

Silicon PNP Darlington Power Transistors

TIP115/116/117

DESCRIPTION

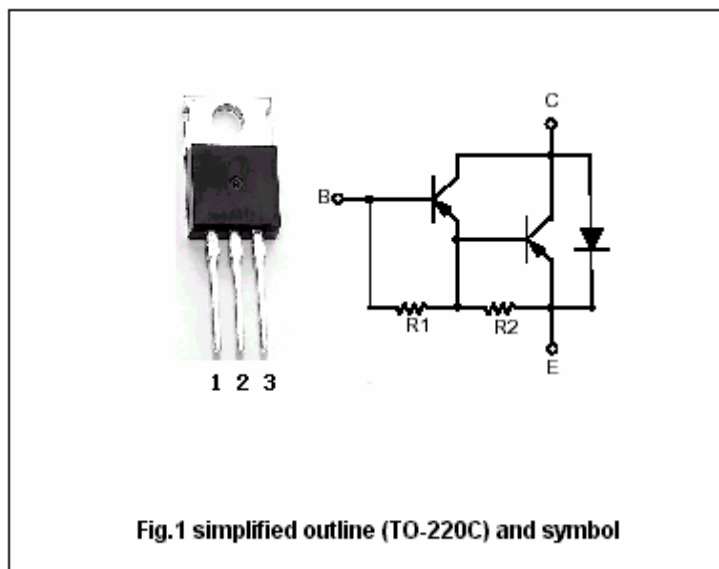
- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP110/111/112

APPLICATIONS

- For industrial use

PINNING

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

ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

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	$T_C=25^\circ\text{C}$		50	W
		$T_a=25^\circ\text{C}$		2	
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-emitter sustaining voltage	TIP115	$I_C=-30mA, I_B=0$	-60			V
		TIP116		-80			
		TIP117		-100			
$V_{CE(sat)}$	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

