

**isc Silicon NPN Power Transistor**
**BDY80**
**DESCRIPTION**

- Continuous Collector Current- $I_C = 4A$
- Collector Power Dissipation-  
:  $P_C = 36W @ T_C = 25^\circ C$
- Complement to Type BDY82
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

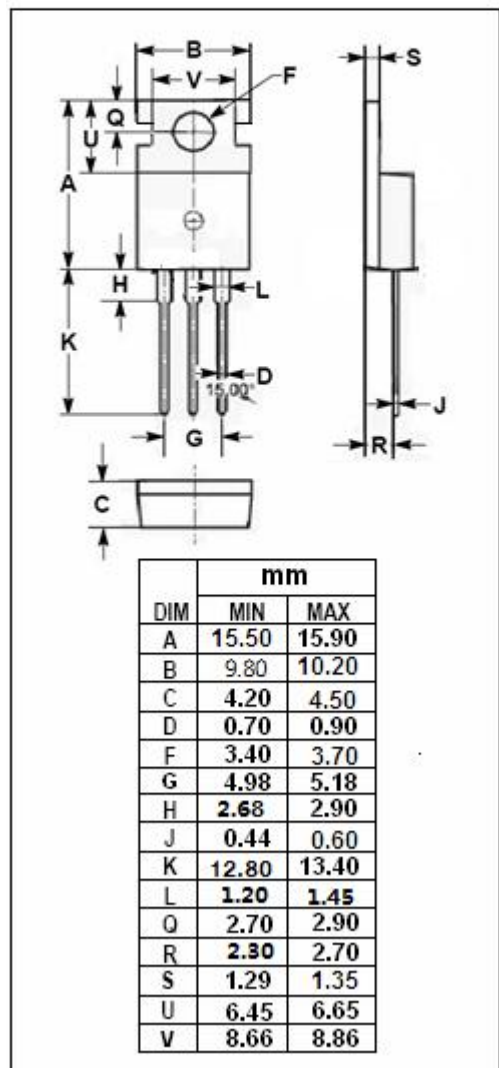
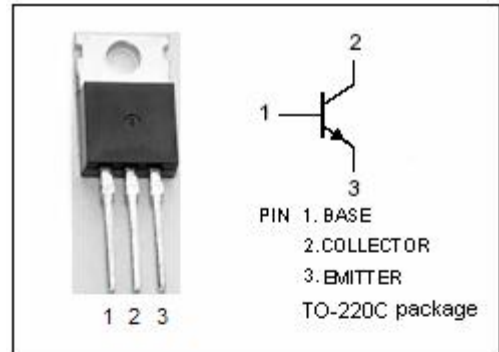
- Designed for general purpose switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	35	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$I_C$	Collector Current-Continuous	4	A
$I_B$	Base Current-Continuous	2	A
$P_C$	Collector Power Dissipation@ $T_C = 25^\circ C$	36	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.5	$^\circ C/W$



**isc Silicon NPN Power Transistor****BDY80****ELECTRICAL CHARACTERISTICS**T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	35			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA; I <sub>E</sub> = 0	40			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	10			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1A; I <sub>B</sub> = 0.05A			1.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V			0.9	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 20V; I <sub>B</sub> = 0			1	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 20V; I <sub>E</sub> = 0			0.2	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			0.1	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V	40		240	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	20			
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V		1		MHz

◆ **h<sub>FE-1</sub> Classifications**

A	B	C
40-80	70-140	120-240

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