

DESCRIPTION

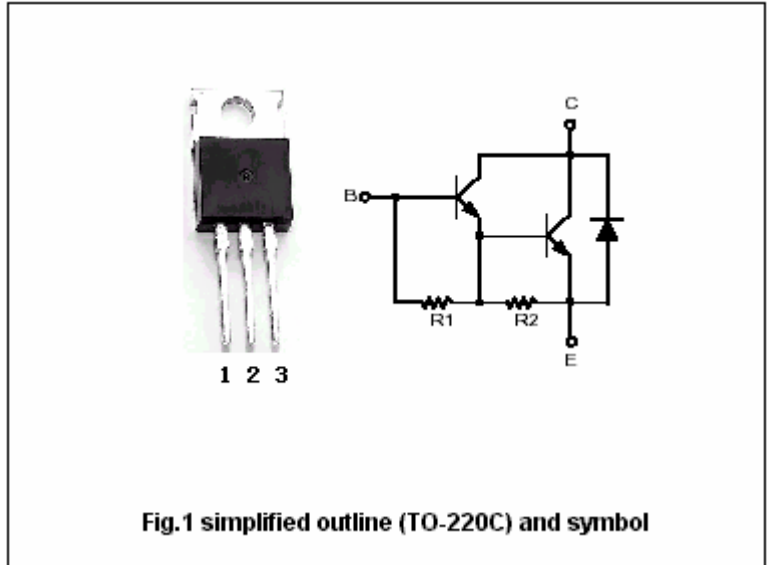
- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP125/126/127

APPLICATIONS

- Designed for general-purpose amplifier and low-speed switching applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



ABSOLUTE MAXIMUM RATINGS (T_C=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	TIP120	Open emitter	60	V
		TIP121		80	
		TIP122		100	
V _{CEO}	Collector-emitter voltage	TIP120	Open base	60	V
		TIP121		80	
		TIP122		100	
V _{EBO}	Emitter-base voltage		Open collector	5	V
I _C	Collector current-DC			5	A
I _{CM}	Collector current-Pulse			8	A
I _B	Base current-DC			120	mA
P _C	Collector power dissipation	T _C =25℃		65	W
		T _a =25℃		2	
T _j	Junction temperature			150	℃
T _{stg}	Storage temperature			-65~150	℃

Silicon NPN Darlington Power Transistors

TIP120/121/122

CHARACTERISTICS

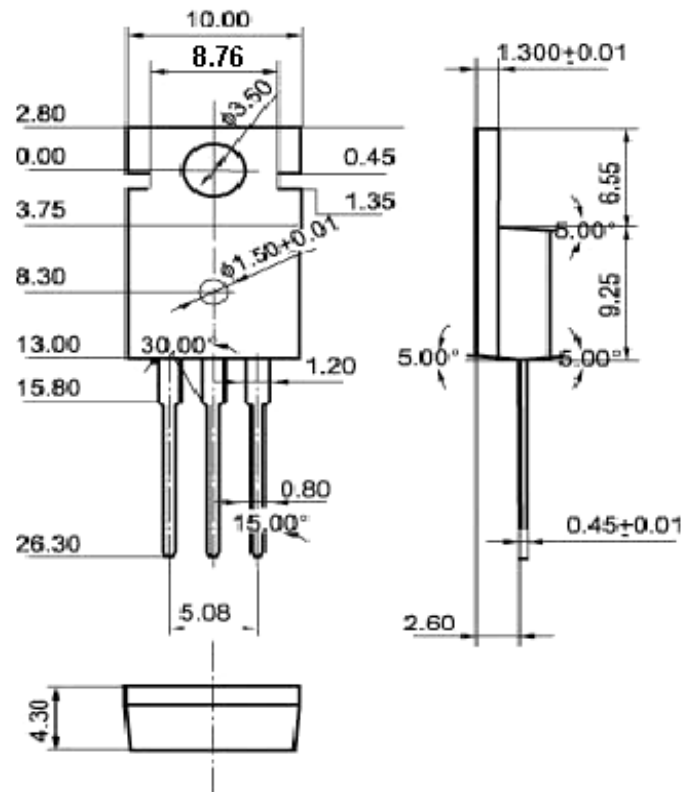
T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(SUS)}	Collector-emitter sustaining voltage	TIP120	I _C =0.1A, I _B =0	60			V
		TIP121		80			
		TIP122		100			
V _{CE(sat)-1}	Collector-emitter saturation voltage		I _C =3A, I _B =12mA			2.0	V
V _{CE(sat)-2}	Collector-emitter saturation voltage		I _C =5A, I _B =20mA			4.0	V
V _{BE}	Base-emitter on voltage		I _C =3.0A ; V _{CE} =3V			2.5	V
I _{CBO}	Collector cut-off current	TIP120	V _{CB} =60V, I _E =0			0.2	mA
		TIP121	V _{CB} =80V, I _E =0				
		TIP122	V _{CB} =100V, I _E =0				
I _{CEO}	Collector cut-off current	TIP120	V _{CE} =30V, I _B =0			0.5	mA
		TIP121	V _{CE} =40V, I _B =0				
		TIP122	V _{CE} =50V, I _B =0				
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			2	mA
h _{FE-1}	DC current gain		I _C =0.5A ; V _{CE} =3V	1000			
h _{FE-2}	DC current gain		I _C =3.0A ; V _{CE} =3V	1000			
C _{ob}	Output capacitance		I _E =0 ; V _{CB} =10V, f=0.1MHz			200	pF

