

**Silicon NPN Power Transistor**

**BDY74**

**DESCRIPTION**

- Excellent Safe Operating Area
- Collector-Emitter Sustaining Voltage-  
 :  $V_{CEO(SUS)} = 120V(\text{Min.})$
- Collector-Emitter Saturation Voltage-  
 :  $V_{CE(sat)} = 1.0V(\text{Max}) @ I_C = 3A$

**APPLICATIONS**

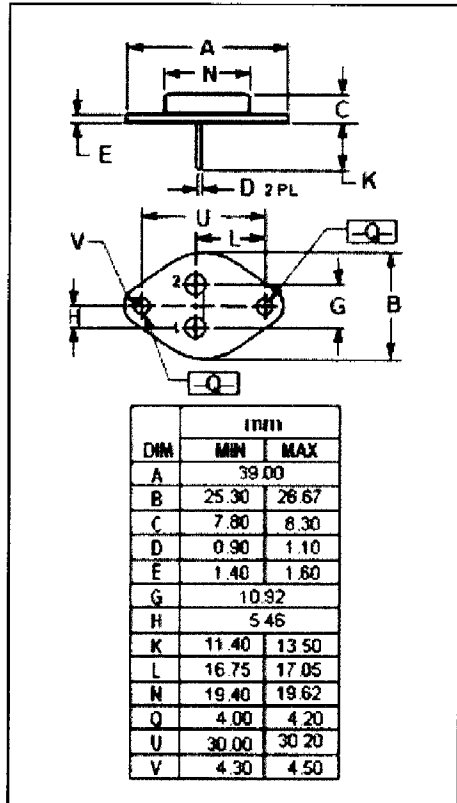
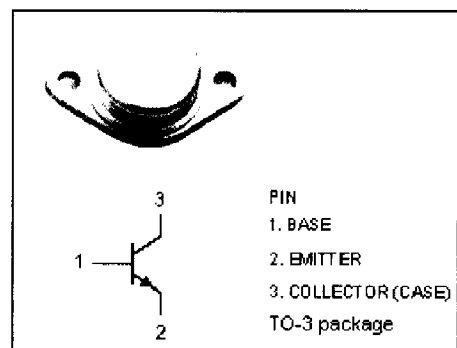
- Designed for use in industrial and commercial equipment including high fidelity audio amplifiers, series and shunt regulators and power switches.

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

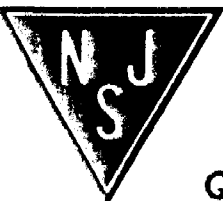
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	10	A
$I_{CP}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	7	A
$P_C$	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	117	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~200	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.5	$^\circ\text{C/W}$



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



**Silicon NPN Power Transistor****BDY74****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

<b>SYMBOL</b>	<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>MIN</b>	<b>MAX</b>	<b>UNIT</b>
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 200mA; I <sub>B</sub> = 0; L= 25mH	120		V
V <sub>CES(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 100mA; V <sub>BE</sub> = -1.5V	150		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3A; I <sub>B</sub> = 0.3A		1.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 3A; V <sub>CE</sub> = 4V		1.7	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 130V; I <sub>E</sub> = 0		1.0	mA
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = 130V; V <sub>BE(off)</sub> = 1.5V V <sub>CE</sub> = 130V; V <sub>BE(off)</sub> = 1.5V, T <sub>C</sub> = 150°C		1.0 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> = 3A; V <sub>CE</sub> = 4V	50	150	
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 10V	0.8		MHz