

**isc 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**

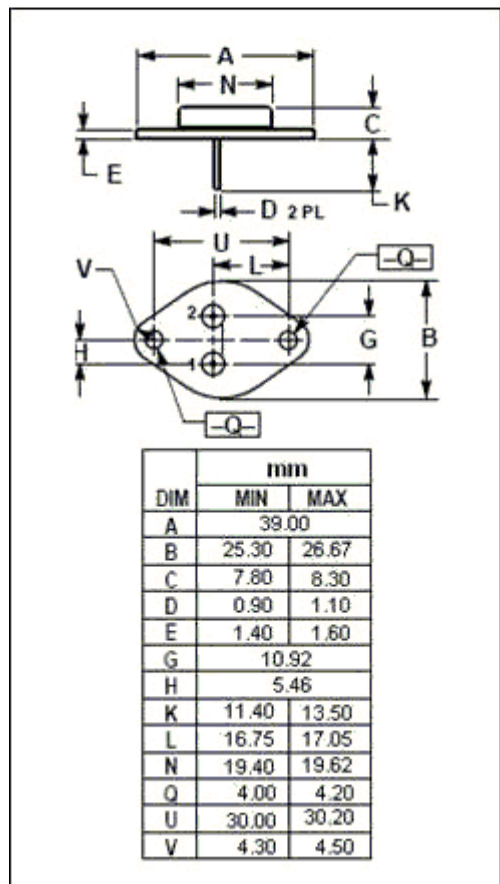
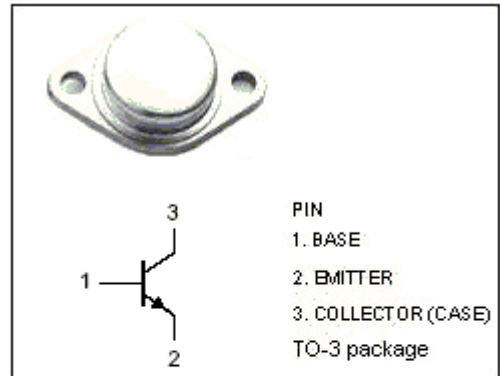
- Designed for use in industrial and commercial equipment including high fidelity audio amplifiers, series and shunt regulators and power switches.

**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	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistor****BDY74****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	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