

Silicon NPN Power Transistor

BDY72

DESCRIPTION

- Continuous Collector Current- $I_C= 3A$
- Collector Power Dissipation-
: $P_C= 25W @T_C= 25^\circ C$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)}= 120V(\text{Min})$

APPLICATIONS

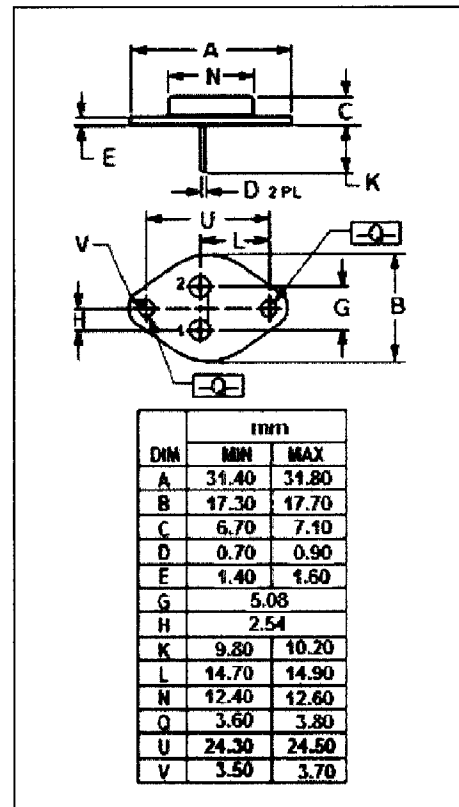
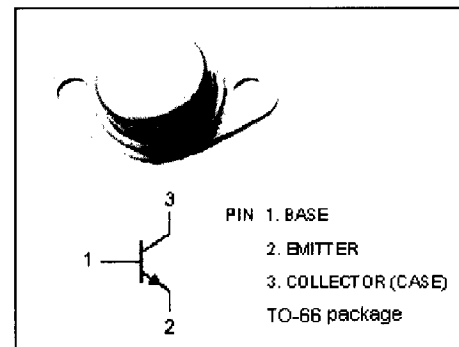
- Designed for use in general purpose switching and linear amplifier applications requiring high breakdown voltages.

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

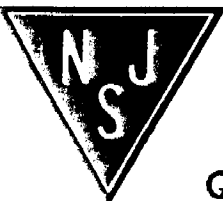
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{CEX}	Collector-Emitter Voltage $V_{BE}= -1.5V$	150	V
V_{CER}	Collector-Emitter Voltage $R_{BE}= 100\Omega$	130	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_B	Base Current-Continuous	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	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	120		V
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; R_{BE}=100\Omega$	130		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	$I_C=0.5\text{A}; I_B=50\text{mA}$		6.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=0.5\text{A}; V_{CE}=4\text{V}$		1.7	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=140\text{V}; I_B=0$		10	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 5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$		1.0	mA
h_{FE}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=4\text{V}$	60	180	
f_T	Current Gain-Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}$	0.8		MHz