

isc Silicon NPN Power Transistor
BDY75
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 40V$ (Min)
- Low Collector-Emitter Saturation Voltage
- Excellent Safe Operating Area
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

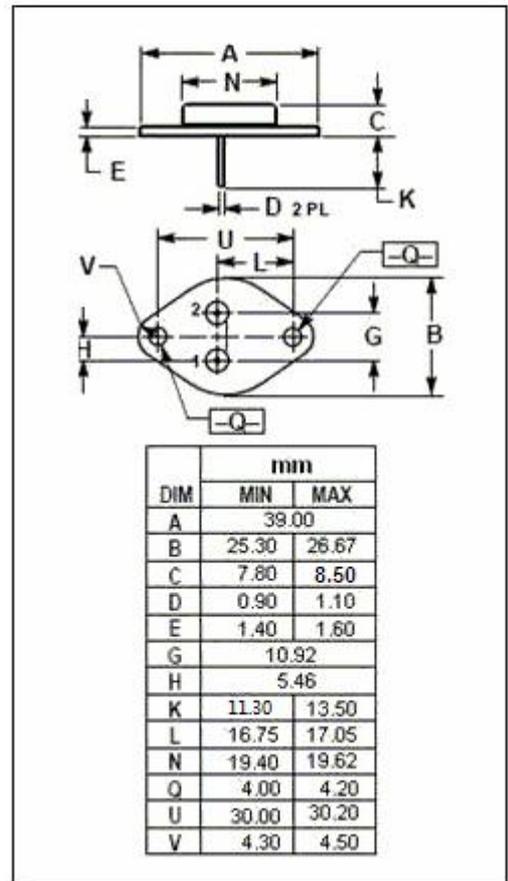
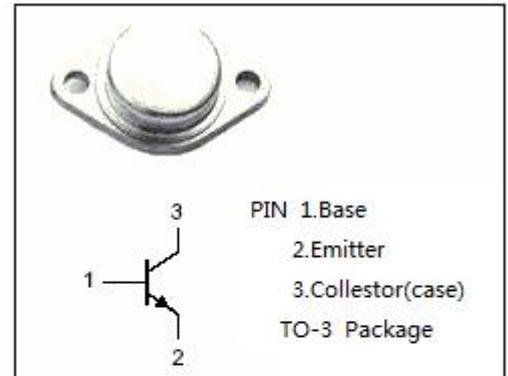
- Designed for use in high power ,high current and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	30	A
I_B	Base Current	7.5	A
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	150	W
T_J	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature Range	-65~200	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.8	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS
 $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	40		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}; I_B=1.5\text{A}$		2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=30\text{A}; I_B=6\text{A}$		3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=15\text{A}; V_{CE}=4\text{V}$		2.7	V
I_{CEX}	Collector Cutoff Current	$V_{CE}=50\text{V}; V_{BE}=-1.5\text{V}$ $V_{CE}=50\text{V}; V_{BE}=-1.5\text{V}; T_c=150^\circ\text{C}$		1.0 10	mA
I_{CBO}	Collector Cutoff Current	$V_{CB}=50\text{V}; I_E=0$		1.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=40\text{V}; I_B=0$		2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C=5\text{A}; V_{CE}=4\text{V}$	40	120	
h_{FE-2}	DC Current Gain	$I_C=15\text{A}; V_{CE}=4\text{V}$	15	60	
h_{FE-3}	DC Current Gain	$I_C=30\text{A}; V_{CE}=4\text{V}$	5		
f_T	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=4\text{V}$	3		MHz

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