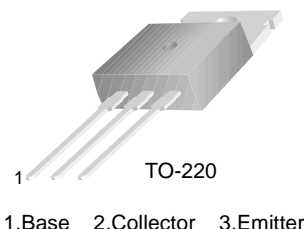


# BD243/A/B/C

## Medium Power Linear and Switching Applications

- Complement to BD244, BD244A, BD244B and BD244C respectively



## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage		
	: BD243	45	V
	: BD243A	60	V
	: BD243B	80	V
	: BD243C	100	V
$V_{CEO}$	Collector-Emitter Voltage		
	: BD243	45	V
	: BD243A	60	V
	: BD243B	80	V
	: BD243C	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	6	A
$I_{CP}$	*Collector Current (Pulse)	10	A
$I_B$	Base Current	2	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	65	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage					
	: BD243	$I_C=30\text{mA}, I_B=0$	45			V
	: BD243A		60			V
	: BD243B		80			V
	: BD243C		100			V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 30\text{V}, I_B = 0$			0.7	mA
	: BD243B/243C	$V_{CE} = 60\text{V}, I_B = 0$			0.7	mA
$I_{CES}$	Collector Cut-off Current	$V_{CE} = 45\text{V}, V_{BE} = 0$			0.4	mA
	: BD243A	$V_{CE} = 60\text{V}, V_{BE} = 0$			0.4	mA
	: BD243B	$V_{CE} = 80\text{V}, V_{BE} = 0$			0.4	mA
	: BD243C	$V_{CE} = 100\text{V}, V_{BE} = 0$			0.4	mA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			1	mA
$h_{FE}$	*DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.3\text{A}$	30			
		$V_{CE} = 4\text{V}, I_C = 3\text{A}$	15			
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = 6\text{A}, I_B = 1\text{A}$			1.5	V
$V_{BE(on)}$	*Base-Emitter ON Voltage	$V_{CE} = 4\text{V}, I_C = 6\text{A}$			2	V

