

Silicon NPN Power Transistor

BDY81

DESCRIPTION

- Continuous Collector Current- $I_C = 4A$
- Collector Power Dissipation-
: $P_C = 36W$ @ $T_C = 25^\circ C$
- Complement to Type BDY83

APPLICATIONS

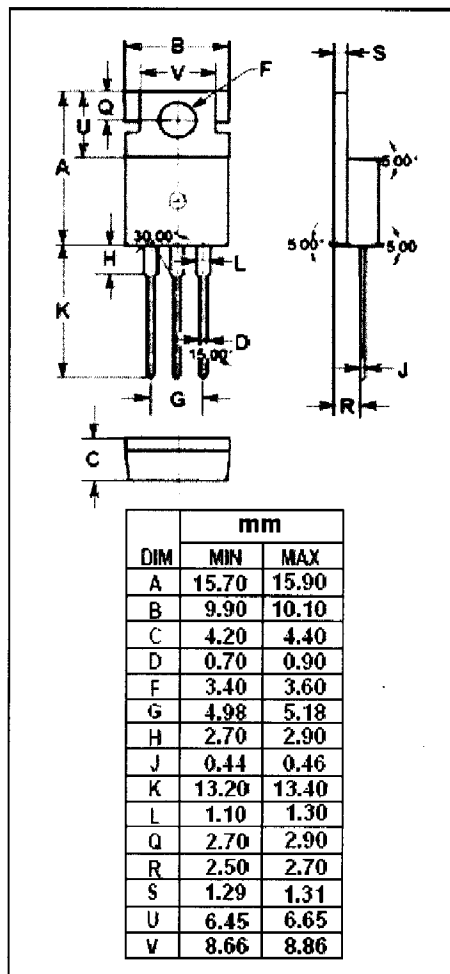
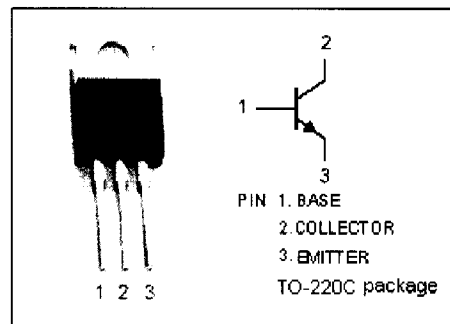
- Designed for general purpose switching and amplifier applications.

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

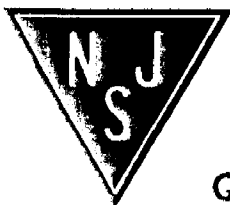
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEX}	Collector-Emitter Voltage $V_{BE} = -1.5V$	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	36	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	3.5	$^\circ C/W$



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Silicon NPN Power Transistor**BDY81****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 100mA; I _B = 0	50			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 10mA; I _E = 0	60			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 10mA; I _C = 0	10			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 0.3A			1.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 0.5A; V _{CE} = 5V			0.9	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 20V; I _B = 0			10	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 20V; I _E = 0			0.2	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 0.5A; V _{CE} = 5V	40		240	
h _{FE-2}	DC Current Gain	I _C = 2.5A; V _{CE} = 5V	10			
f _T	Current Gain-Bandwidth Product	I _C = 0.5A; V _{CE} = 10V		1		MHz

◆ **h_{FE-1} Classifications**

A	B	C
40-80	70-140	120-240