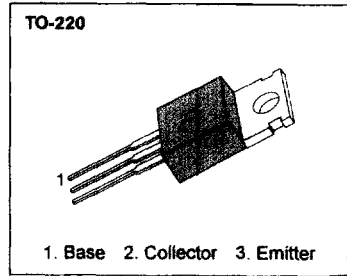


**MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS**  
**LOW SATURATION VOLTAGE**

• Complement to BD534, BD536 and BD538 respectively

**ABSOLUTE MAXIMUM RATINGS**

Characteristic	Symbol	Rating	Unit
Collector Emitter Voltage : BD533	$V_{CBO}$	45	V
: BD535		60	V
: BD537		80	V
Collector Emitter Voltage : BD533	$V_{CES}$	45	V
: BD535		60	V
: BD537		80	V
Collector Emitter Voltage : BD533	$V_{CEO}$	45	V
: BD535		60	V
: BD537		80	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current (DC)	$I_C$	8	A
Emitter Current	$I_E$	8	A
Base Current	$I_B$	1	A
Collector Dissipation ( $T_C=25^\circ C$ )	$P_C$	50	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature	$T_{STG}$	-65 ~ 150	$^\circ C$

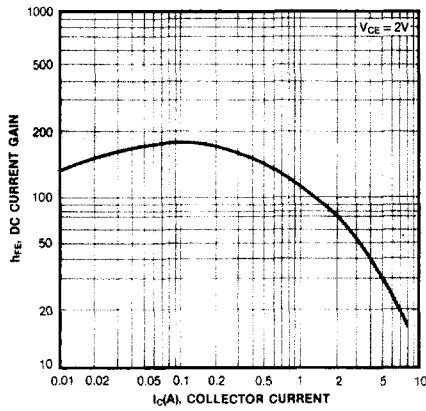


**ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ C$ )**

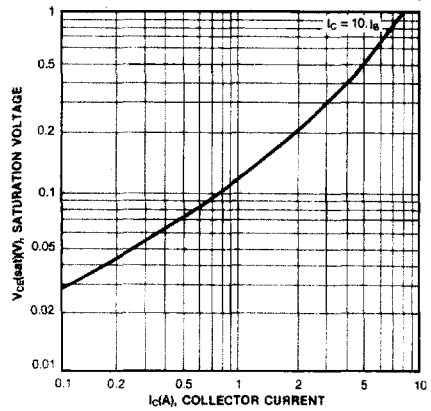
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current : BD533	$I_{CBO}$	$V_{CB} = 45V, I_E = 0$			100	$\mu A$
: BD535		$V_{CB} = 60V, I_E = 0$			100	$\mu A$
: BD537		$V_{CB} = 80V, I_E = 0$			100	$\mu A$
Collector Cutoff Current : BD533	$I_{CES}$	$V_{CE} = 45V, V_{BE} = 0$			100	$\mu A$
: BD535		$V_{CE} = 60V, V_{BE} = 0$			100	$\mu A$
: BD537		$V_{CE} = 80V, V_{BE} = 0$			100	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$			1	mA
*DC Current Gain : BD533/535	$h_{FE}$	$V_{CE} = 5V, I_C = 10mA$	20			
: BD537			15			
: ALL DEVICE		$V_{CE} = 2V, I_C = 500mA$	40			
: BD533/535		$V_{CE} = 2V, I_C = 2A$	25			
: BD537			15			
$h_{FE}$ Groups J : ALL DEVICE	$h_{FE}$	$V_{CE} = 2V, I_C = 2A$	30		75	
		$V_{CE} = 2V, I_C = 3A$	15			
		$V_{CE} = 2V, I_C = 2A$	40		100	
		$V_{CE} = 2V, I_C = 3A$	20			
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 0.2A$			0.8	V
		$I_C = 6A, I_B = 0.6A$		0.8		V
*Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 2V, I_C = 2A$			1.5	V
Transition Frequency	$f_T$	$V_{CE} = 1V, I_C = 500mA$	3	12		MHz

\* Pulse Test : PW =300uS, duty Cycle =1.5% Pulsed

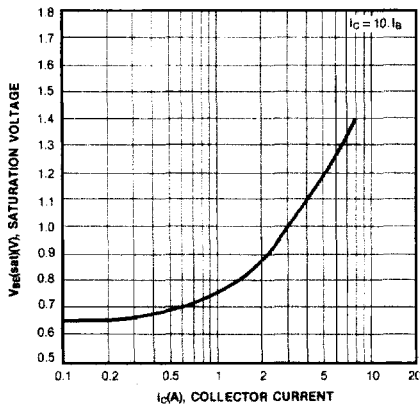
DC CURRENT GAIN



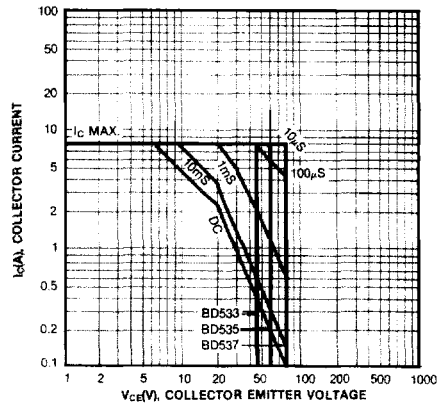
COLLECTOR EMITTER SATURATION VOLTAGE



BASE EMITTER SATURATION VOLTAGE



SAFE OPERATING AREA



POWER DERATING

