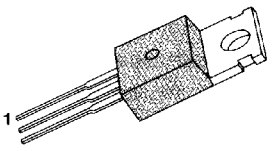
PNP EPITAXIAL
TIP115/116/117 SILICON DARLINGTON TRANSISTOR

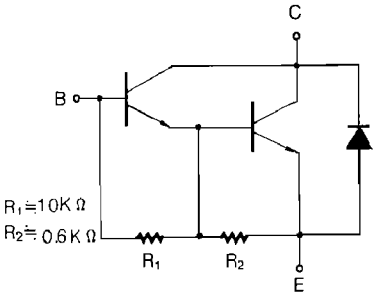
HIGH DC CURRENT GAIN
MIN h_{FE}=1000 @ V_{CE}= -4V, I_C= -1A
LOW COLLECTOR-EMITTER
SATURATION VOLTAGE
MONOLITHIC CONSTRUCTION WITH BUILT
IN BASE-EMITTER SHUNT RESISTORS
INDUSTRIAL USE

• Complementary to TIP110/111/112

TO-220



1.Base 2.Collector 3.Emitter



ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage :TIP115	V_{CBO}	-60	V
: TIP116		-80	V
: TIP117		-100	V
Collector Emitter Voltage			
:TIP115	V_{CEO}	-60	V
:TIP116		-80	V
:TIP117		-100	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-2	A
Collector Current (Pulse)	I_C	-4	A
Base Current (DC)	I_B	-50	mA
Collector Dissipation (T_A=25°C)	P_C	2	W
Collector Dissipation (T_C=25°C)	P_C	50	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 ~ 150	°C

ELECTRICAL CHARACTERISTICS (T_C =25°C)

Characteristic	Symbol	Test Conditions	Min	Max	Unit
Collector Emitter Sustaining Voltage	V_{CEO}(sus)	I_C = -30mA, I_B = 0			
: TIP115			-60		V
: TIP116			-80		V
: TIP117			-100		V
Collector Cutoff Current : TIP115	I_{CEO}	V_{CE} = -30V, I_B = 0		-2	mA
: TIP116		V_{CE} = -40V, I_B = 0		-2	mA
: TIP117		V_{CE} = -50V, I_B = 0		-2	mA
Collector Cutoff Current : TIP115	I_{CBO}	V_{CB} = -60V, I_E = 0		-1	mA
: TIP116		V_{CB} = -80V, I_E = 0		-1	mA
: TIP117		V_{CB} = -100V, I_E = 0		-1	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = -5V, I_C = 0		-2	mA
DC Current Gain	h_{FE}	V_{CE} = -4V, I_C = -1A	1000		
		V_{CE} = -4V, I_C = -2A	500		
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C = -2A, I_B = -8mA		-2.5	V
Base Emitter On Voltage	V_{BE}(on)	V_{CE} = -4V, I_C = -2A		-2.8	V
Output Capacitance	C_{OB}	V_{CB} = -10V, I_E = 0, f = 0.1MHz		200	pF

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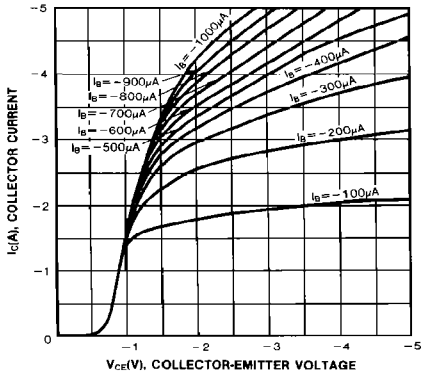
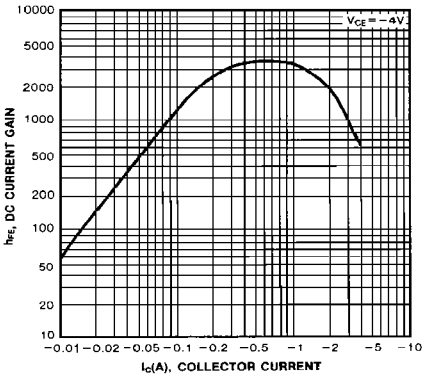
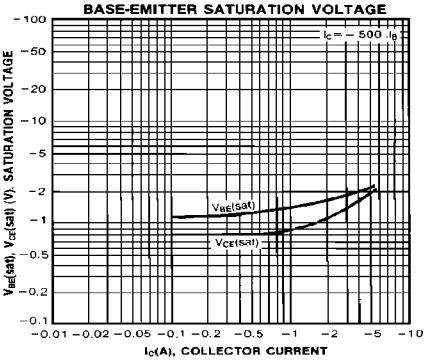
STATIC CHARACTERISTIC



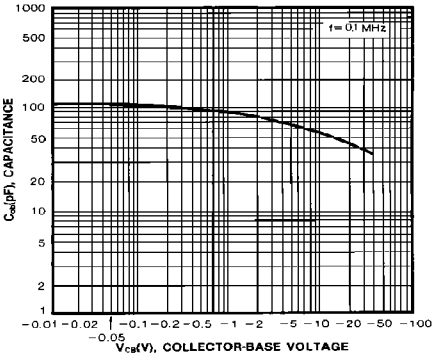
DC CURRENT GAIN



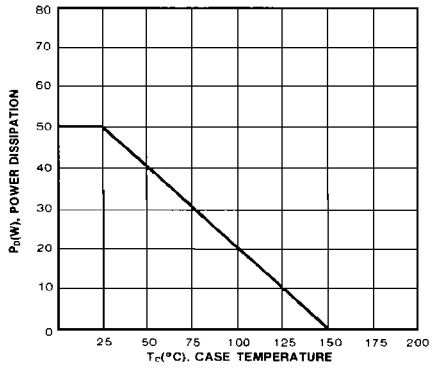
COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE



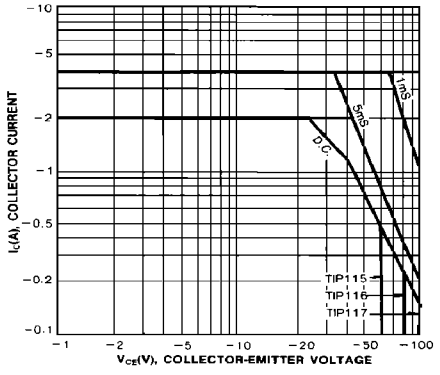
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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