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SEMICONDUCTOR®
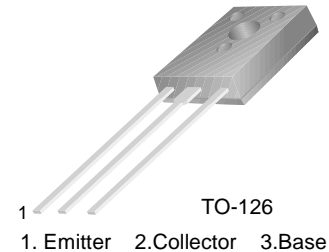
BD434/436/438

Medium Power Linear and Switching Applications

• Complement to BD433, BD435 and BD437 respectively

1 ◄   TO-126

1. Emitter   2.Collector   3.Base

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage			
	: BD434		- 22	V
	: BD436		- 32	V
	: BD438		- 45	V
V_{CES}	Collector-Emitter Voltage			
	: BD434		- 22	V
	: BD436		- 32	V
	: BD438		- 45	V
V_{CEO}	Collector-Emitter Voltage			
	: BD434		- 22	V
	: BD436		- 32	V
	: BD438		- 45	V
V_{EBO}	Emitter-Base Voltage		- 5	V
I_C	Collector Current (DC)		- 4	A
I_{CP}	*Collector Current (Pulse)		- 7	A
I_B	Base Current		- 1	A
P_C	Collector Dissipation (T_C=25°C)		36	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage : BD434 : BD436 : BD438	I_C = - 100mA, I_B = 0	- 22 - 32 - 45			V V V
I_{CBO}	Collector Cut-off Current : BD434 : BD436 : BD438	V_{CB} = - 22V, I_E = 0 V_{CB} = - 32V, I_E = 0 V_{CB} = - 45V, I_E = 0			- 100 - 100 - 100	μA μA μA
I_{CEO}	Collector Cut-off Current : BD434 : BD436 : BD438	V_{CE} = - 22V, V_{BE} = 0 V_{CE} = - 32V, V_{BE} = 0 V_{CE} = - 45V, V_{BE} = 0			- 100 - 100 - 100	μA μA μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 1	mA
h_{FE}	* DC Current Gain : BD434/436 : BD438 : ALL DEVICE : BD434/436 : BD438	V_{CE} = - 5V, I_C = - 10mA V_{CE} = - 1V, I_C = - 500mA V_{CE} = - 1V, I_C = - 2A	40 30 85 50 40	140 140 140		
V_{CE}(sat)	* Collector-Emitter Saturation Voltage : BD434 : BD436 : BD438	I_C = - 2A, I_B = - 0.2A		- 0.2 - 0.2 - 0.2	- 0.5 - 0.5 - 0.6	V V V
V_{BE}(on)	* Base-Emitter ON Voltage : BD434 : BD436 : BD438	V_{CE} = - 1V, I_C = - 2A			- 1.1 - 1.1 - 1.2	V V V
f_T	Current Gain Bandwidth Product	V_{CE} = - 1V, I_C = - 250mA	3			MHz

* Pulse Test: PW=300μs, duty Cycle=1.5% Pulsed
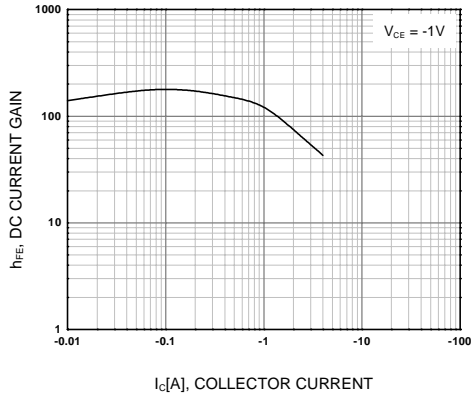
Typical Characteristics
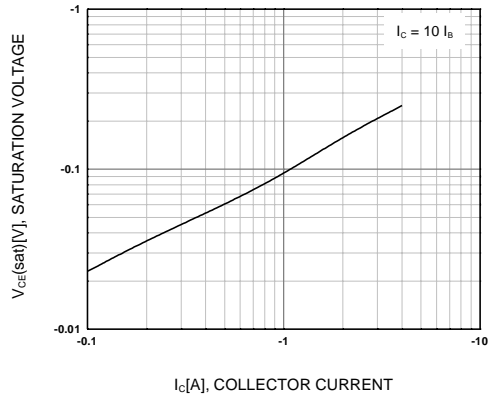

