3	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -80\text{V}$ ; $I_E = 0$			-100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}$ ; $I_C = 0$			-1	mA
$h_{FE-1}$	DC Current Gain	$I_C = -150\text{mA}$ ; $V_{CE} = -2\text{V}$	40		250	
$h_{FE-2}$	DC Current Gain	$I_C = -1\text{A}$ ; $V_{CE} = -2\text{V}$	15			
$f_T$	Current-Gain—Bandwidth Product	$I_C = -0.25\text{A}$ ; $V_{CE} = -10\text{V}$	3			MHz

**◆  $h_{FE-1}$  Classifications**

6	10	16
40-100	63-160	100-250

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