

isc Silicon NPN Power Transistor

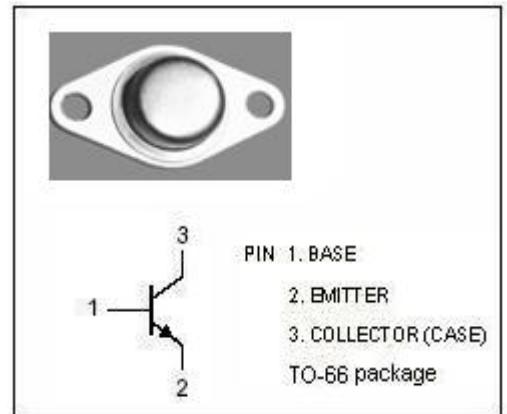
BDY78

DESCRIPTION

- Continuous Collector Current- $I_C= 4A$
- Collector Power Dissipation-
: $P_C= 25W @T_C= 25^\circ C$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

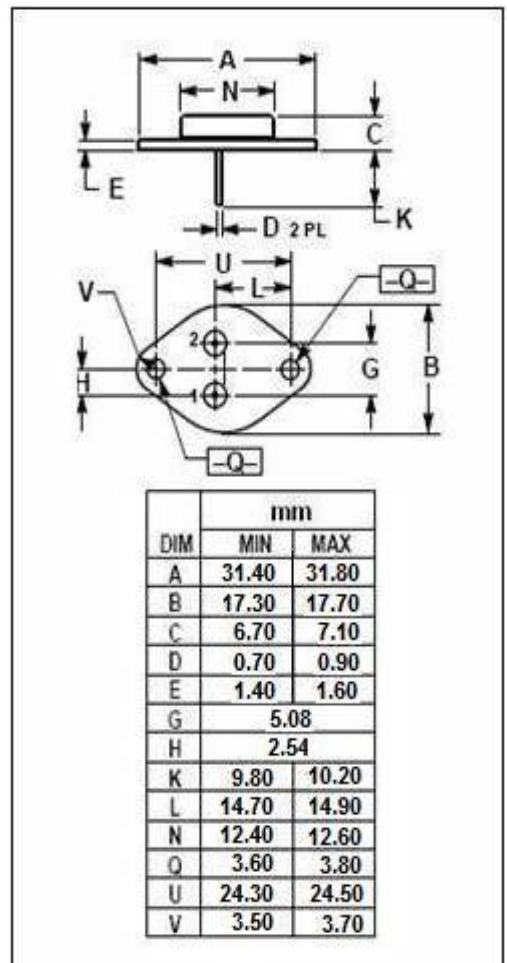
APPLICATIONS

- Designed for general purpose switching and amplifier applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	90	V
V_{CEX}	Collector-Emitter Voltage $V_{BE}= -1.5V$	90	V
V_{CEO}	Collector-Emitter Voltage	55	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation@ $T_C=25^\circ C$	25	W
T_J	Junction Temperature	200	$^\circ C$
T_{stg}	Storage Temperature	-65~200	$^\circ C$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	7.0	$^\circ C/W$

isc Silicon NPN Power Transistor**BDY78****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C= 30\text{mA}; I_B= 0$	55		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 1\text{mA}; I_E= 0$	90		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C= 0.5\text{A}; I_B= 50\text{mA}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C= 3\text{A}; I_B= 1\text{A}$		3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 0.5\text{A}; V_{CE}= 4\text{V}$		2.0	V
I_{CEX}	Collector Cutoff Current	$V_{CE}= 90\text{V}; V_{BE}= -1.5\text{V}$ $V_{CE}= 90\text{V}; V_{BE}= -1.5\text{V}, T_C=150^{\circ}\text{C}$		1.0 5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 7\text{V}; I_C= 0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 4\text{V}$	25	100	
h_{FE-2}	DC Current Gain	$I_C= 3\text{A}; V_{CE}= 4\text{V}$	5		
f_T	Current Gain-Bandwidth Product	$I_C= 0.2\text{A}; V_{CE}= 10\text{V}$	8		MHz

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