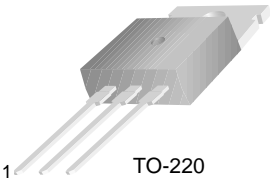




TIP125/126/127

Medium Power Linear Switching Applications

- Complementary to TIP120/121/122

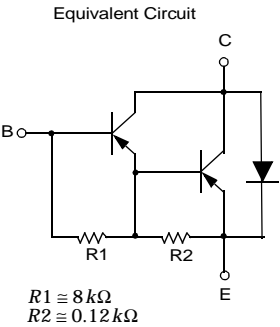


1.Base 2.Collector 3.Emitter

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	$^{\circ}\text{C}$



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	$I_C = -100\text{mA}, I_B = 0$	-60 -80 -120		V
	: TIP125				V
	: TIP126				V
	: TIP127				V
I_{CEO}	Collector Cut-off Current	$V_{CE} = -30\text{V}, I_B = 0$ $V_{CE} = -40\text{V}, I_B = 0$ $V_{CE} = -50\text{V}, I_B = 0$		-2 -2 -2	mA
	: TIP125				mA
	: TIP126				mA
	: TIP127				mA
I_{CBO}	Collector Cut-off Current	$V_{CB} = -60\text{V}, I_E = 0$ $V_{CB} = -80\text{V}, I_E = 0$ $V_{CB} = -100\text{V}, I_E = 0$		-1 -1 -1	mA
	: TIP125				mA
	: TIP126				mA
	: TIP127				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

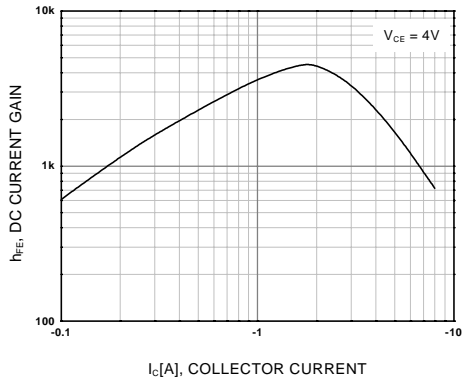


Figure 1. DC current Gain

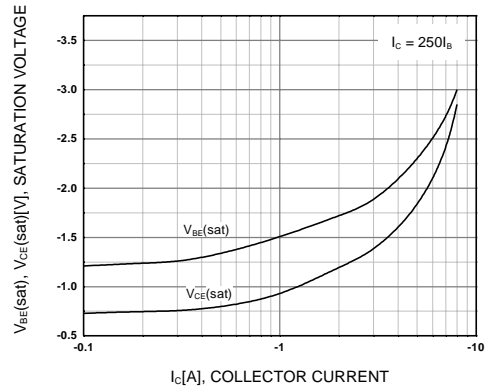


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

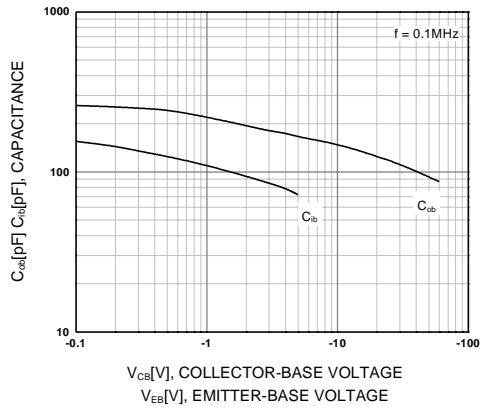


Figure 3. Output and Input Capacitance
vs. Reverse Voltage

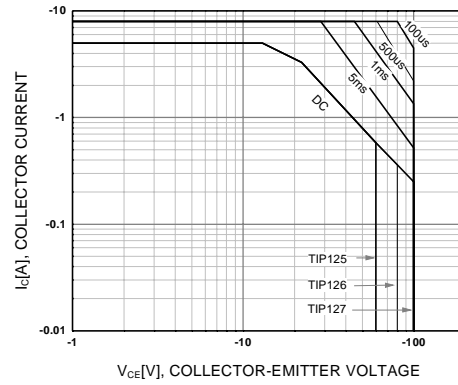


Figure 4. Safe Operating Area

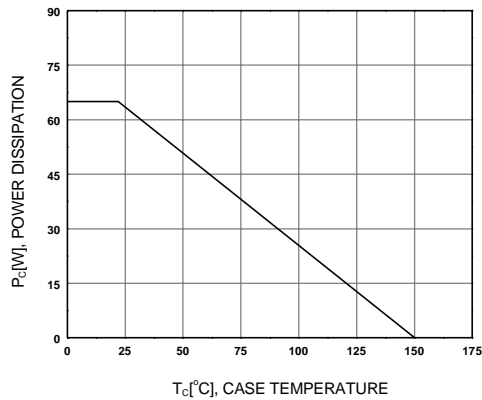
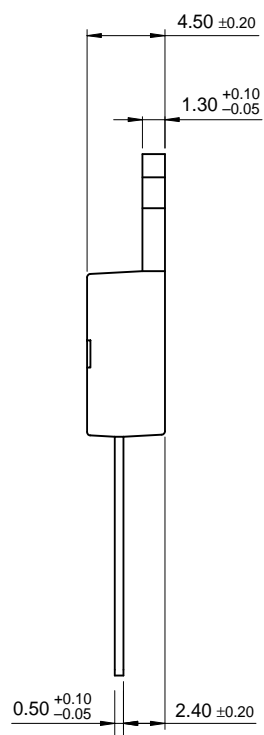
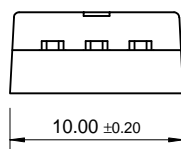


Figure 5. Power Derating

Technical drawing of a 2.54TYP connector. The drawing shows a side view of the component with various dimensions in millimeters. The overall width is 9.90 ±0.20 mm, with a central hole diameter of Ø3.60 ±0.10 mm. The total height is 18.95 MAX. mm. The drawing includes dimensions for the top section (1.70 mm, 1.30 ±0.10 mm, 2.80 ±0.10 mm), the main body (9.20 ±0.20 mm, 1.46 mm, 3.00 mm, 3.70 mm, 15.90 ±0.20 mm), and the bottom section (13.08 ±0.20 mm, 1.00 mm, 1.27 ±0.10 mm, 1.52 ±0.10 mm, 10.08 ±0.30 mm). The bottom section features three pins with a 45° chamfer and a 0.80 ±0.10 mm base width. The drawing is labeled 2.54TYP at the bottom.



Rev. A1, June 2001

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