

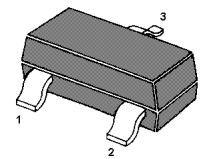
BC846...BC850-HAF

NPN Silicon Epitaxial Transistor

for switching and amplifier applications

Feature

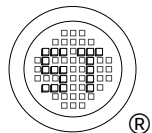
- Halogen and Antimony Free(HAF), RoHS compliant



1. Base 2. Emitter 3. Collector
TO-236 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^{\circ}\text{C}$)

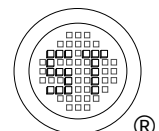
Parameter		Symbol	Value	Unit
Collector Base Voltage	BC846	V_{CBO}	80	V
	BC847, BC850	V_{CBO}	50	V
	BC848, BC849	V_{CBO}	30	V
Collector Emitter Voltage	BC846	V_{CEO}	65	V
	BC847, BC850	V_{CEO}	45	V
	BC848, BC849	V_{CEO}	30	V
Emitter Base Voltage	BC846, BC847	V_{EBO}	6	V
	BC848, BC849, BC850	V_{EBO}	5	V
Collector Current		I_C	100	mA
Peak Collector Current		I_{CM}	200	mA
Power Dissipation		P_{tot}	300	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 65 to + 150	°C



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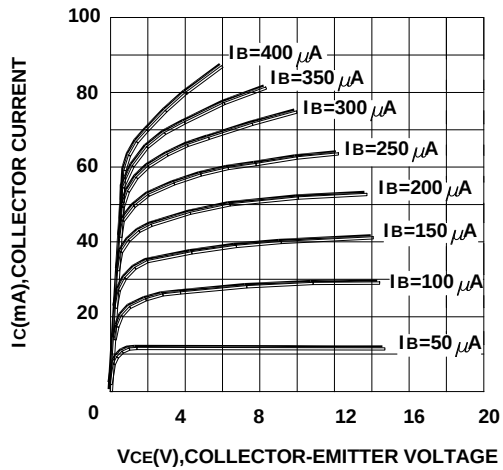
Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	Current Gain Group A B C	h_{FE} h_{FE} h_{FE}	110 200 420	- - -	- - -
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	15	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	BC846 BC847, BC850 BC848, BC849	$V_{(BR)CBO}$ $V_{(BR)CBO}$ $V_{(BR)CBO}$	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	BC846 BC847, BC850 BC848, BC849	$V_{(BR)CEO}$ $V_{(BR)CEO}$ $V_{(BR)CEO}$	65 45 30	- - -	V V V
Collector Emitter Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	BC846, BC847 BC848, BC849, BC850	$V_{(BR)EBO}$ $V_{(BR)EBO}$	6 5	- -	V V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	V_{CEsat} V_{CEsat}	- -	- -	250 600	mV mV
Base Emitter On Voltage at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$	$V_{BE(on)}$ $V_{BE(on)}$	580 -	- -	700 720	mV mV
Transition Frequency at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	300	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	6	pF
Input Capacitance at $V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{ib}	-	9	-	pF

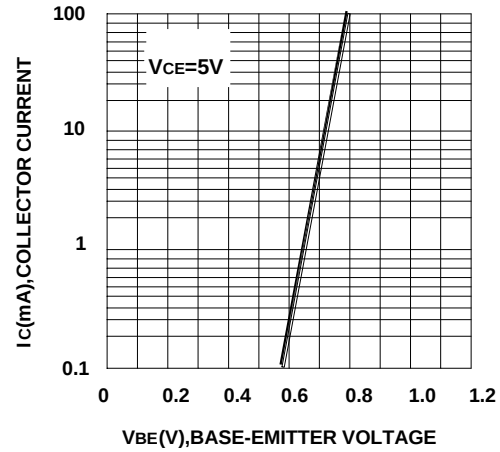


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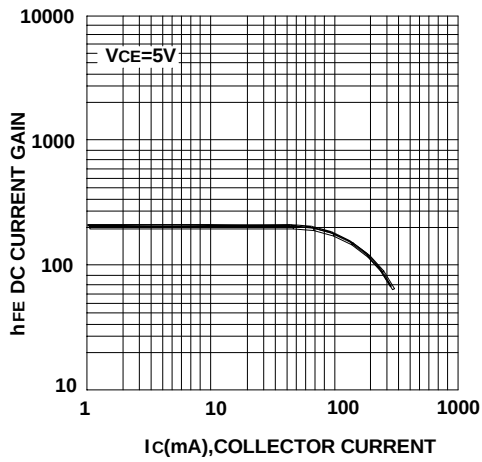
STATIC CHARACTERISTIC



