

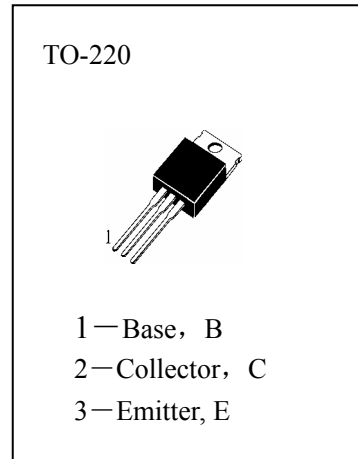
# HBD435

## APPLICATIONS

Medium Power Linear And Switching Application.

## ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)

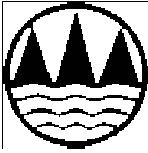
- T<sub>stg</sub>—Storage Temperature..... -65~150°C
- T<sub>j</sub>—Junction Temperature..... 150°C
- P<sub>C</sub>—Collector Dissipation (T<sub>c</sub>=25°C) ..... 40W
- V<sub>CBO</sub>—Collector-Base Voltage..... 32V
- V<sub>CES</sub>—Collector-Emitter Voltage..... 32V
- V<sub>EBO</sub>—Emitter-Base Voltage..... 5V
- I<sub>C</sub>—Collector Current (DC) ..... 4A
- I<sub>C</sub>—Collector Current (Pulse) .....7A
- I<sub>B</sub>—Base Current (DC) .....1A



## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	32			V	I <sub>C</sub> =100mA, I <sub>B</sub> =0
I <sub>CBO</sub>	Collector Cutoff Current			100	μ A	V <sub>CB</sub> =32V, I <sub>E</sub> =0
I <sub>EBO</sub>	Emitter-Base Cutoff Current			1	mA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
I <sub>CES</sub>	Collector Cutoff Current			100	μ A	V <sub>CE</sub> =32V, V <sub>BE</sub> =0
H <sub>FE</sub> (1)	DC Current Gain	40	130			V <sub>CE</sub> =5V, I <sub>C</sub> =10mA
*H <sub>FE</sub> (2)		85	140			V <sub>CE</sub> =1V, I <sub>C</sub> =500mA
*H <sub>FE</sub> (3)		50				V <sub>CE</sub> =1V, I <sub>C</sub> =2A
*V <sub>CE(sat1)</sub>	Collector- Emitter Saturation Voltage		0.2	0.5	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A
*V <sub>BE(on)</sub>	Base- Emitter On Voltage			1.1	V	V <sub>CE</sub> =1V, I <sub>C</sub> =2A,
f <sub>T</sub>	Current Gain-Bandwidth Product	3			MHZ	I <sub>c</sub> =250mA, V <sub>CE</sub> =1V

\*Pulse Test: PW=300 μ S, Duty Cycle=1.5% Pulsed



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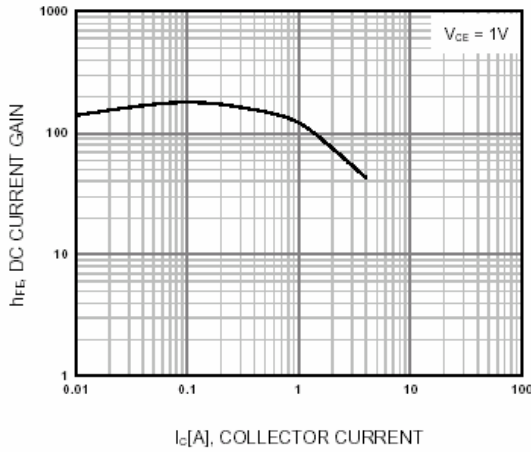


