

Darlington Silicon PNP Power Transistors

T-33-31



TO-220 Package

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	TIP125	TIP126	TIP127	Unit
Collector-Base Voltage	-V _{CB0}	60	80	100	V
Collector-Emitter Voltage	-V _{CE0}	60	80	100	V
Emitter-Base Voltage	-V _{EB0}	5			V
Collector Current	-I _C	5			A
Peak Collector Current	-I _{CM}	8			A
Base Current	-I _B	0.1			A
Power Dissipation (T _C =25°C)	P _C	65			W
Junction Temperature	T _J	-65~+150			°C
Storage Temperature	T _{stg}	-65~+150			°C

Applications:

- Power Amplifier and High Speed Switching
- Complementary pair with TIP120, TIP121, TIP122

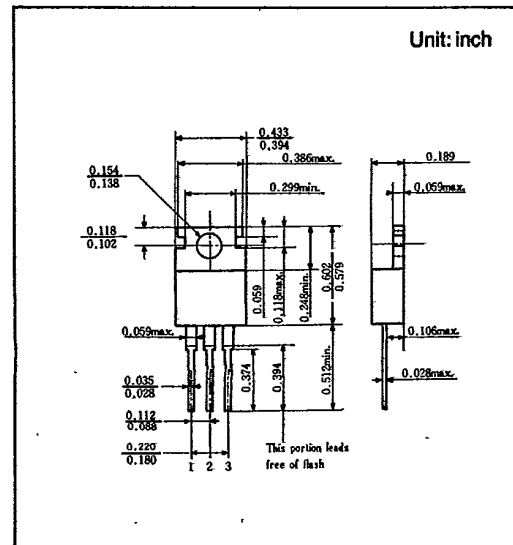
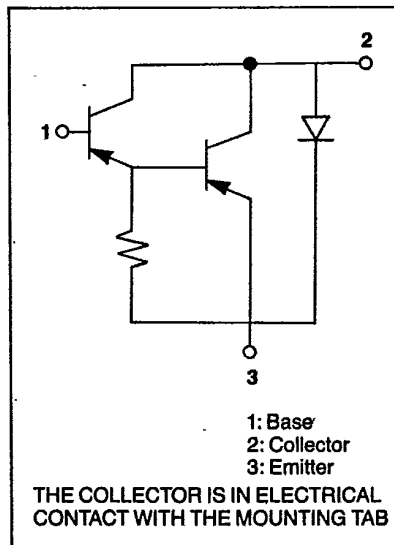
Features:

- 65W at 25°C case temperature
- Min. h_{FE} of 1000 at 3V, 3A
- 5A rated collector Current
- 50mJ reverse energy ratings

Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	TIP125		TIP126		TIP127		Unit
			min.	max.	min.	max.	min.	max.	
Collector-Emitter Voltage	-V _{CE0}	-I _C =30mA, I _B =0	60		80		100		V
Collector Cutoff Current	-I _{CEO}	-V _{CE} =30V, I _B =0	0.5						mA
		-V _{CE} =40V, I _B =0			0.5				
		-V _{CE} =50V, I _B =0					0.5		
Collector Cutoff Current	-I _{CBO}	-V _{CB} =60V, I _E =0	0.2						mA
		-V _{CB} =80V, I _E =0			0.2				
		-V _{CB} =100V, I _E =0					0.2		
Emitter-Base Current	-I _{EB0}	-V _{EB} =5V, I _C =0	2		2		2		mA
DC Current Gain	h _{FE}	-V _{CE} =3V, -I _C =0.5A	1000		1000		1000		
		-V _{CE} =3V, -I _C =3A	1000		1000		1000		
Base-Emitter Voltage	-V _{BE}	-V _{CE} =3V, -I _C =3A	2.5		2.5		2.5		V
Collector-Emitter Saturation Voltage	-V _{CE(sat)}	-I _C =3A, -I _B =12mA	2		2		2		V
		-I _C =5A, -I _B =20mA	4		4		4		
Turn-on Time	t _{on}	-I _C =3A, -I _{B1} =12mA, I _{B2} =12mA	0.2 (typ.)						μs
Turn-off Time	t _{off}	V _{BE(off)} =5V, R _L =10Ω	2 (typ.)						

