

**isc Silicon NPN Power Transistor**

**BD243/A/B/C**

**DESCRIPTION**

- DC Current Gain  $-h_{FE} = 30(\text{Min}) @ I_C = 0.3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 45V(\text{Min})$ - BD243;  $60V(\text{Min})$ - BD243A  
 $80V(\text{Min})$ - BD243B;  $100V(\text{Min})$ - BD243C
- Complement to Type BD244/A/B/C

**APPLICATIONS**

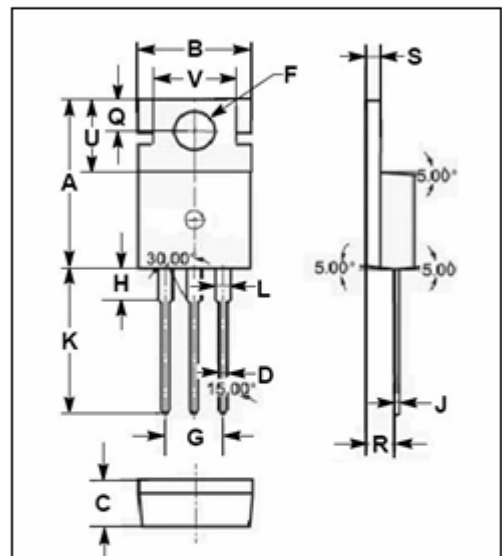
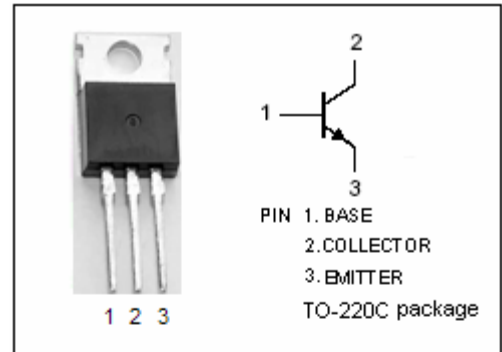
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BD243	45	V
		BD243A	60	
		BD243B	80	
		BD243C	100	
$V_{CEO}$	Collector-Emitter Voltage	BD243	45	V
		BD243A	60	
		BD243B	80	
		BD243C	100	
$V_{EBO}$	Emitter-Base Voltage	5	V	
$I_C$	Collector Current-Continuous	6.0	A	
$I_{CM}$	Collector Current-Peak	10	A	
$I_B$	Base Current	2.0	A	
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	65	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	1.92	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86



## isc Silicon NPN Power Transistor

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## ELECTRICAL CHARACTERISTICS

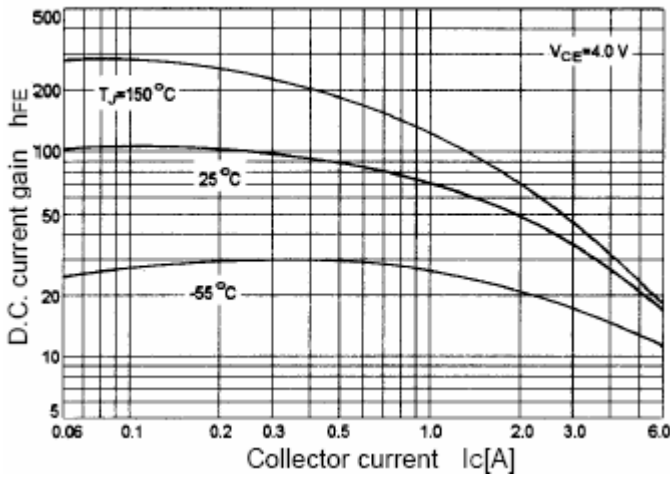
 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BD243	$I_C=30\text{mA}; I_B=0$	45		V
		BD243A		60		
		BD243B		80		
		BD243C		100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=6\text{A}; I_B=1\text{A}$		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage		$I_C=6\text{A}; V_{CE}=4\text{V}$		2.0	V
$I_{CES}$	Collector Cutoff Current	BD243	$V_{CE}=45\text{V}; V_{BE}=0$		0.4	mA
		BD243A	$V_{CE}=60\text{V}; V_{BE}=0$			
		BD243B	$V_{CE}=80\text{V}; V_{BE}=0$			
		BD243C	$V_{CE}=100\text{V}; V_{BE}=0$			
$I_{CEO}$	Collector Cutoff Current	BD243/A	$V_{CE}=30\text{V}; I_B=0$		0.7	mA
		BD243B/C	$V_{CE}=60\text{V}; I_B=0$			
$I_{EBO}$	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$		1.0	mA
$h_{FE-1}$	DC Current Gain		$I_C=0.3\text{A}; V_{CE}=4\text{V}$	30		
$h_{FE-2}$	DC Current Gain		$I_C=3\text{A}; V_{CE}=4\text{V}$	15		
$f_T$	Current-Gain—Bandwidth Product		$I_C=0.5\text{A}; V_{CE}=10\text{V}, f_{test}=1.0\text{MHz}$	3.0		MHz

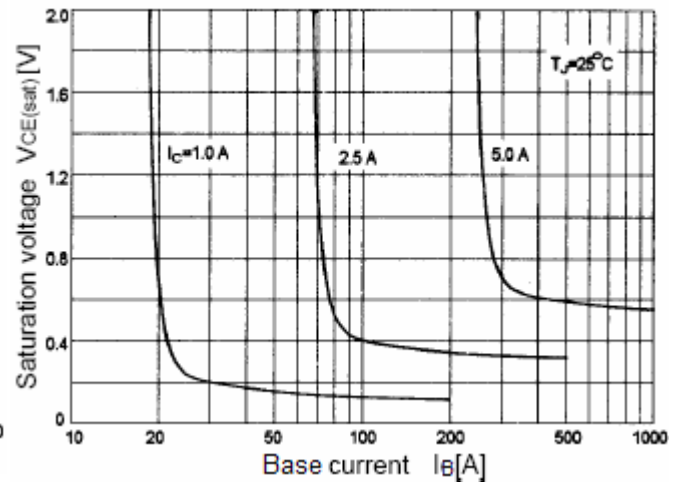
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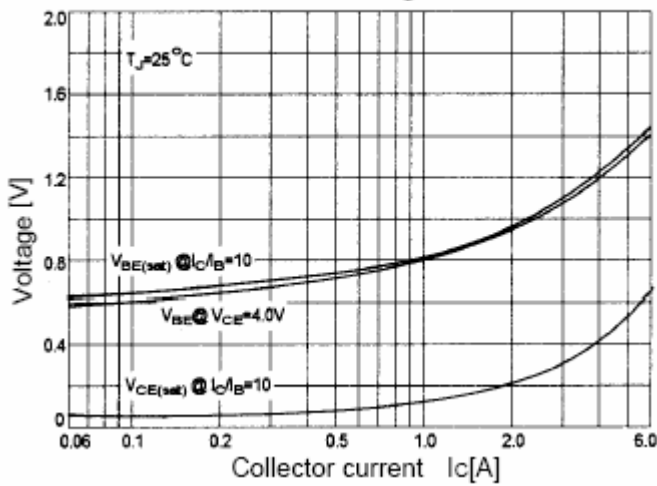
$h_{FE}-I_C$  Characteristics



$V_{CE(sat)}-I_B$  Characteristics



"On" Voltages



Safe Operating Area

