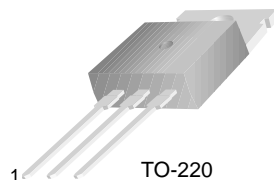


TIP125/126/127

Medium Power Linear Switching Applications

- Complementary to TIP120/121/122



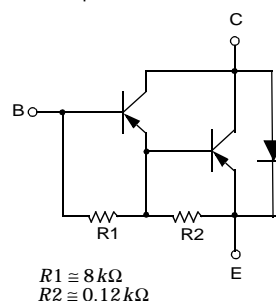
TO-220
1.Base 2.Collector 3.Emmitter

PNP Epitaxial Darlington Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ($T_a=25^\circ\text{C}$)	2	W
	Collector Dissipation ($T_C=25^\circ\text{C}$)	65	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

Equivalent Circuit



Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units	
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage : TIP125	$I_C = -100\text{mA}, I_B = 0$	-60		V	
	: TIP126				-80	V
	: TIP127				-120	V
I_{CEO}	Collector Cut-off Current : TIP125	$V_{CE} = -30\text{V}, I_B = 0$		-2	mA	
	: TIP126	$V_{CE} = -40\text{V}, I_B = 0$		-2	mA	
	: TIP127	$V_{CE} = -50\text{V}, I_B = 0$		-2	mA	
I_{CBO}	Collector Cut-off Current : TIP125	$V_{CB} = -60\text{V}, I_E = 0$		-1	mA	
	: TIP126	$V_{CB} = -80\text{V}, I_E = 0$		-1	mA	
	: TIP127	$V_{CB} = -100\text{V}, I_E = 0$		-1	mA	
I_{EBO}	Emitter Cut-off Current	$V_{BE} = -5\text{V}, I_C = 0$		-2	mA	
h_{FE}	* DC Current Gain	$V_{CE} = -3\text{V}, I_C = 0.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -3\text{A}$	1000	1000		
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -3\text{A}, I_B = -12\text{mA}$		-2	V	
		$I_C = -5\text{A}, I_B = -20\text{mA}$		-4	V	
$V_{BE(on)}$	* Base-Emitter ON Voltage	$V_{CE} = -3\text{V}, I_C = -3\text{A}$		-2.5	V	
C_{ob}	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 0.1\text{MHz}$		300	pF	

