

**isc Silicon NPN Power Transistor**
**BDY76**
**DESCRIPTION**

- Excellent Safe Operating Area
- High DC Current Gain-  
:  $h_{FE} = 40 \sim 120 @ I_C = 10A$
- Low Saturation Voltage-  
:  $V_{CE(sat)} = 1.4V(Max) @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

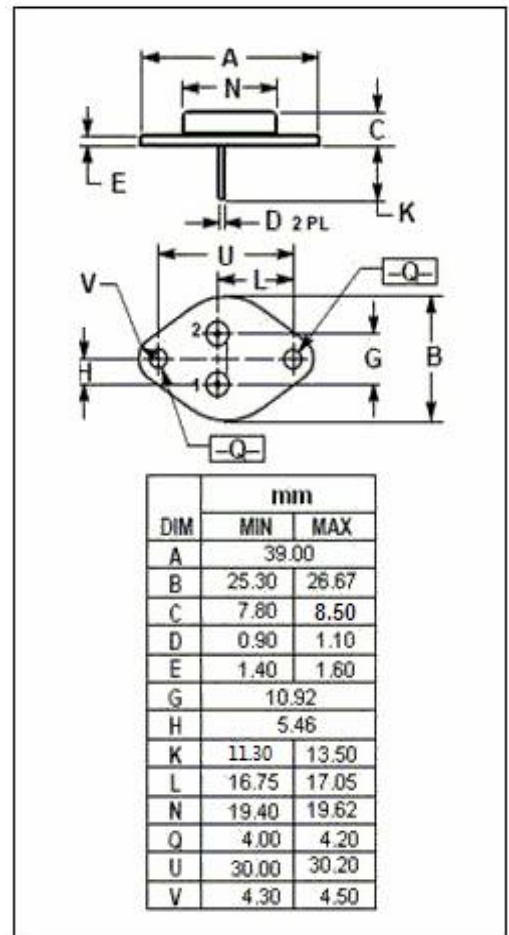
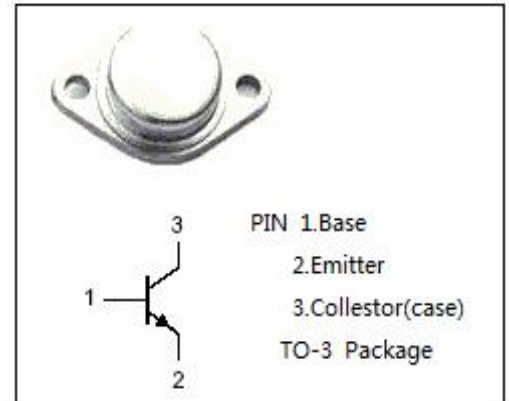
- Designed for linear amplifiers, series pass regulators, and inductive switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	100	V
$V_{CEX}$	Collector-Emitter Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	20	A
$I_{CM}$	Collector Current-Peak	30	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	150	W
$T_J$	Junction Temperature	200	$^\circ C$
$T_{stg}$	Storage Temperature	-65~200	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.17	$^\circ C/W$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	60		V
V <sub>(BR)CER</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 200mA; R <sub>BE</sub> =100 Ω	70		V
V <sub>(BR)CEX</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 200mA; V <sub>BE(off)</sub> = 1.5V	80		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1A		1.4	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 10A; V <sub>CE</sub> = 4V		2.2	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 50V; I <sub>B</sub> = 0		10	mA
I <sub>CEX</sub>	Collector Cutoff Current	V <sub>CE</sub> = 100V; V <sub>BE(off)</sub> = 1.5V V <sub>CE</sub> = 30V; V <sub>BE(off)</sub> = 1.5V, T <sub>C</sub> =150°C		5.0 10	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 100V; I <sub>E</sub> = 0 V <sub>CB</sub> = 30V; I <sub>E</sub> = 0, T <sub>C</sub> =150°C		5.0 10	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0		5.0	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10A; V <sub>CE</sub> = 4V	40	120	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 4V	0.8		MHz

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