

isc Silicon NPN Power Transistor
BDY20
DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain
- $h_{FE}=20-70@I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)}= 1.1V(Max)@ I_C = 4A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

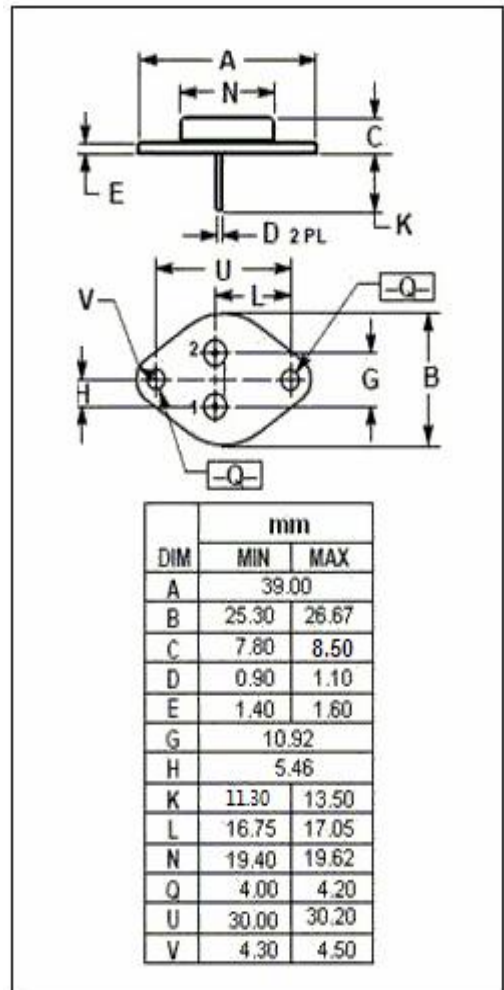
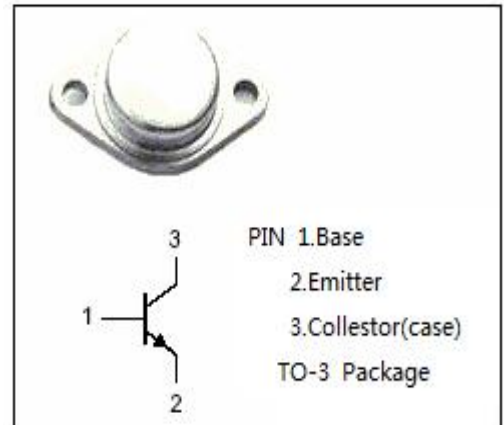
- Designed for general-purpose switching and amplifier applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	115	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	1.52	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C =30mA ; I _B =0	60		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A		1.1	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 3.3A		3.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 4A; V _{CE} = 4V		1.5	V
I _{CEO}	Collector Cutoff Current	V _{CE} = 30V; I _B =0		0.7	mA
I _{CEx}	Collector Cutoff Current	V _{CE} = 100V; V _{BE(off)} = 1.5V V _{CE} = 100V; V _{BE(off)} = 1.5V, T _C =150°C		1.0 5.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7.0V; I _C =0		5.0	mA
h _{FE-1}	DC Current Gain	I _C = 4A ; V _{CE} = 4V	20	70	
h _{FE-2}	DC Current Gain	I _C = 10A ; V _{CE} = 4V	5		
I _{s/b}	Second Breakdown Collector Current with Base Forward Biased	V _{CE} = 40V, t= 1.0s, Nonrepetitive	2.87		A
f _T	Current Gain-Bandwidth Product	I _C = 0.5A ; V _{CE} = 10V	1		MHz

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