

**isc Silicon PNP Power Transistor**
**BD540**
**DESCRIPTION**

- DC Current Gain -  
:  $h_{FE} = 40(\text{Min.}) @ I_C = -0.5\text{A}$
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -40\text{V}(\text{Min})$
- Complement to Type BD539
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

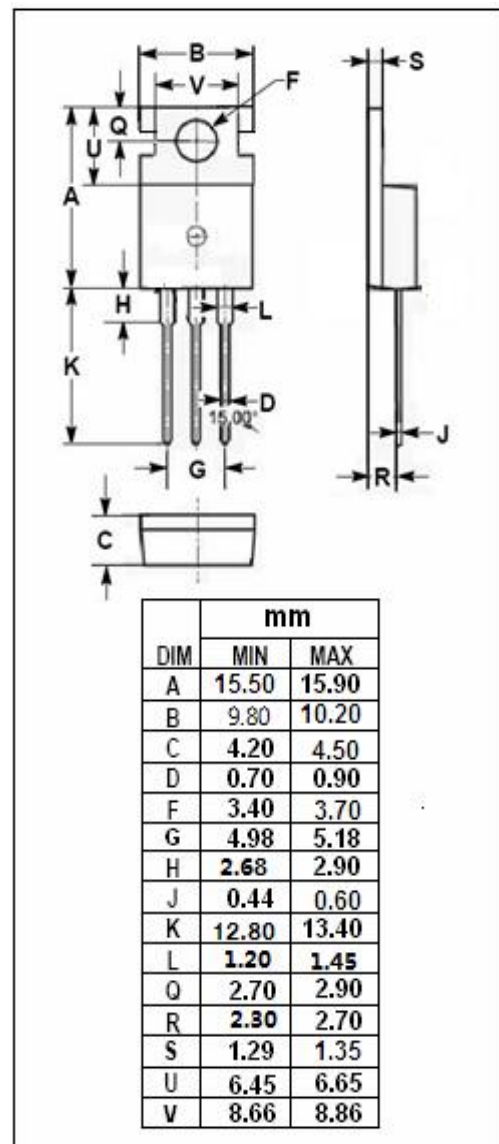
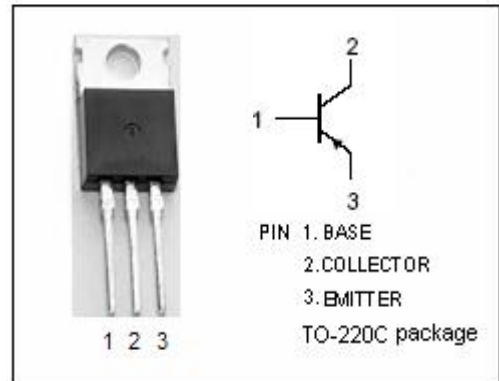
- Designed for use in medium power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-5	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	45	
$T_J$	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	2.78	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$



## isc Silicon PNP Power Transistor

BD540

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -30mA; I <sub>B</sub> = 0	-40		V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1A; I <sub>B</sub> = -0.125A		-0.25	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -3A; I <sub>B</sub> = -0.375A		-0.8	V
V <sub>CE(sat)-3</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -5A; I <sub>B</sub> = -1A		-1.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -3A; V <sub>CE</sub> = -4V		-1.25	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -30V; I <sub>B</sub> = 0		-0.3	mA
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = -40V; V <sub>BE</sub> = 0		-0.2	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> = -0.5A; V <sub>CE</sub> = -4V	40		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -1A; V <sub>CE</sub> = -4V	30		
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = -3A; V <sub>CE</sub> = -4V	12		

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