

**isc Silicon NPN Power Transistor**
**BDY37**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 140V$  (Min)
- Low Collector-Emitter Saturation Voltage
- Excellent Safe Operating Area
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

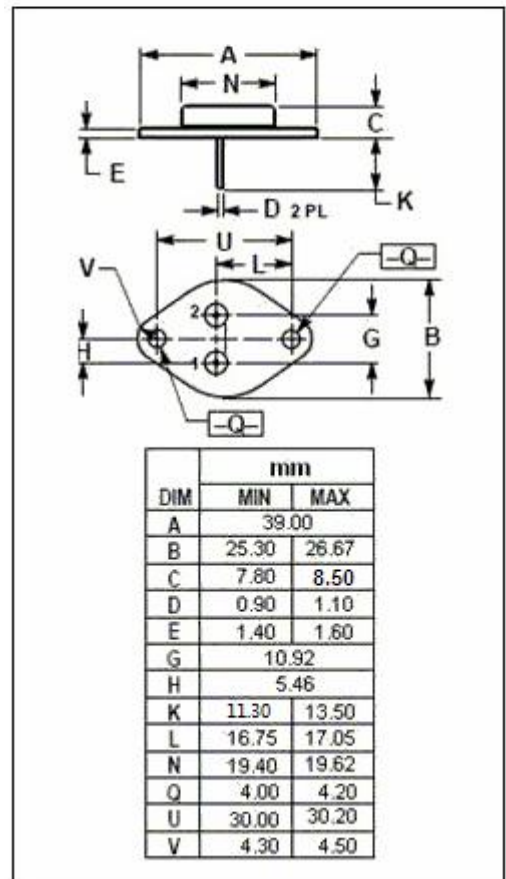
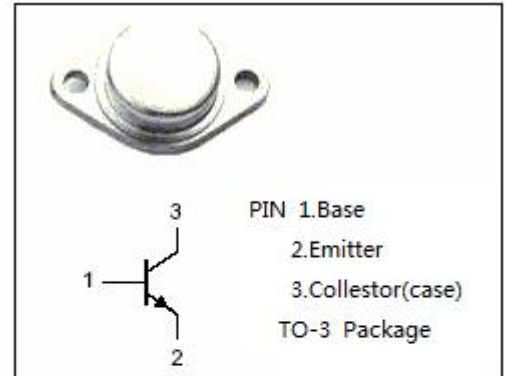
- Designed for high power audio, disk head positioners, linear amplifiers, switching regulators, solenoid drivers, and DC-DC converters or inverters.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	140	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	16	A
$I_{CM}$	Collector Current-Peak	30	A
$I_B$	Base Current-Continuous	4	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	150	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-65~150	$^\circ C$

**THERMAL CHARACTERISTICS**

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



**isc Silicon NPN Power Transistor****BDY37****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 50\text{mA}$ ; $I_B= 0$	140		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 8\text{A}$ ; $I_B= 0.8\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 16\text{A}$ ; $I_B= 3.2\text{A}$		2.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 8\text{A}$ ; $V_{CE}= 2\text{V}$		2.0	V
$I_{CEO}$	Collector Cutoff Current	$V_{CE}= 140\text{V}$ ; $I_B= 0$		0.5	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}= 150\text{V}$ ; $V_{BE(off)}= 1.5\text{V}$		2.0	mA
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 150\text{V}$ ; $I_E= 0$		0.2	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 7\text{V}$ ; $I_C= 0$		0.1	mA
$h_{FE-1}$	DC Current Gain	$I_C= 8\text{A}$ ; $V_{CE}= 4\text{V}$	15	60	
$h_{FE-2}$	DC Current Gain	$I_C= 16\text{A}$ ; $V_{CE}= 4\text{V}$	10		

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