Silicon PNP Darlington Power Transistors TIP115/116/117

DESCRIPTION

- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP110/111/112

APPLICATIONS

- For industrial use

PINNING

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

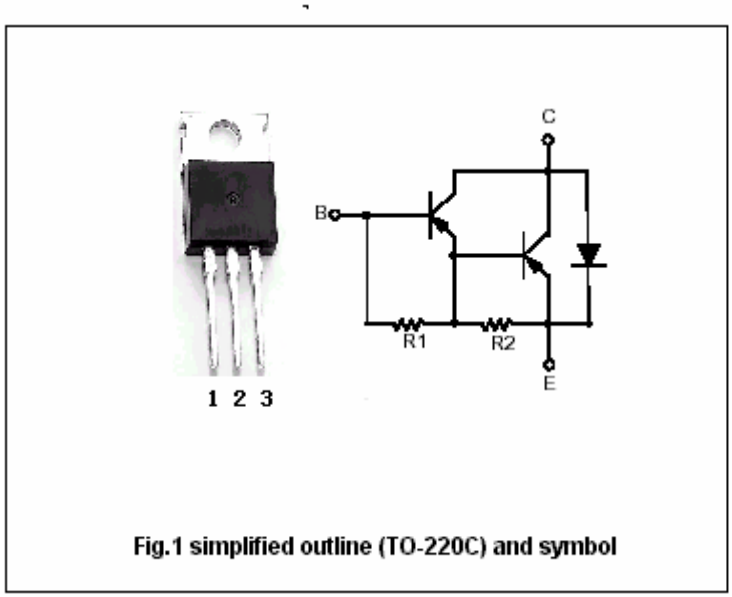

Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Tc=25℃)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	TIP115	Open emitter	-60	V
		TIP116		-80	
		TIP117		-100	
V_{CEO}	Collector-emitter voltage	TIP115	Open base	-60	V
		TIP116		-80	
		TIP117		-100	
V_{EBO}	Emitter-base voltage		Open collector	--5	V
I_C	Collector current-DC			-2	A
I_{CM}	Collector current-Pulse			-4	A
I_B	Base current-DC			50	mA
P_C	Collector power dissipation		T_C=25℃	50	W
			T_a=25℃	2	
T_j	Junction temperature			150	℃
T_{stg}	Storage temperature			-65~150	℃

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	TIP115	I_C=-30mA, I_B=0	-60			V
		TIP116		-80			
		TIP117		-100			
V_{CEsat}	Collector-emitter saturation voltage		I_C=-2A ,I_B=-8mA			-2.5	V
V_{BE}	Base-emitter on voltage		I_C=-2A ; V_{CE}=-4V			-2.8	V
I_{CBO}	Collector cut-off current	TIP115	V_{CB}=-60V, I_E=0			-1	mA
		TIP116	V_{CB}=-80V, I_E=0				
		TIP117	V_{CB}=-100V, I_E=0				
I_{CEO}	Collector cut-off current	TIP115	V_{CE}=-30V, I_B=0			-2	mA
		TIP116	V_{CE}=-40V, I_B=0				
		TIP117	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=-1A ; V_{CE}=-4V	1000			
h_{FE-2}	DC current gain		I_C=-2A ; V_{CE}=-4V	500			
C_{ob}	Output capacitance		I_E=0 ; V_{CB}=-10V,f=0.1MHz			200	pF

