

**DESCRIPTION**

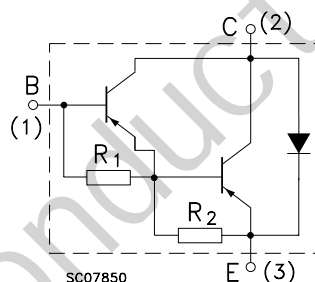
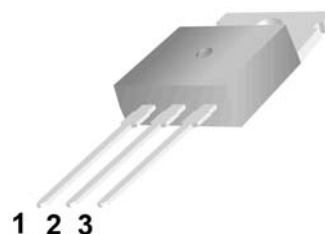
- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP120/121/122

**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(Tc=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	TIP125	-60	V
		TIP126	-80	
		TIP127	-100	
V <sub>CEO</sub>	Collector-emitter voltage	TIP125	-60	V
		TIP126	-80	
		TIP127	-100	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-5	V
I <sub>C</sub>	Collector current-DC		-5	A
I <sub>CM</sub>	Collector current-Pulse		-8	A
I <sub>B</sub>	Base current-DC		-120	mA
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	65	W
		T <sub>a</sub> =25	2	
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

**CHARACTERISTICS**

 T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	TIP125	I <sub>C</sub> =-0.1A, I <sub>B</sub> =0	-60		V	
		TIP126		-80			
		TIP127		-100			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A, I <sub>B</sub> =-12mA			-2.0	V	
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-5A, I <sub>B</sub> =-20mA			-4.0	V	
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-3.0A; V <sub>CE</sub> =-3V			-2.5	V	
I <sub>CBO</sub>	Collector cut-off current	TIP125	V <sub>CB</sub> =-60V, I <sub>E</sub> =0			-0.2	mA
		TIP126		V <sub>CB</sub> =-80V, I <sub>E</sub> =0			
		TIP127		V <sub>CB</sub> =-100V, I <sub>E</sub> =0			
I <sub>CEO</sub>	Collector cut-off current	TIP125	V <sub>CE</sub> =-30V, I <sub>B</sub> =0			-0.5	mA
		TIP126		V <sub>CE</sub> =-40V, I <sub>B</sub> =0			
		TIP127		V <sub>CE</sub> =-50V, I <sub>B</sub> =0			
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-2	mA	
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-3V	1000				
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3.0A; V <sub>CE</sub> =-3V	1000				
C <sub>ob</sub>	Output capacitance	I <sub>E</sub> =0; V <sub>CB</sub> =-10V, f=0.1MHz			300	pF	