* Pulse Test : $PW \leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

Typical Characteristics

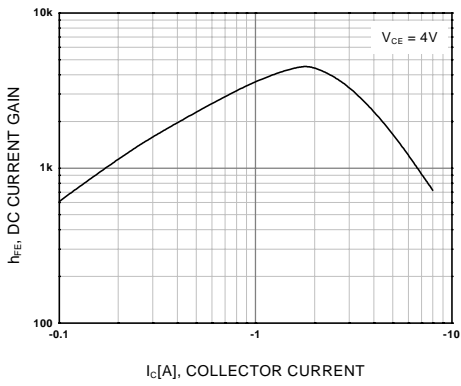


Figure 1. DC current Gain

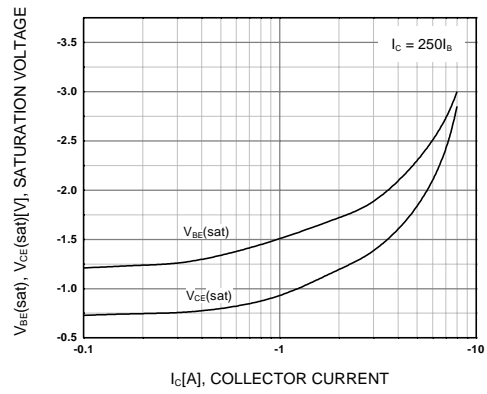


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

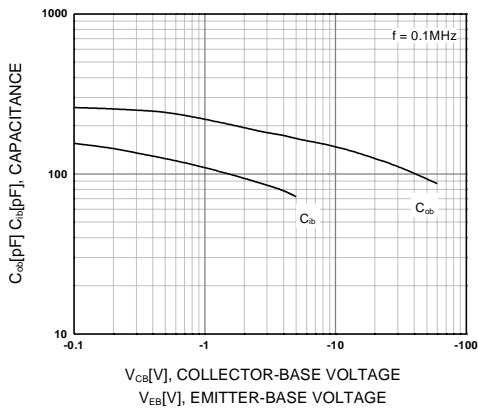


Figure 3. Output and Input Capacitance
vs. Reverse Voltage

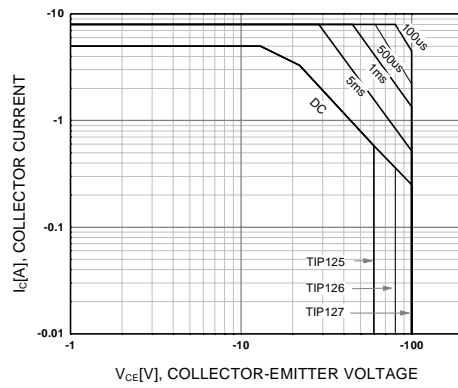


Figure 4. Safe Operating Area

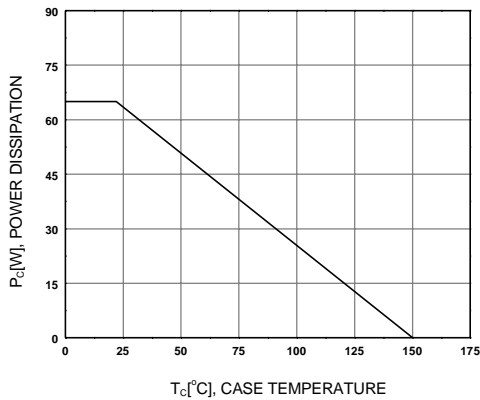
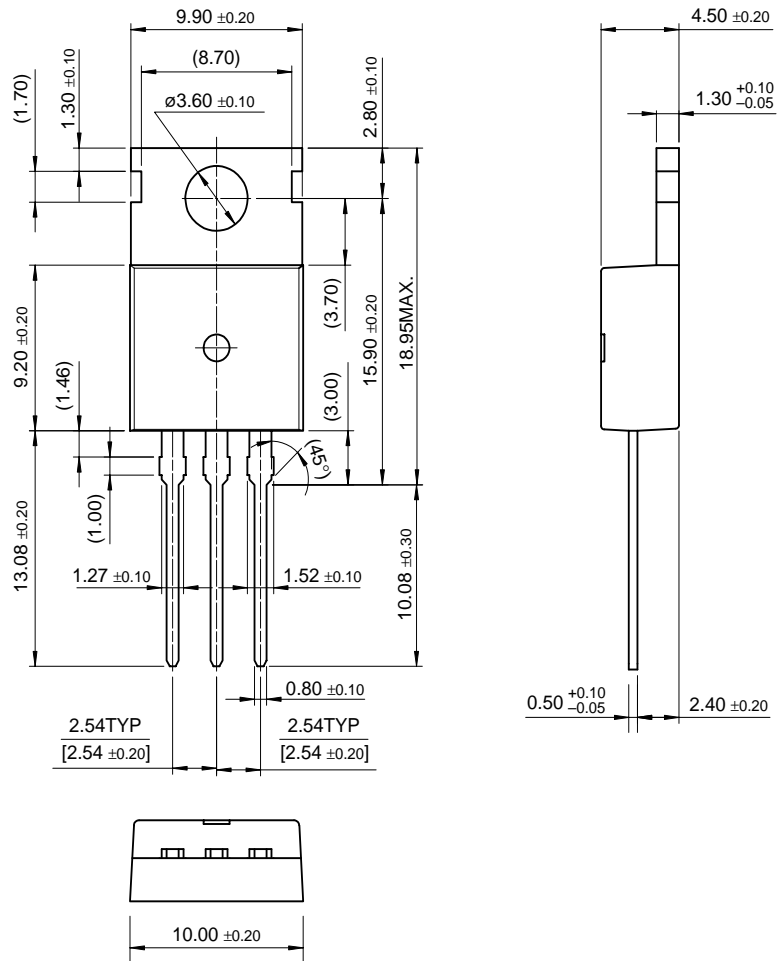


Figure 5. Power Derating

Package Dimensions

TO-220

TIP125/126/127



Dimensions in Millimeters

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