PACKAGE OUTLINE

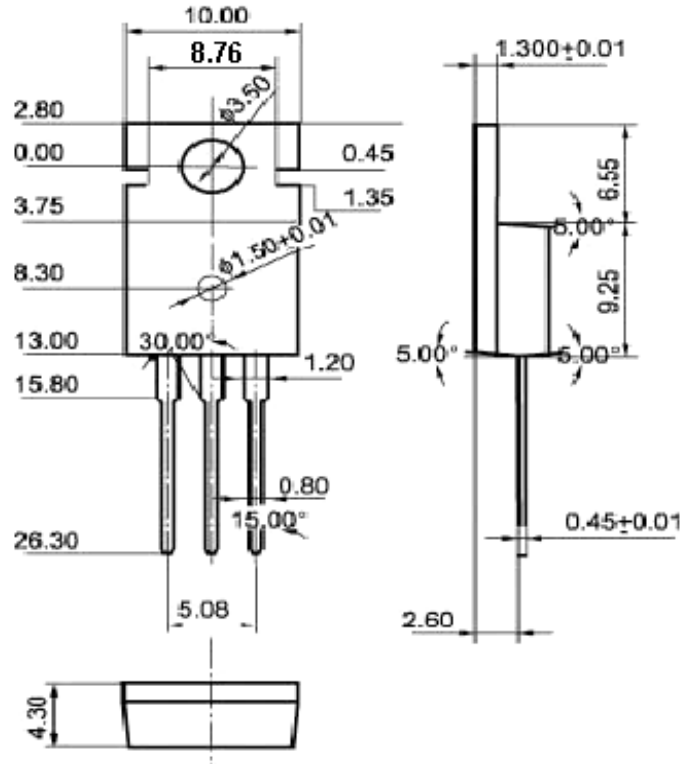

Fig.2 Outline dimensions

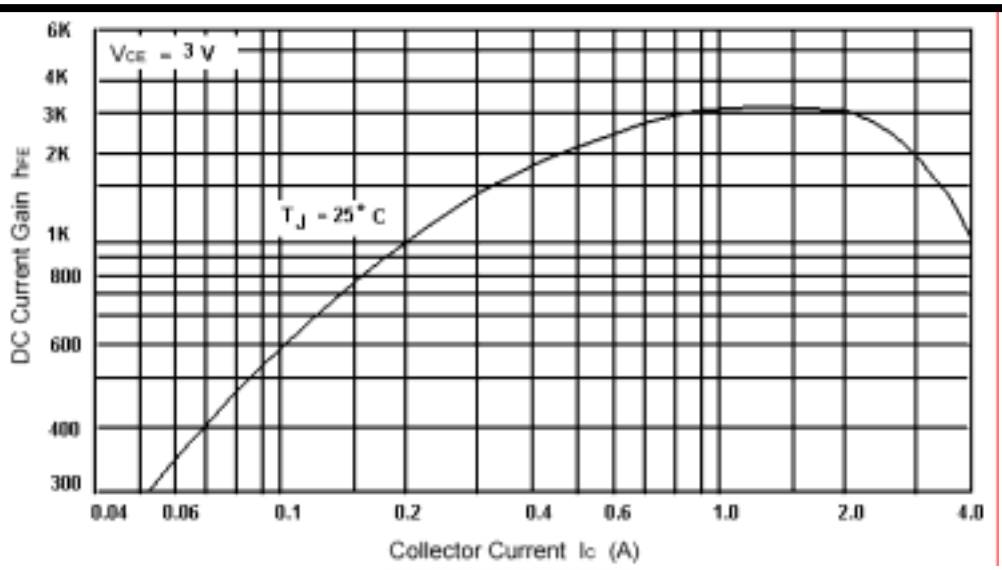

Fig.3 DC current Gain

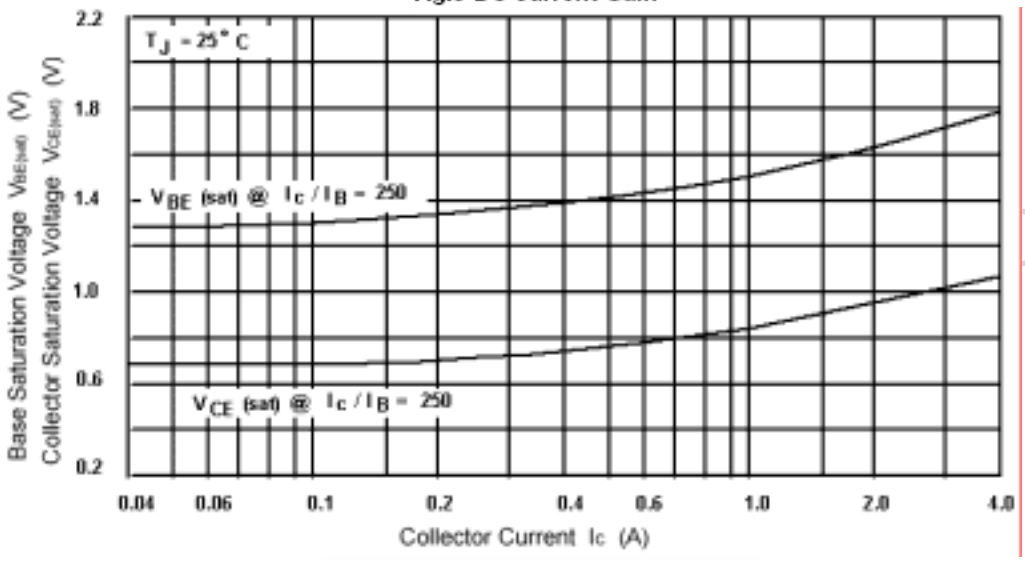

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

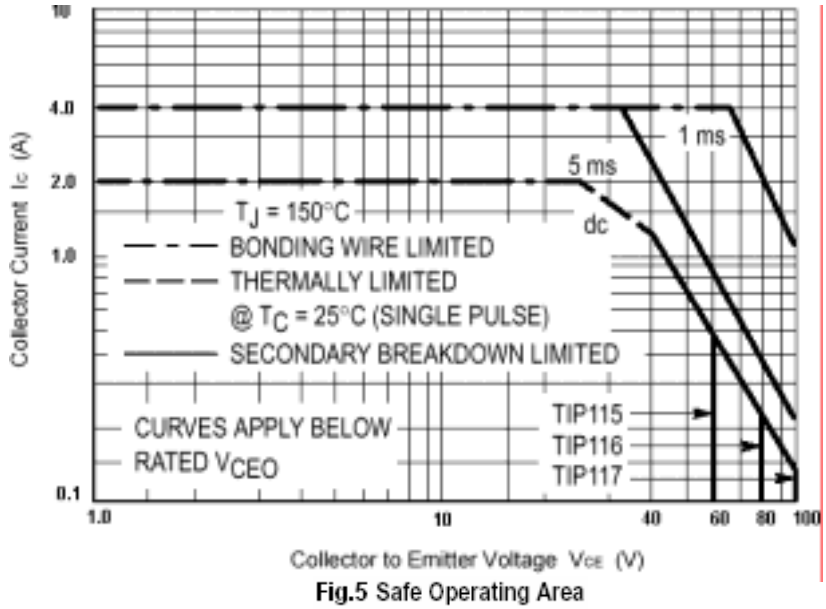

Fig.5 Safe Operating Area