Figure 1. DC current Gain

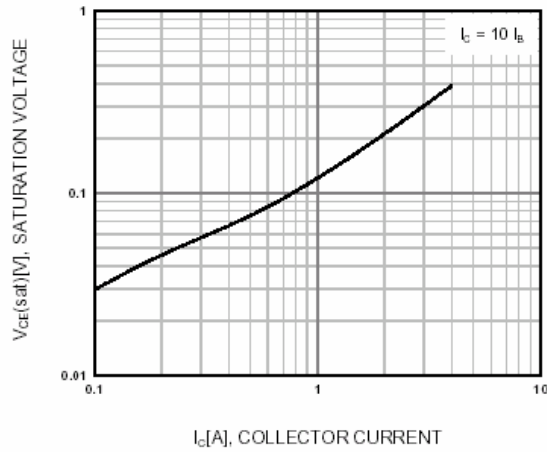


Figure 2. Collector-Emitter Saturation Voltage

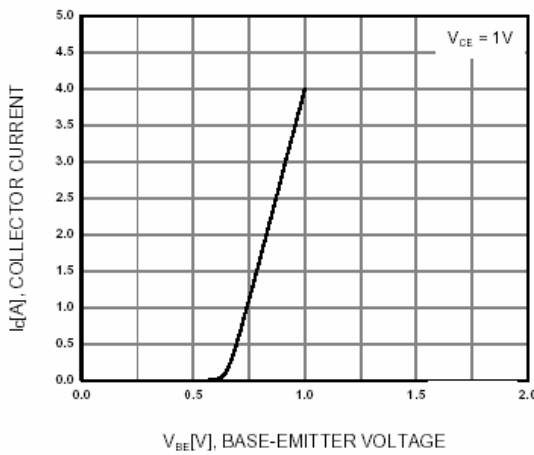


Figure 3. Base-Emitter On Voltage

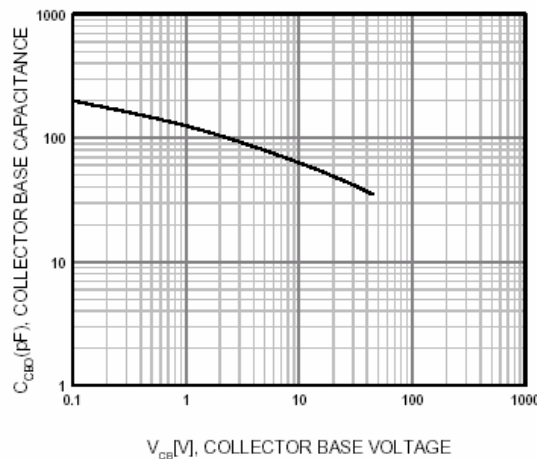


Figure 4. Collector-Base Capacitance

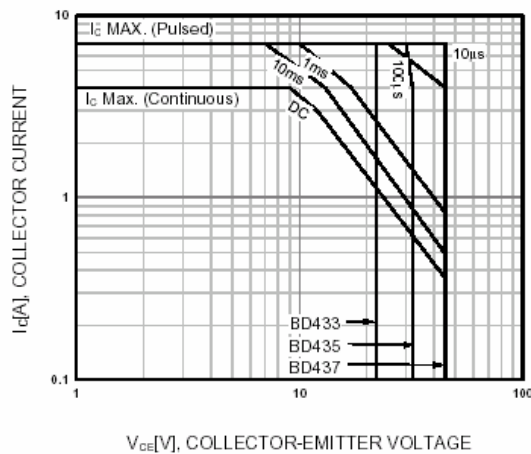


Figure 5. Safe Operating Area

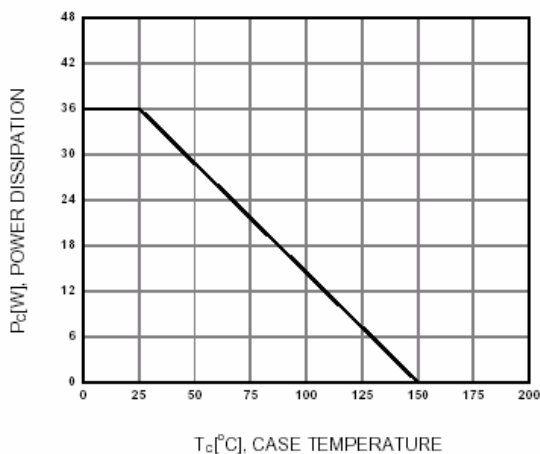


Figure 6. Power Derating