Figure 1. DC current Gain

Figure 2. Collector-Emitter Saturation Voltage
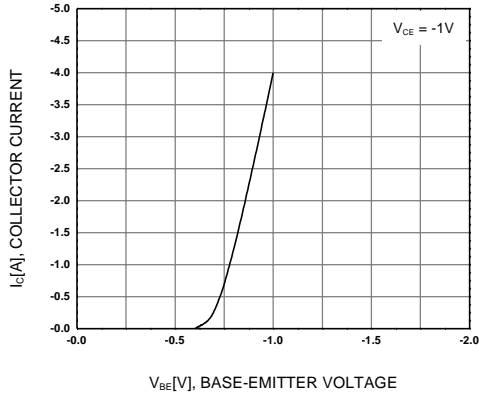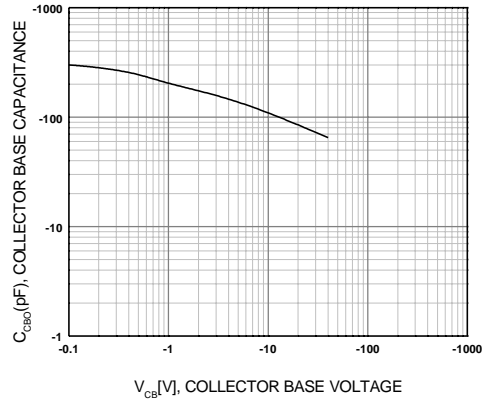

Figure 3. Base-Emitter On Voltage
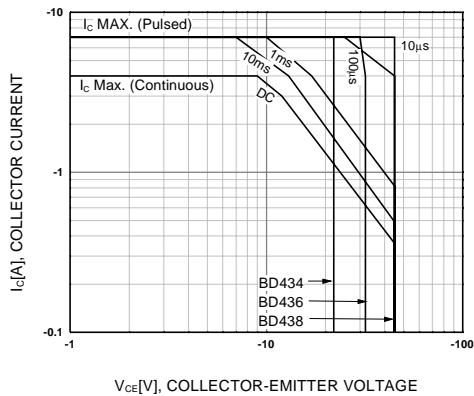

Figure 4. Collector-Base Capacitance

Figure 5. Safe Operating Area
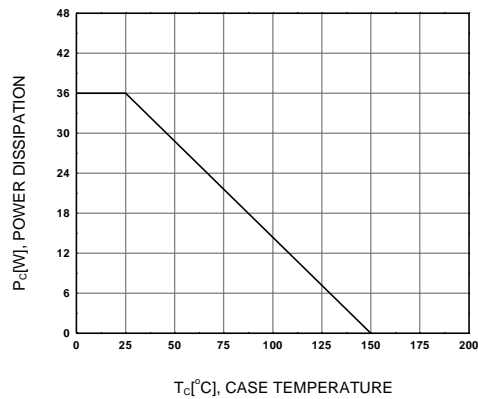
Figure 6. Power Derating

Package Demensions

TO-126

3.90 ±0.10

8.00 ±0.30

3.25 ±0.20

ø3.20 ±0.10

14.20MAX

11.00 ±0.20

0.75 ±0.10

1.60 ±0.10

0.75 ±0.10

13.06 ±0.30

16.10 ±0.20

(1.00)

(0.50)

1.75 ±0.20

#1

2.28TYP
[2.28±0.20]

2.28TYP
[2.28±0.20]

0.50 $^{+0.10}_{-0.05}$

Dimensions in Millimeters

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BD436S	Full Production	$0.247	TO-126	3	BULK
BD436STU	Full Production	$0.247	TO-126	3	RAIL

* 1,000 piece Budgetary Pricing

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
BD434STU	Full Production	$0.247	[TO-126](#)	3	RAIL
BD434S	Full Production	$0.247	[TO-126](#)	3	BULK

* 1,000 piece Budgetary Pricing

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BD438STU	Full Production	$0.247	TO-126	3	RAIL

* 1,000 piece Budgetary Pricing

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