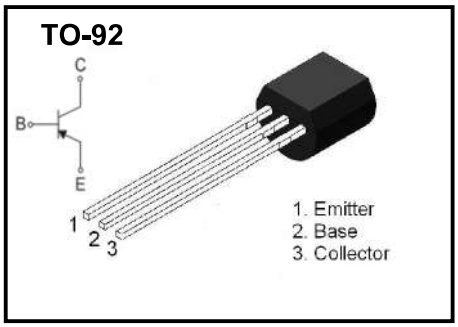
PNP Plastic-Encapsulate Transistors

Darlington Transistor



FEATURES

- High current gain
- High collector current
- Complementary type: BC517

Marking Code	
BC516	YFW BC516

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	-40	V
Collector-Emitter Voltage	BV_{CEO}	-30	V
Emitter-Base Voltage	BV_{EBO}	-10	V
Collector Current	I_C	-1.0	A
Collector Power Dissipation	P_C	0.625	W
Junction Temperature	T_j	-55～+150	℃
Storage Temperature	T_{stg}	-55～+150	℃

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	I_C = -10μA, I_E = 0	-40			V
Collector-emitter breakdown voltage	BV_{CES}	I_C = -2mA, I_B = 0	-30			V
Emitter-base breakdown voltage	BV_{EBO}	I_E = -100nA, I_C = 0	-10			V
Collector cut-off current	I_{CBO}	V_{CB} = -30V, I_E = 0			-100	nA
Collector cut-off current	I_{CES}	V_{CE} = -30V, I_E = 0			-500	nA
Emitter cut-off current	I_{EBO}	V_{EB} = -10V, I_C = 0			-100	nA
DC current gain	h_{FE}	V_{CE} = -2V, I_C = -20mA	20000			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -100mA, I_B = -0.1mA			1.0	V
Base-emitter on voltage	$V_{BE(on)}$	V_{CE} = -5V, I_B = -10mA			1.4	V
Transition frequency	f_T	V_{CE}=-5V,I_C = -10mA, f= 100MHz		200		MHz
Output capacitance	C_{ob}	V_{CE}=-10V, f= 1MHz		3.5		pF