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TIP120/121/122

PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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TIP120/121/122

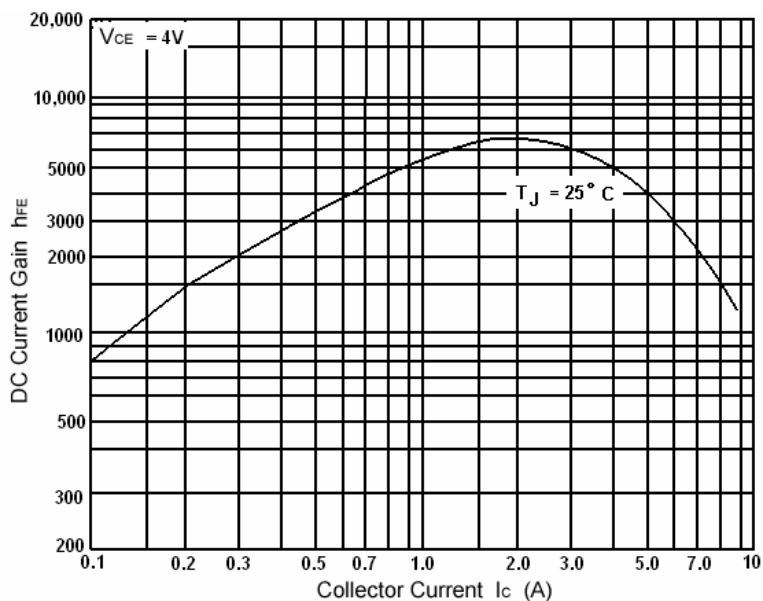


Fig.3 DC current Gain

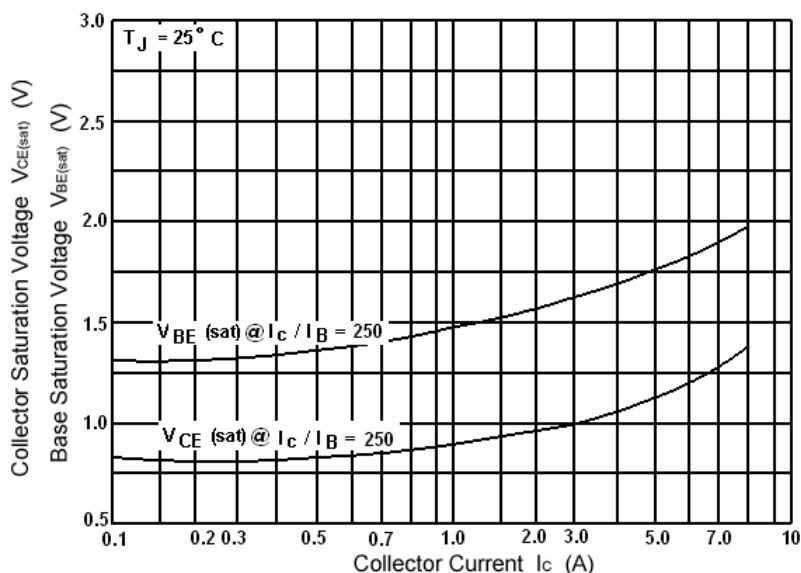
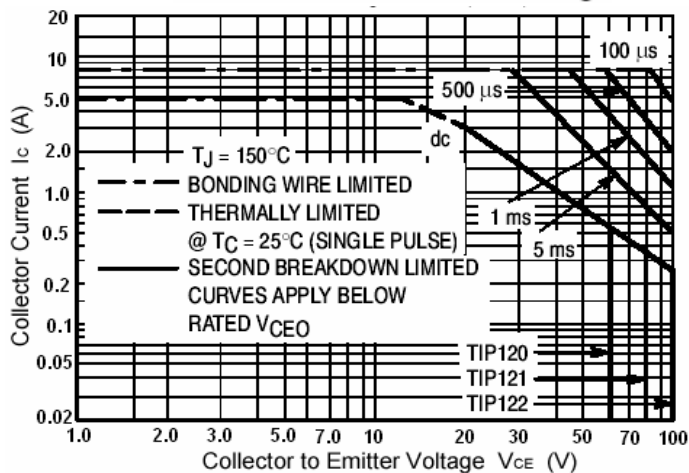
Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

Fig.5 Safe Operating Area