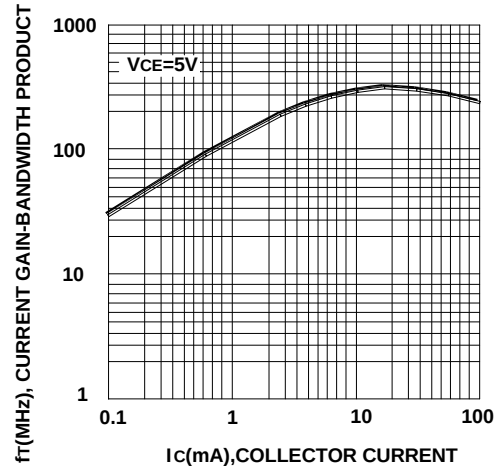
BASE-EMITTER ON VOLTAGE



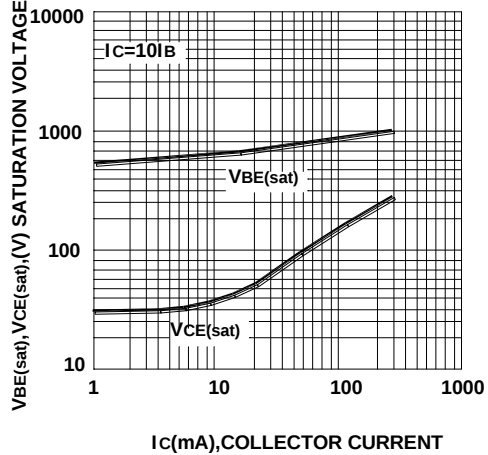
DC CURRENT GAIN



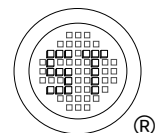
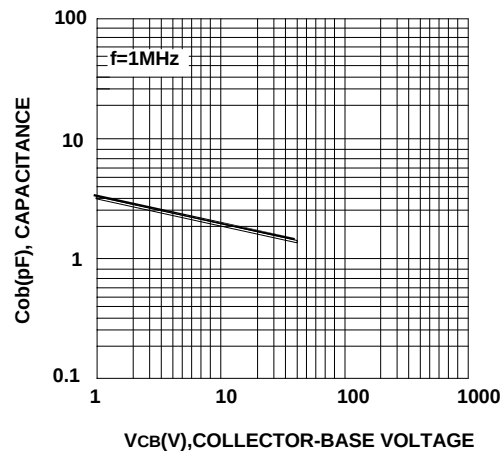
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

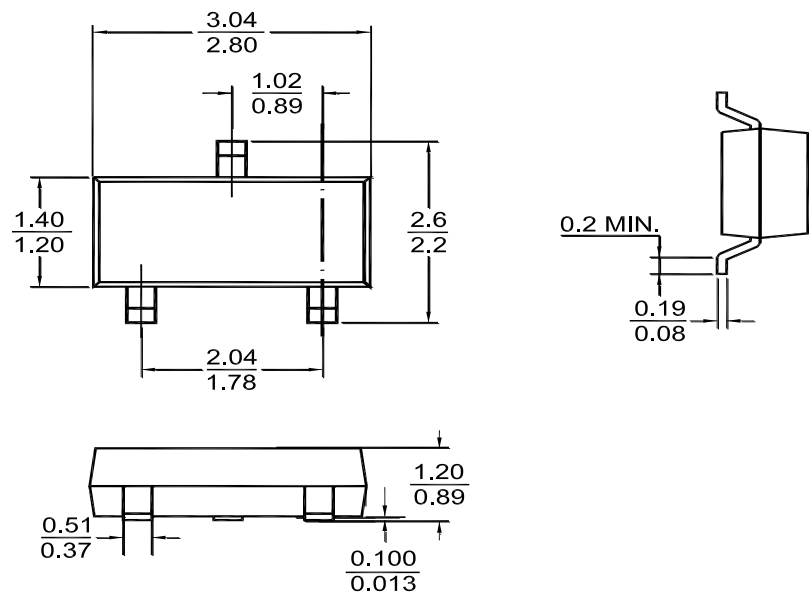


COLLECTOR OUTPUT CAPACITANCE

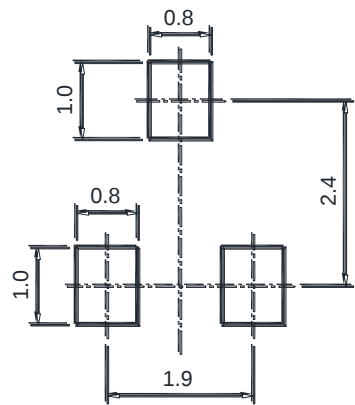


Package Outline (Dimensions in mm)

TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

