

T-33-29



Darlington Silicon NPN Power Transistors

TO-220 Package

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	TIP120	TIP121	TIP122	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 (Tc=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 TIP125, TIP126, TIP127

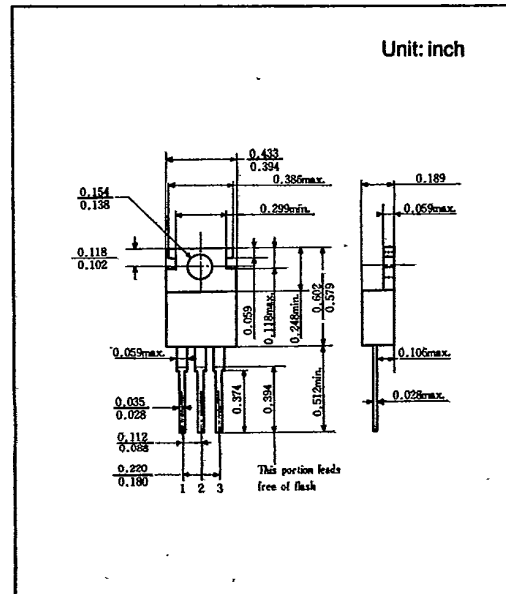
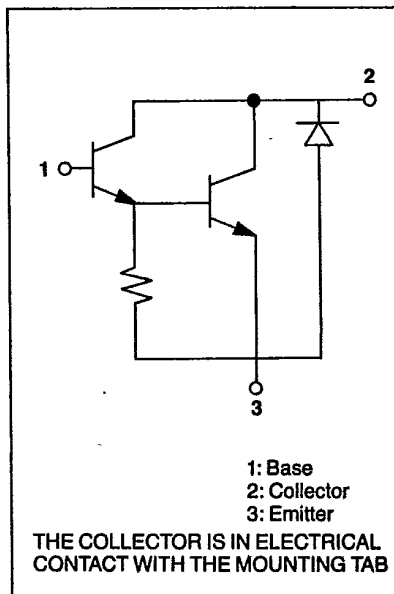
Features:

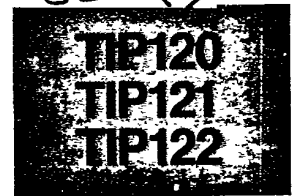
- 65 W at 25°C case temperature
- Min. h_{FE} of 1000 at 3V, 3A
- 5A rated collector current
- 50mJ reverse energy ratings

Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	TIP120		TIP121		TIP122		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 _{CB0}	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		V
Turn-on Time	t _{on}	I _C =3A, I _{B1} =12mA, -I _{B2} =12mA	0.3 (typ.)						μs
Turn-off Time	t _{off}	-V _{BE(off)} =5V, R _L =10Ω	4 (typ.)						

The device specifications are subject to change without prior notice.





Typical Characteristics