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PACKAGE OUTLINE

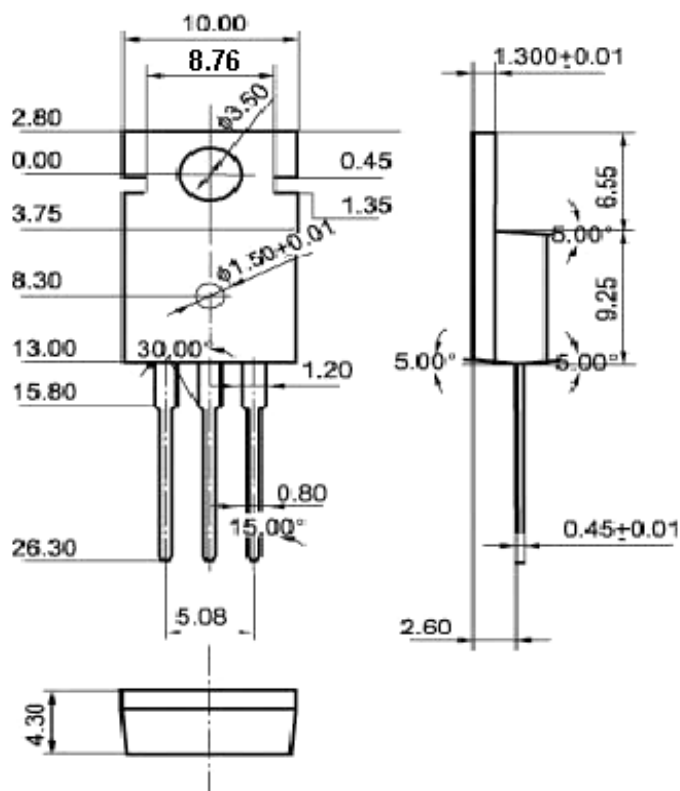


Fig.2 Outline dimensions

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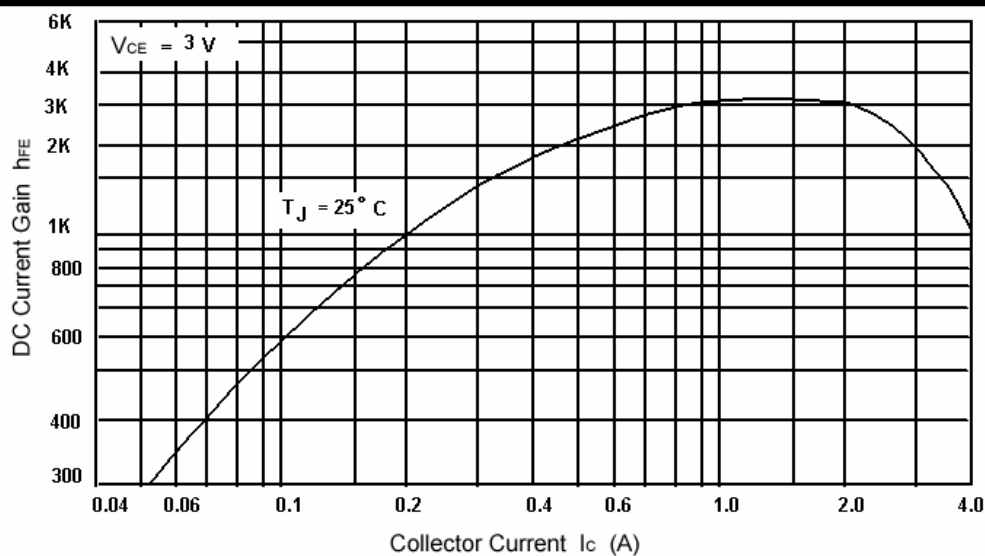


Fig.3 DC current Gain

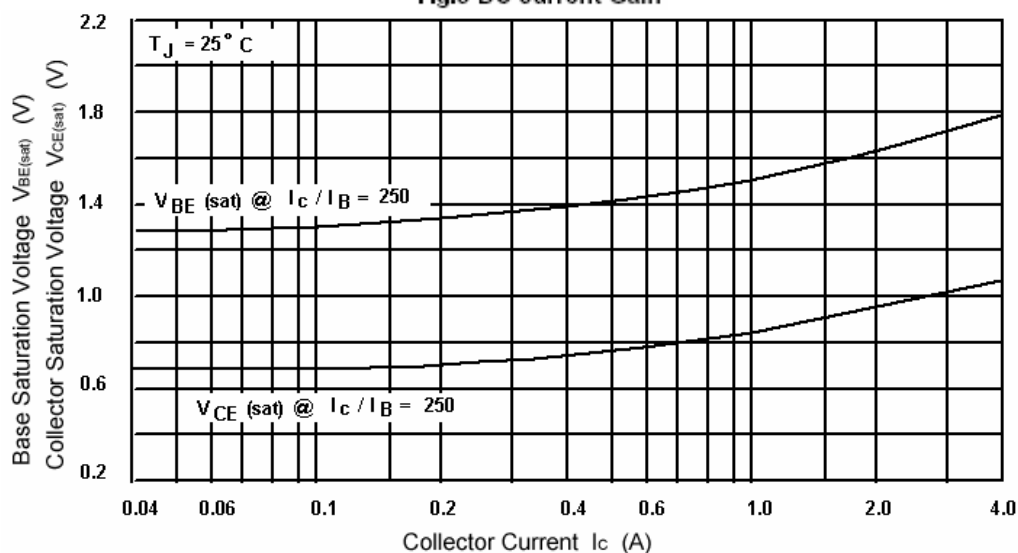
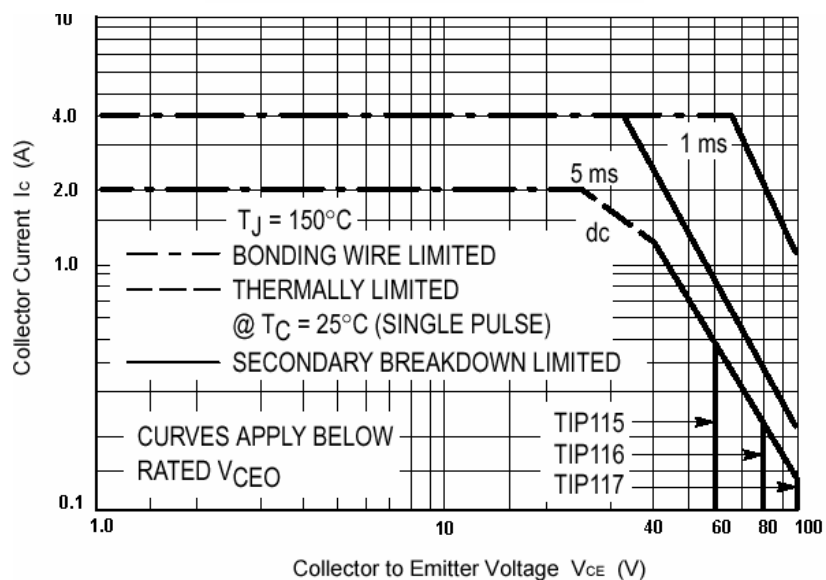
Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

Fig.5 Safe Operating Area