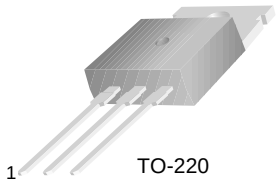
FAIRCHILD
SEMICONDUCTOR®

TIP125/126/127

Medium Power Linear Switching Applications

- Complementary to TIP120/121/122



TO-220

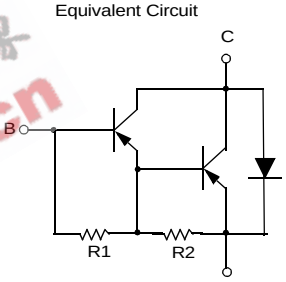
1.Base 2.Collector 3.Emitter

PNP Epitaxial Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage	: TIP125	- 60	V
		: TIP126	- 80	V
		: TIP127	- 100	V
V_{CEO}	Collector-Emitter Voltage	: TIP125	- 60	V
		: TIP126	- 80	V
		: TIP127	- 100	V
V_{EBO}	Emitter-Base Voltage		- 5	V
I_C	Collector Current (DC)		- 5	A
I_{CP}	Collector Current (Pulse)		- 8	A
I_B	Base Current (DC)		- 120	mA
P_C	Collector Dissipation (T_a=25°C)		2	W
	Collector Dissipation (T_C=25°C)		65	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 65 ~ 150	°C

Equivalent Circuit



$R1 \cong 8\,k\Omega$
$R2 \cong 0.12\,k\Omega$

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage				
	: TIP125	I_C = -100mA, I_B = 0	-60		V
	: TIP126		-80		V
	: TIP127		-120		V
I_{CEO}	Collector Cut-off Current				
	: TIP125	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
I_{CBO}	Collector Cut-off Current				
	: TIP125	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
I_{EBO}	Emitter Cut-off Current	V_{BE} = -5V, I_C = 0		-2	mA
h_{FE}	* DC Current Gain	V_{CE} = -3V, I_C = 0.5A	1000		
		V_{CE} = -3V, I_C = -3A	1000		
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = -3A, I_B = -12mA		-2	V
		I_C=-5A, I_B=-20mA		-4	V
V_{BE}(on)	* Base-Emitter ON Voltage	V_{CE} = -3V, I_C = -3A		-2.5	V
C_{ob}	Output Capacitance	V_{CB} = -10V, I_E = 0, f = 0.1MHz		300	pF

