

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

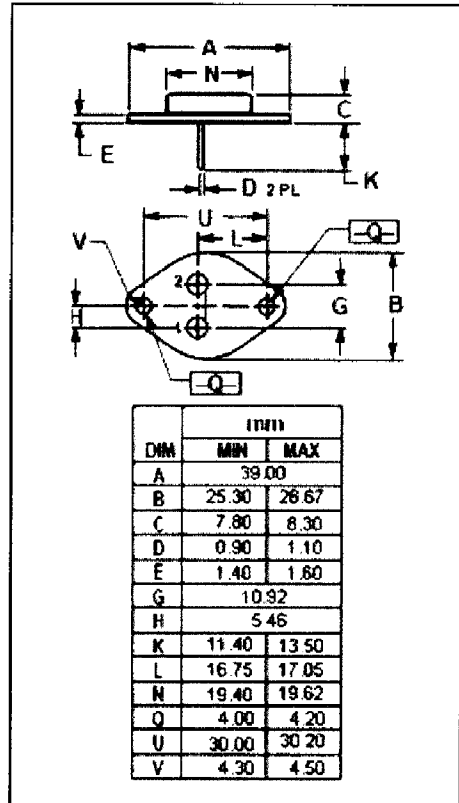
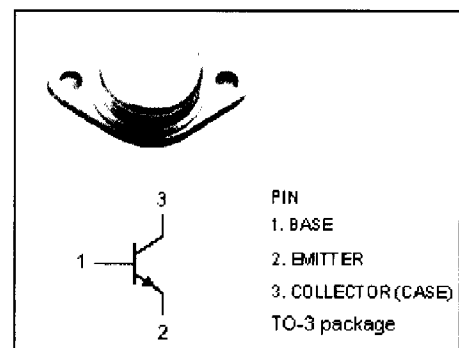
- Designed for use in industrial and commercial equipment including high fidelity audio amplifiers, series and shunt regulators and power switches.

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

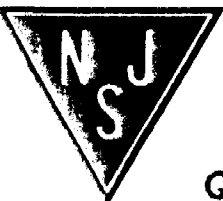
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	10	A
I_{CP}	Collector Current-Peak	15	A
I_B	Base Current-Continuous	7	A
P_C	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	117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



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 200\text{mA}; I_B= 0; L= 25\text{mH}$	120		V
$V_{CEX(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 100\text{mA}; V_{BE}= -1.5\text{V}$	150		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 3\text{A}; I_B= 0.3\text{A}$		1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 3\text{A}; V_{CE}= 4\text{V}$		1.7	V
I_{CBO}	Collector Cutoff Current	$V_{CB}= 130\text{V}; I_E= 0$		1.0	mA
I_{CEX}	Collector Cutoff Current	$V_{CE}= 130\text{V}; V_{BE(off)}= 1.5\text{V}$ $V_{CE}= 130\text{V}; V_{BE(off)}= 1.5\text{V}; T_C= 150^{\circ}\text{C}$		1.0 10	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 7\text{V}; I_C= 0$		5.0	mA
h_{FE}	DC Current Gain	$I_C= 3\text{A}; V_{CE}= 4\text{V}$	50	150	
f_T	Current Gain-Bandwidth Product	$I_C= 1\text{A}; V_{CE}= 10\text{V}$	0.8		MHz