

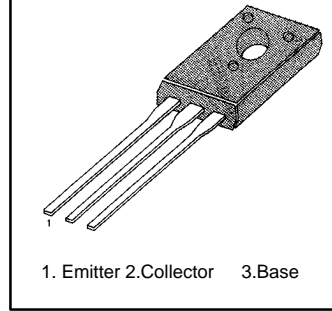
### MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

- Complement to BD434, BD436 and BD438 respectively

### ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : BD433	$V_{CBO}$	22	V
: BD435		32	V
: BD437		45	V
Collector Emitter Voltage : BD433	$V_{CES}$	22	V
: BD435		32	V
: BD437		45	V
Collector Emitter Voltage : BD433	$V_{CEO}$	22	V
: BD435		32	V
: BD437		45	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current (DC)	$I_C$	4	A
Collector Current (Pulse)	$I_C$	7	A
Base Current	$I_B$	1	A
Collector Dissipation ( $T_C=25^\circ\text{C}$ )	$P_C$	36	W
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-65 ~ 150	$^\circ\text{C}$

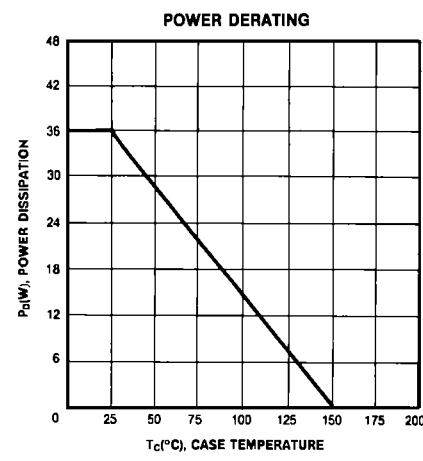
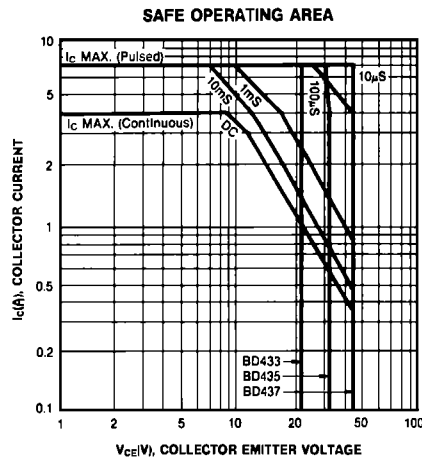
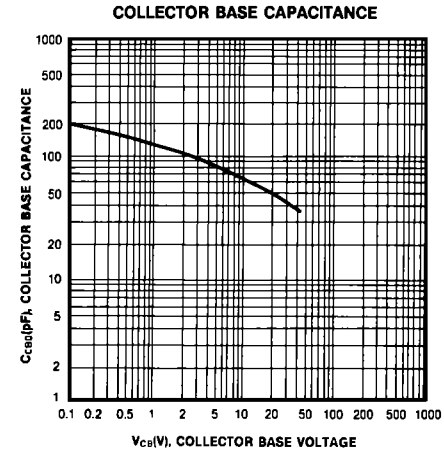
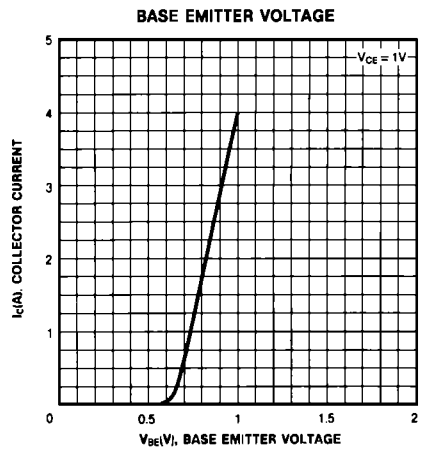
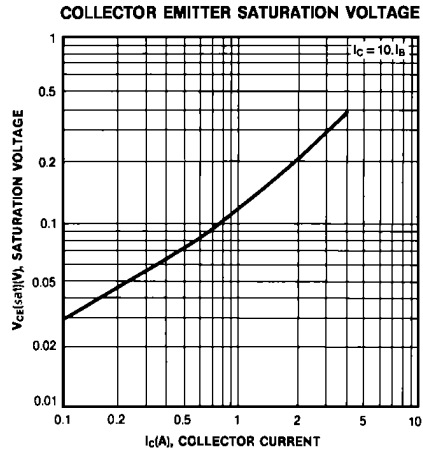
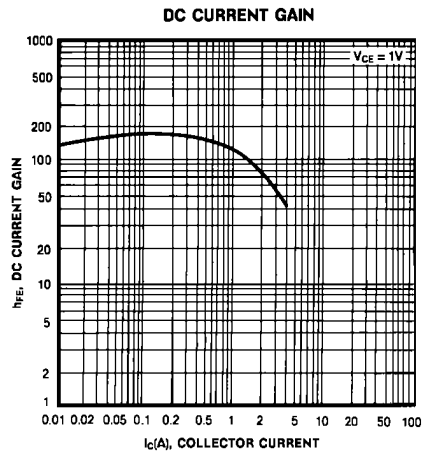
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### ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage : BD433	$V_{CEO(SUS)}$	$I_C = 100\text{mA}, I_B = 0$	22			V
: BD435			32			V
: BD437			45			V
Collector Base Voltage : BD433	$I_{CBO}$	$V_{CB} = 22\text{V}, I_E = 0$			100	$\mu\text{A}$
: BD435		$V_{CB} = 32\text{V}, I_E = 0$			100	$\mu\text{A}$
: BD437		$V_{CB} = 45\text{V}, I_E = 0$			100	$\mu\text{A}$
Collector Cutoff Current : BD433	$I_{CES}$	$V_{CE} = 22\text{V}, V_{BE} = 0$			100	$\mu\text{A}$
: BD435		$V_{CE} = 32\text{V}, V_{BE} = 0$			100	$\mu\text{A}$
: BD437		$V_{CE} = 45\text{V}, V_{BE} = 0$			100	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			1	mA
*DC Current Gain : BD433/435	$h_{FE}$	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	40	130		
: BD437			30	130		
: ALL DEVICE		$V_{CE} = 1\text{V}, I_C = 500\text{mA}$	85	140		
: BD433/435		$V_{CE} = 1\text{V}, I_C = 2\text{A}$	50			
: BD437			40			
* Collector Emitter Saturation Voltage : BD433	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 0.2\text{A}$		0.2	0.5	V
: BD435				0.2	0.5	V
: BD437				0.2	0.6	V
*Base Emitter On Voltage : BD433	$V_{BE(on)}$	$V_{CE} = 1\text{V}, I_C = 2\text{A}$			1.1	V
: BD435					1.1	V
: BD437 Transition Frequency	$f_T$	$V_{CE} = 1\text{A}, I_C = 250\text{mA}$	3		1.2	V
						MHz

\* Pulse Test:  $PW=300\mu\text{s}$ , duty Cycle=1.5% Pulsed



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