

Silicon NPN Power Transistor

BDY71

DESCRIPTION

- Continuous Collector Current- $I_C = 4A$
- Collector Power Dissipation-
 $P_C = 29W @ T_C = 25^\circ C$

APPLICATIONS

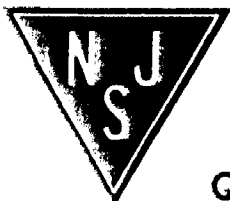
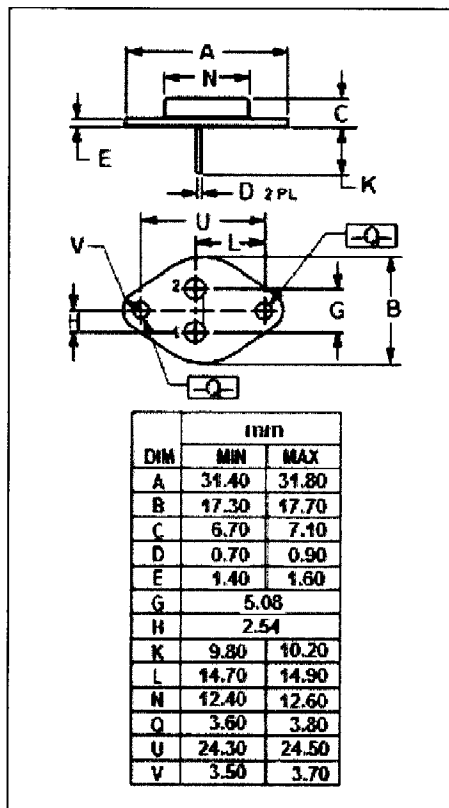
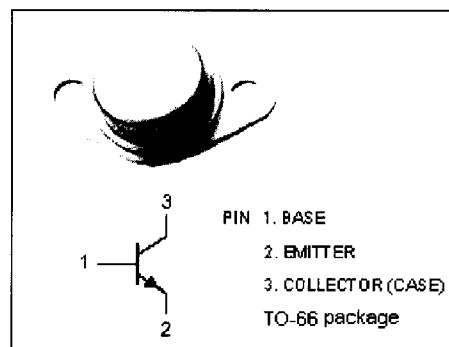
- Designed for general purpose switching and amplifier applications.

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_{CER}	Collector-Emitter Voltage $R_{BE} = 100\Omega$	60	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 @ $T_C = 25^\circ C$	29	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	6.0	$^\circ C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	55		V
$V_{CER(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; R_{BE}=100\Omega$	60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	7		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}; I_B=50\text{mA}$		1.0	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	$V_{CE}=30\text{V}; I_B=0$		0.5	mA
I_{CEV}	Collector Cutoff Current	$V_{CE}=90\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=30\text{V}; V_{BE(off)}=1.5\text{V}; T_C=150^\circ\text{C}$		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	$I_C=0.5\text{A}; V_{CE}=4\text{V}$	80	200	
f_T	Current Gain-Bandwidth Product	$I_C=0.2\text{A}; V_{CE}=10\text{V}$	0.8		MHz