

# isc Silicon NPN Power Transistor

# BD535

## DESCRIPTION

- DC Current Gain -  
:  $h_{FE} = 40 @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 60V(\text{Min})$
- Complement to Type BD536
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

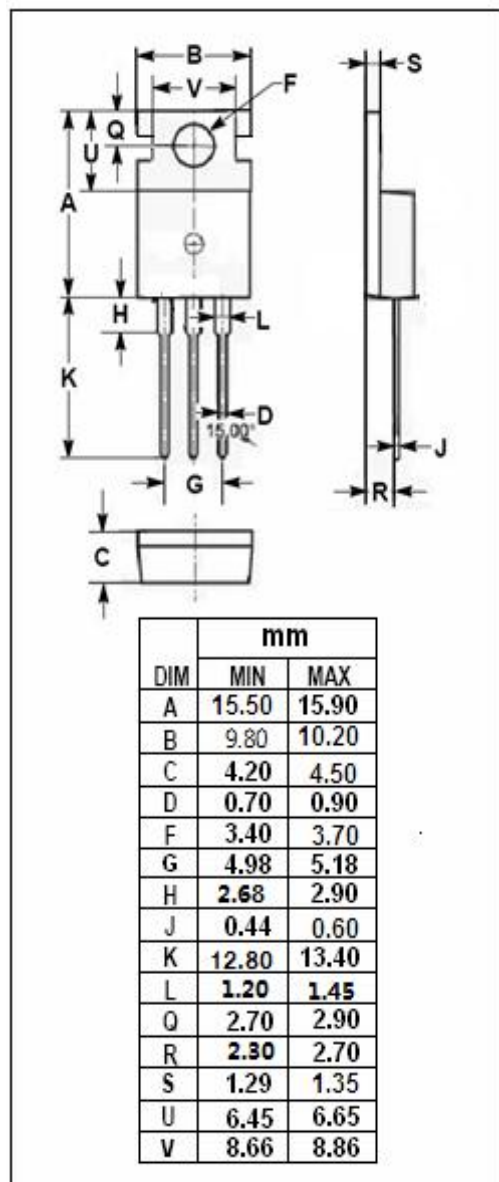
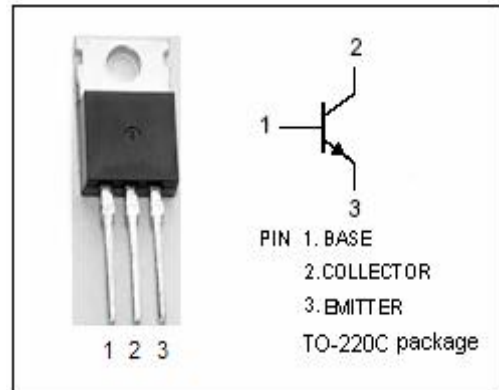
- Designed for use in medium power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CES}$	Collector-Emitter Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	8	A
$I_B$	Base Current	1	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	50	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-Emitter Voltage	Sustaining I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	60			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Voltage	Saturation I <sub>C</sub> = 2A; I <sub>B</sub> = 0.2A			0.8	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Voltage	Saturation I <sub>C</sub> = 6A; I <sub>B</sub> = 0.6A		0.8		V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 2A; V <sub>CE</sub> = 2V			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V; I <sub>E</sub> = 0			0.1	mA
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V; V <sub>BE</sub> = 0			0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 10mA; V <sub>CE</sub> = 5V	20			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 2V	40			
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 2V	25			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 1V	3.0			MHz

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