\* Pulse Test :PW=300 $\mu\text{s}$ , duty Cycle<20% Pulsed

## Typical Characteristics

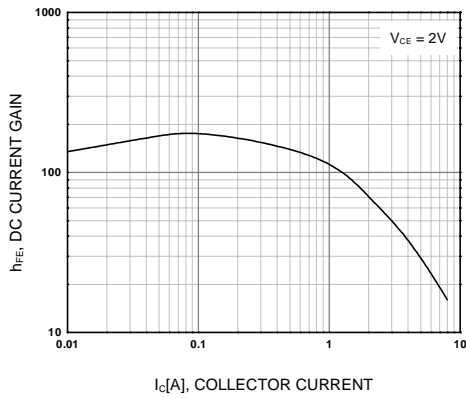


Figure 1. DC current Gain

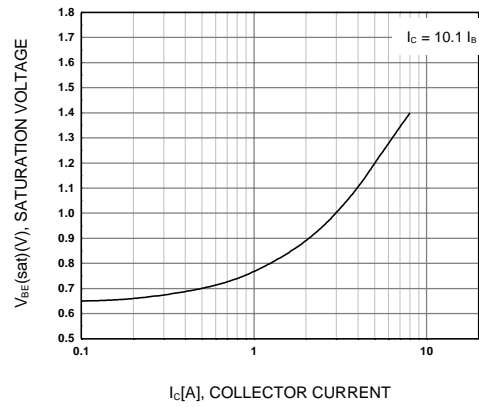


Figure 2. Base-Emitter Saturation Voltage

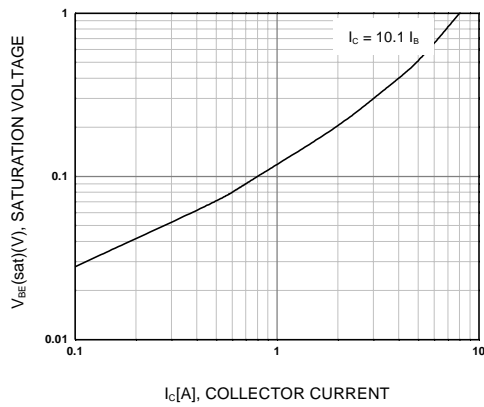


Figure 3. Collector-Emitter Saturation Voltage

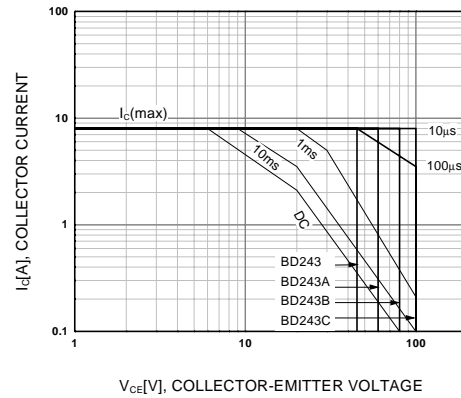


Figure 4. Safe Operating Area

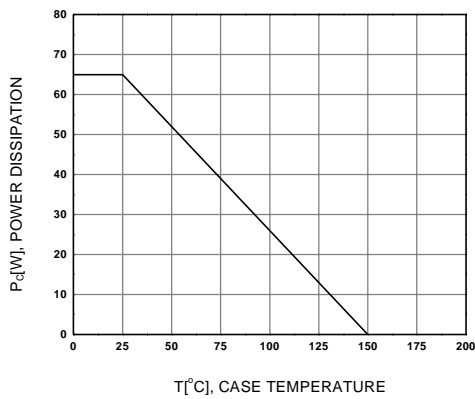


Figure 5. Power Derating

## BD243/A/B/C

Technical drawing of a 3-pin connector with dimensions in millimeters.

**Dimensions:**

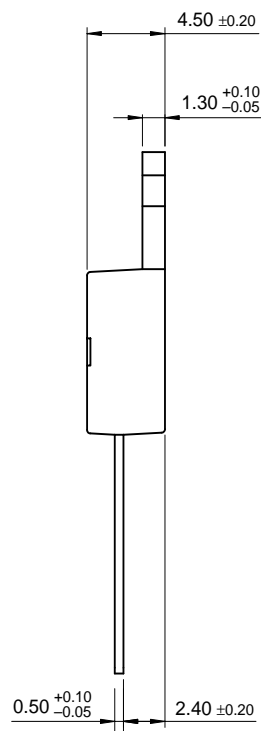
- Overall width:  $9.90 \pm 0.20$
- Pin spacing (center-to-center):  $1.27 \pm 0.10$  and  $1.52 \pm 0.10$
- Pin diameter:  $\phi 3.60 \pm 0.10$
- Pin length (from base):  $10.08 \pm 0.30$
- Pin base angle:  $45^\circ$
- Pin base width:  $0.80 \pm 0.10$
- Pin base height:  $1.00$
- Pin base thickness:  $1.30 \pm 0.10$
- Pin base width (inner):  $8.70$
- Pin base width (outer):  $9.90 \pm 0.20$
- Pin base height (inner):  $2.80 \pm 0.10$
- Pin base height (outer):  $15.90 \pm 0.20$
- Pin base height (total):  $18.95 \text{ MAX.}$
- Pin base width (inner):  $3.00$
- Pin base width (outer):  $3.70$
- Pin base width (total):  $9.20 \pm 0.20$
- Pin base width (inner):  $1.46$
- Pin base width (outer):  $1.70$

**Pin Specifications:**

- Pin 1:  $2.54 \text{ TYP}$  [ $2.54 \pm 0.20$ ]
- Pin 2:  $2.54 \text{ TYP}$  [ $2.54 \pm 0.20$ ]

**Top View Dimensions:**

- Overall width:  $10.00 \pm 0.20$



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