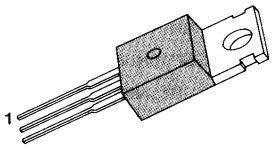
PNP EPITAXIAL
TIP125/126/127 DARLINGTON TRANSISTOR

MEDIUM POWER TRANSISTOR
SWITCHING APPLICATIONS

• Complement to TIP120/121/122

TO-220



1.Base 2.Collector 3.Emitter

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : TIP125	V_{CBO}	-60	V
: TIP126		-80	V
: TIP127		-120	V
Collector Emitter Voltage			
: TIP125	V_{CEO}	-60	V
: TIP126		-80	V
: TIP127		-120	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current (DC)	I_C	-5	A
Collector Current (Pulse)	I_C	-8	A
Base Current (DC)	I_B	-120	mA
Collector Dissipation (T_A=25°C)	P_C	2	W
Collector Dissipation (T_C=25°C)	P_C	65	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)				
: TIP125		I_C = -100mA, I_B = 0	-60		V
: TIP126			-80		V
: TIP127			-120		V
Collector Cutoff Current : TIP125	I_{CEO}	V_{CE} = -30V, I_B = 0		-2	mA
: TIP126		V_{CE} = -40V, I_B = 0		-2	mA
: TIP127		V_{CE} = -50V, I_B = 0		-2	mA
Collector Cutoff Current : TIP125	I_{CBO}	V_{CB} = -60V, I_E = 0		-1	mA
: TIP126		V_{CB} = -80V, I_E = 0		-1	mA
: TIP127		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} = -3V, I_C = -0.5A	1000		
		V_{CE} = -3V, I_C = -3A	1000		
* Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C = -3A, I_B = -12mA		-2	V
		I_C= -5A, I_B= -20mA		-4	V
* Base Emitter On Voltage	V_{BE}(on)	V_{CE} = -3V, I_C = -3A		-2.5	V
Output Capacitance	C_{OB}	V_{CB} = -10V, I_E = 0, f = 0.1MHz		300	pF

* Pulse Test: PW≤300μs, Duty Cycle≤2%

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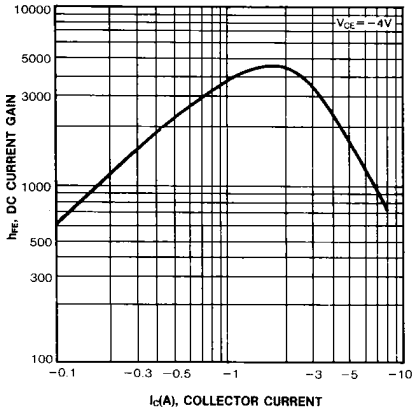
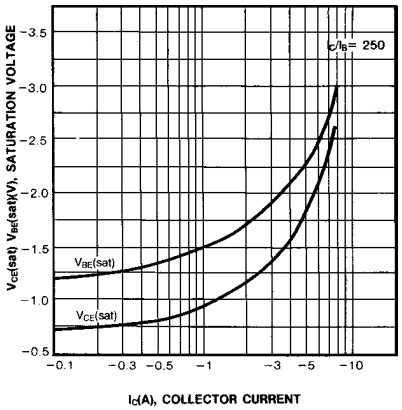
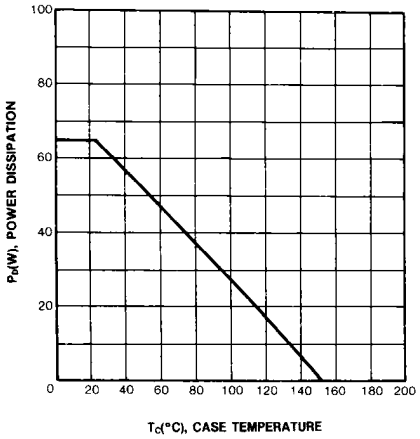
DC CURRENT GAIN



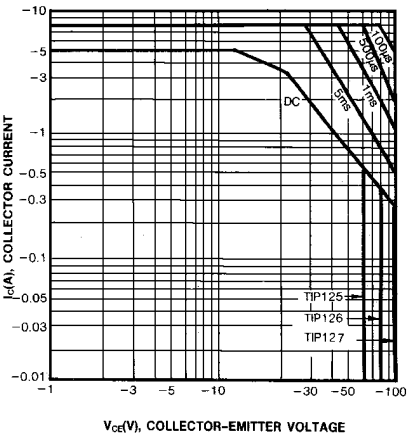
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



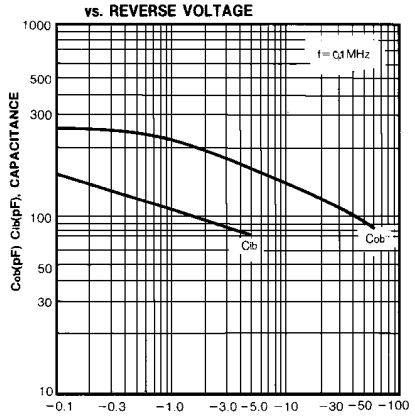
POWER DERATING

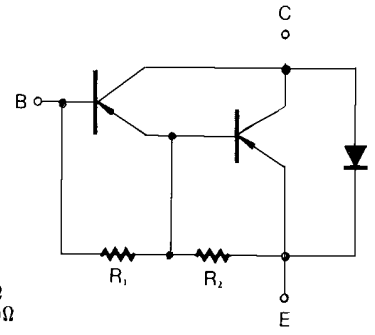


SAFE OPERATING AREA



OUTPUT AND INPUT CAPACITANCE
vs. REVERSE VOLTAGE





$R_1 \approx 8K\Omega$
$R_2 \approx 120\Omega$

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