

**Silicon NPN Power Transistor**

**BDY71**

**DESCRIPTION**

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

**APPLICATIONS**

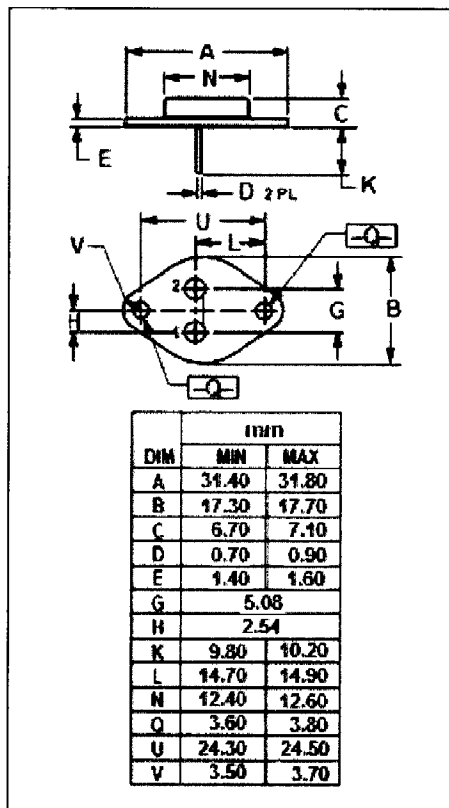
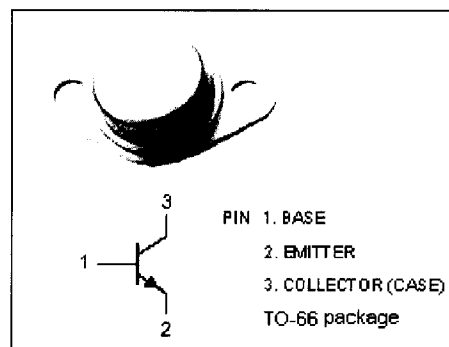
- Designed for general purpose switching and amplifier applications.

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

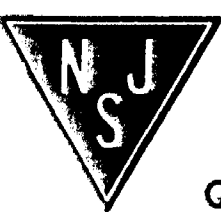
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	90	V
$V_{CEX}$	Collector-Emitter Voltage $V_{BE} = -1.5V$	90	V
$V_{CER}$	Collector-Emitter Voltage $R_{BE} = 100\Omega$	60	V
$V_{CEO}$	Collector-Emitter Voltage	55	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	4	A
$I_B$	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