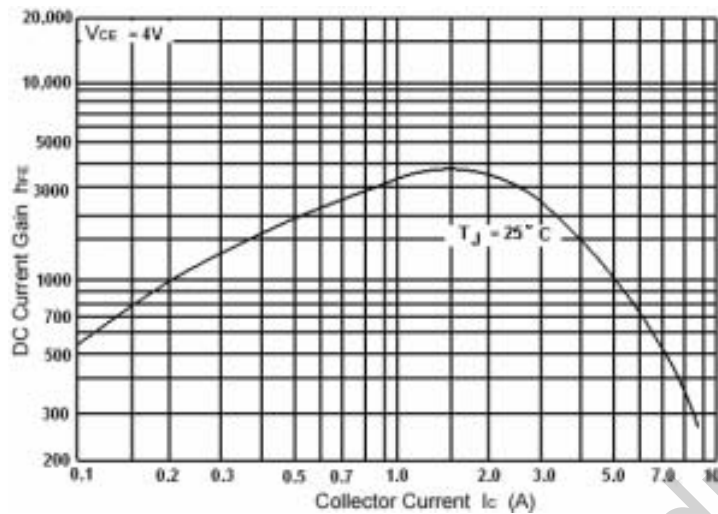


Fig.3 DC current Gain

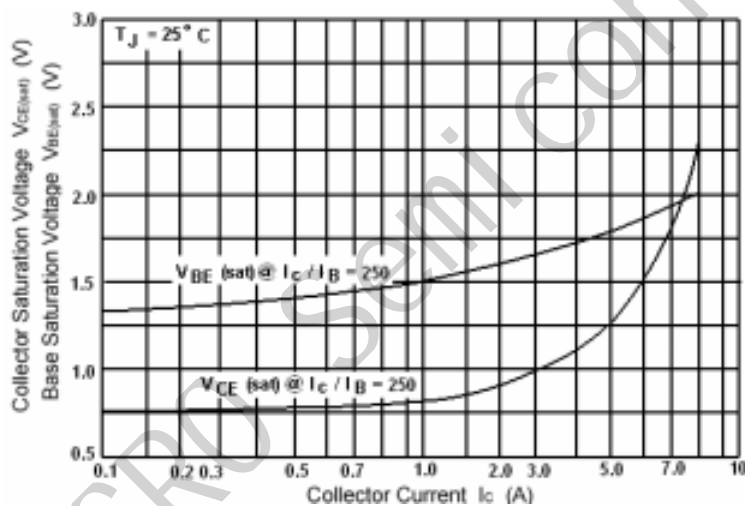


Fig.4 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

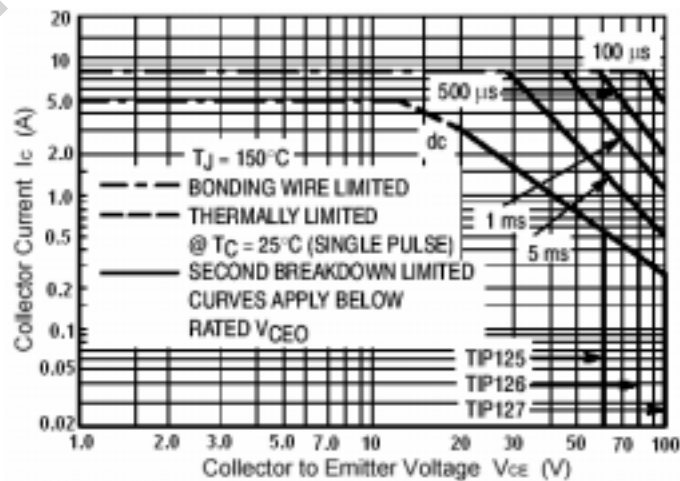
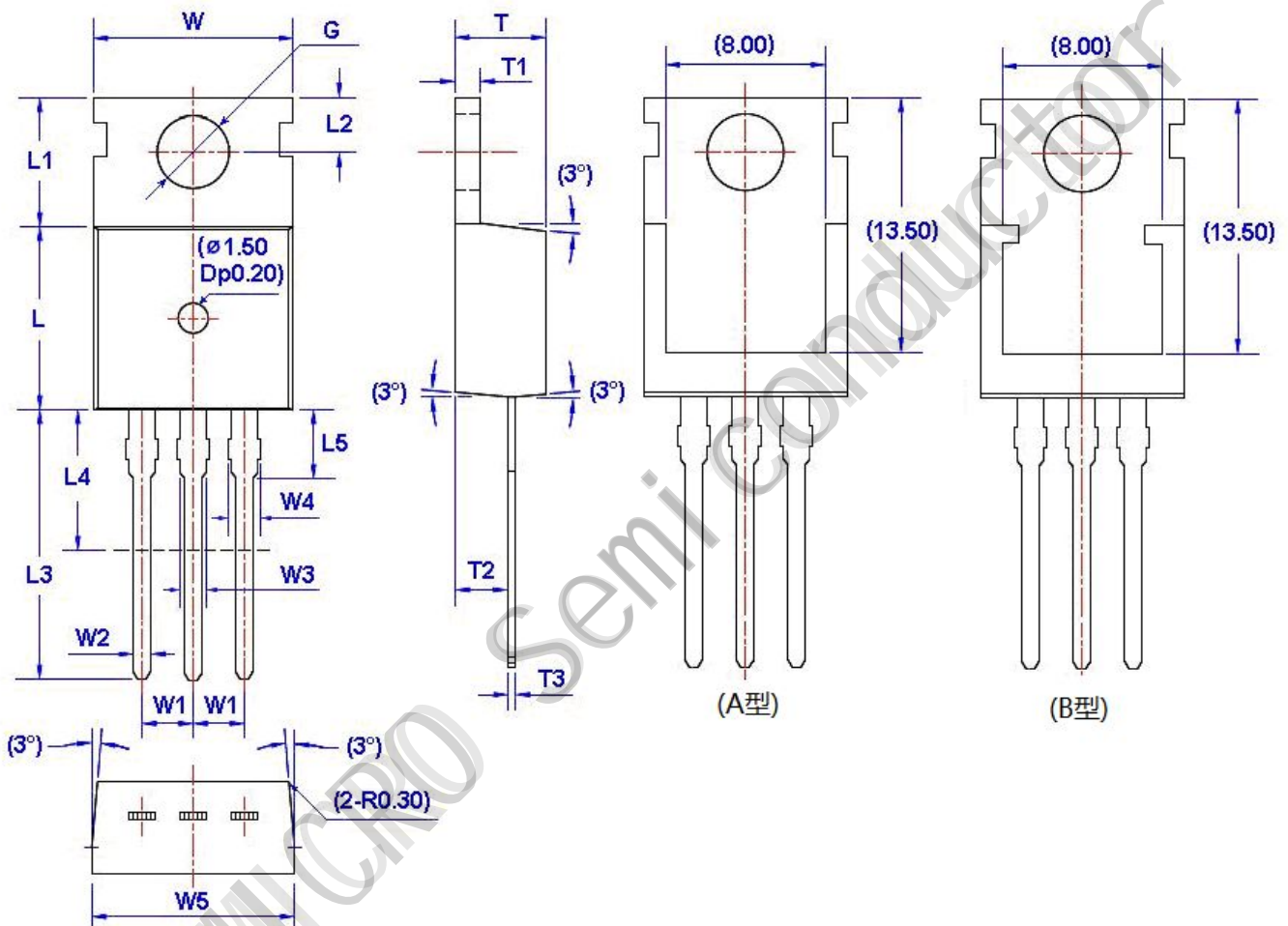


Fig.5 Safe Operating Area

## TO-220 Package Dimensions



Unit: mm

Symbol	Size		Symbol	Size		Symbol	Size		Symbol	Size	
	Min	Max		Min	Max		Min	Max		Min	Max
W	9.66	10.28	W5	9.80	10.20	L4**	6.20	6.60	T3	0.45	0.60
W1	2.54 (TYP)		L	9.00	9.40	L5	2.79	3.30	G( $\Phi$ )	3.50	3.70
W2	0.70	0.95	L1	6.40	6.80	T	4.30	4.70			
W3	1.17	1.37	L2	2.70	2.90	T1	1.15	1.40			
W4*	1.32	1.72	L3	12.70	14.27	T2	2.20	2.60			