Typical Characteristics

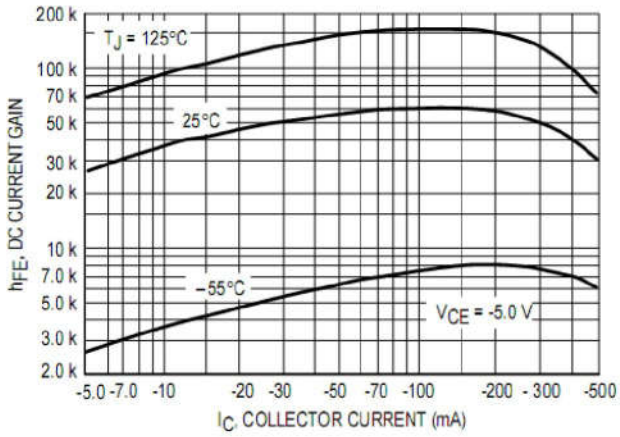


Figure 1.DC Current Gain

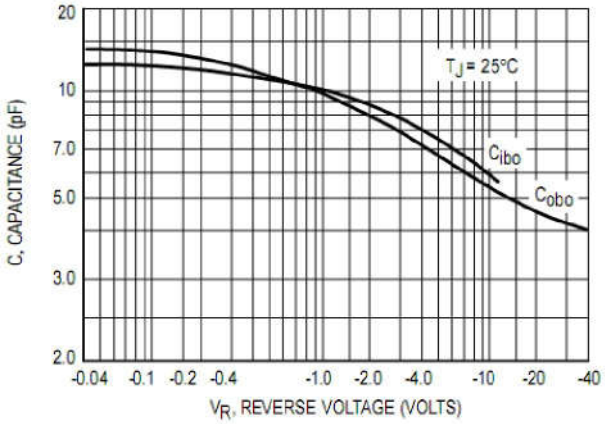


Figure 2. Capacitance

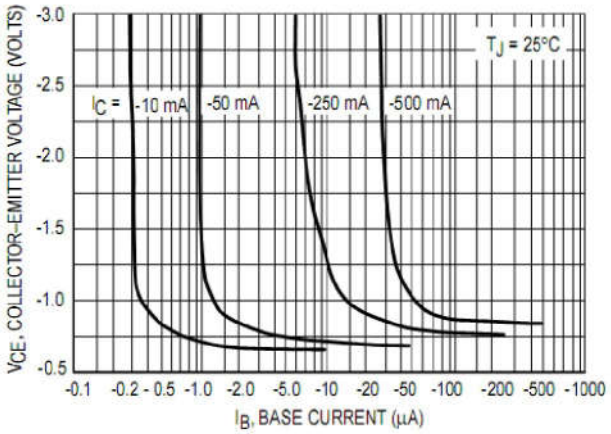


Figure 3. Collector Saturation Region

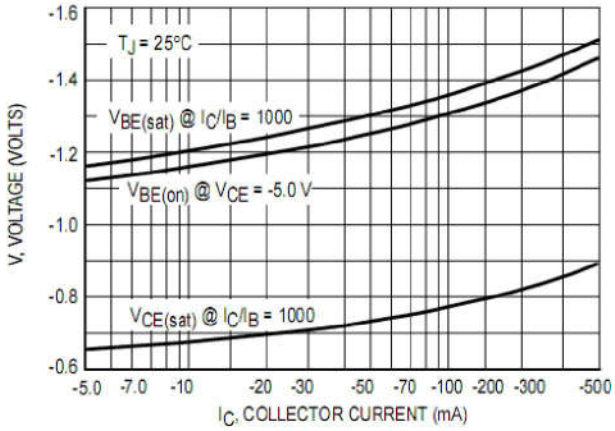


Figure 4. “On” Voltages

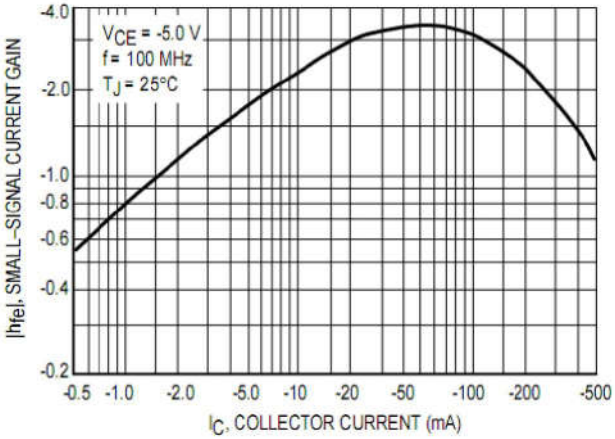


Figure 5. High Frequency Current Gain

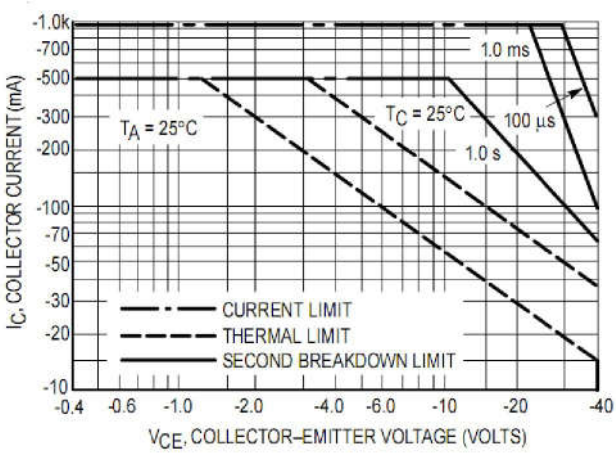


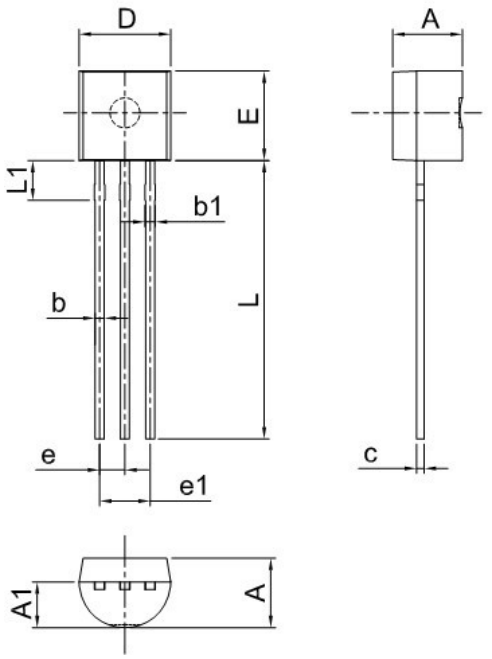
Figure 6. Active Region Safe Operating Area

Ordering information

Package	Packing Description	Base Quantity
TO-92	Bulk	1000pcs/Bag
	Tape	2000pcs/Box

Package Dimensions

TO-92



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

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