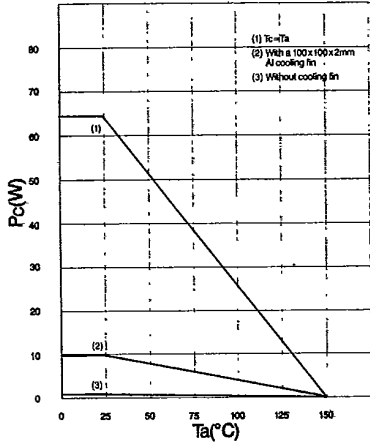
The device specifications are subject to change without prior notice.



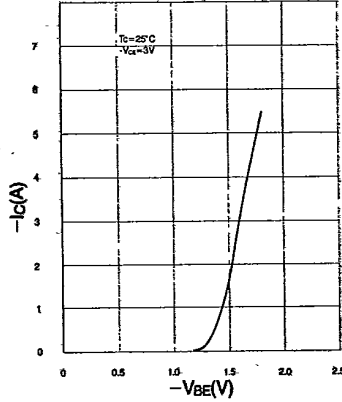


Typical Characteristics

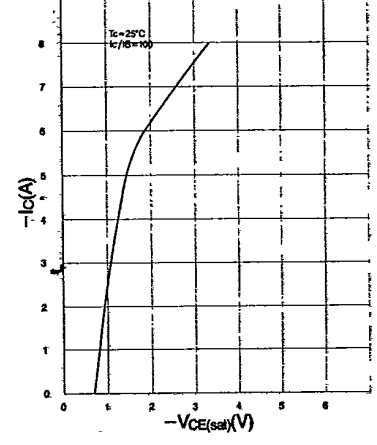
Pc vs. Ta characteristics



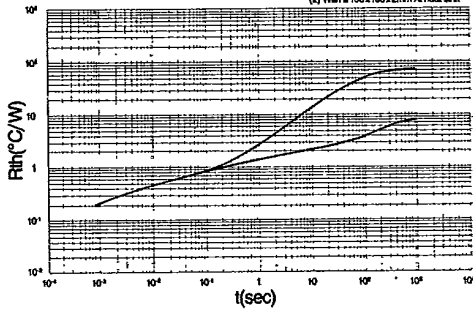
VBE vs. Ic characteristics



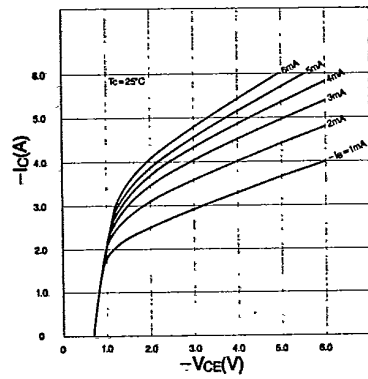
VCE(sat) vs. Ic characteristics



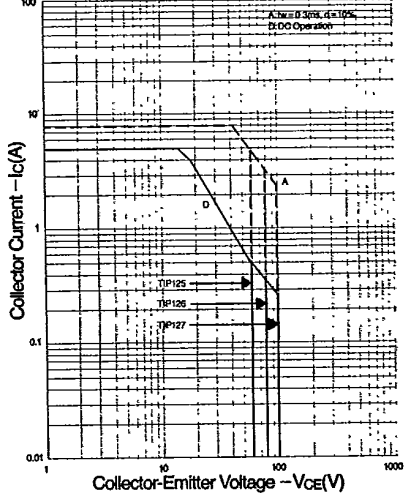
Thermal Resistance vs. t



VCE vs. Ic characteristics



Area of Safe Operation (ASO) (Tc=25°C)



hFE vs Ic characteristics