* Pulse Test : PW≤300μs, Duty cycle ≤2%

Typical Characteristics

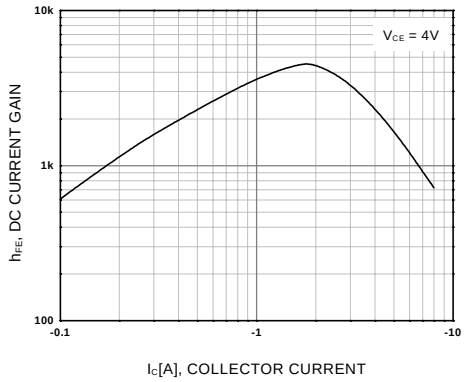


Figure 1. DC current Gain

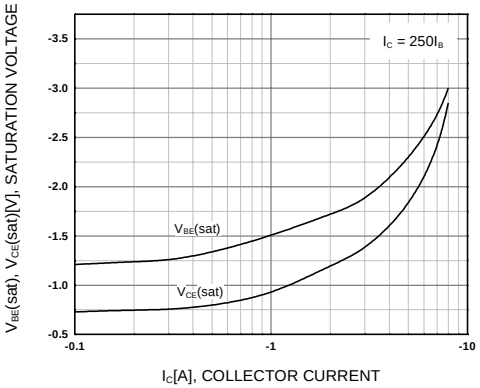


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

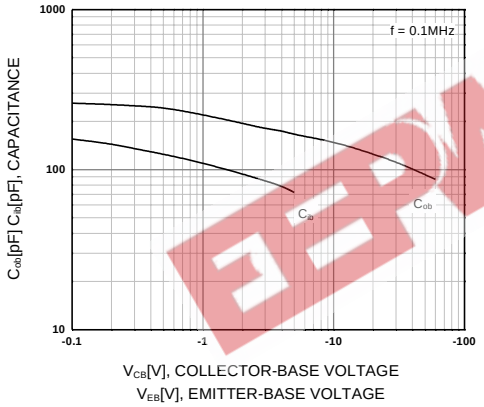


Figure 3. Output and Input Capacitance vs. Reverse Voltage

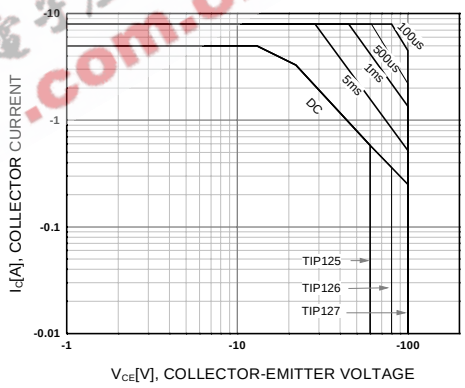


Figure 4. Safe Operating Area

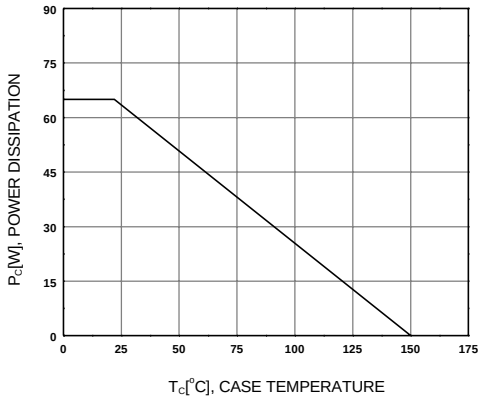
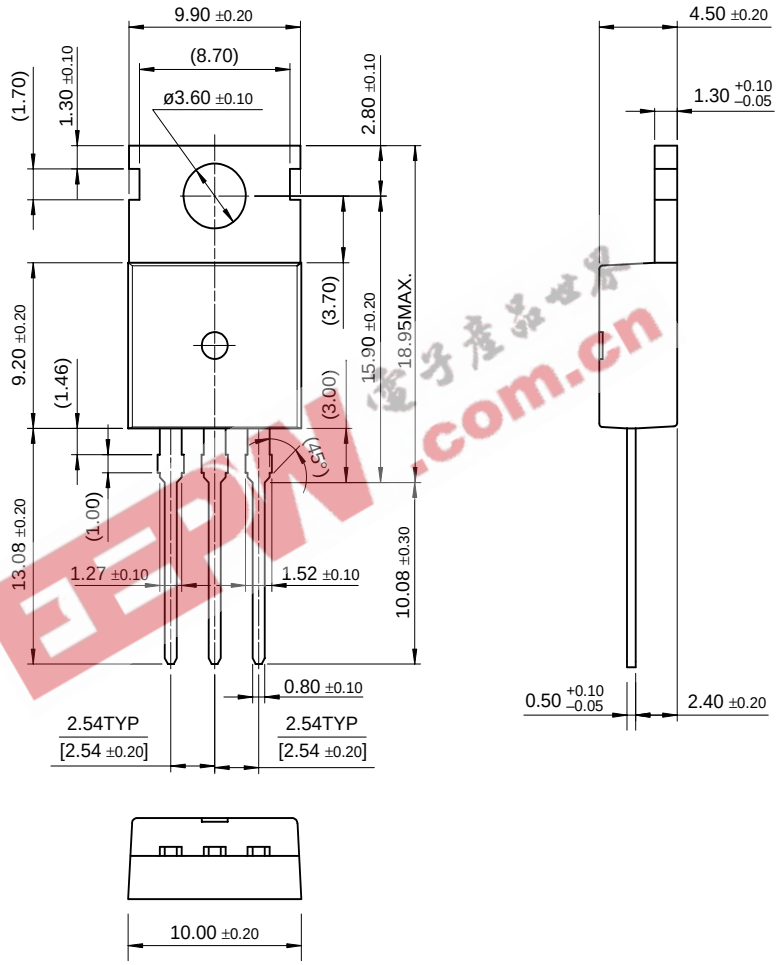


Figure 5. Power Derating

Package Demensions

TO-220



Dimensions in Millimeters

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