

Silicon NPN Darlington Power Transistors

TIP110/111/112

DESCRIPTION

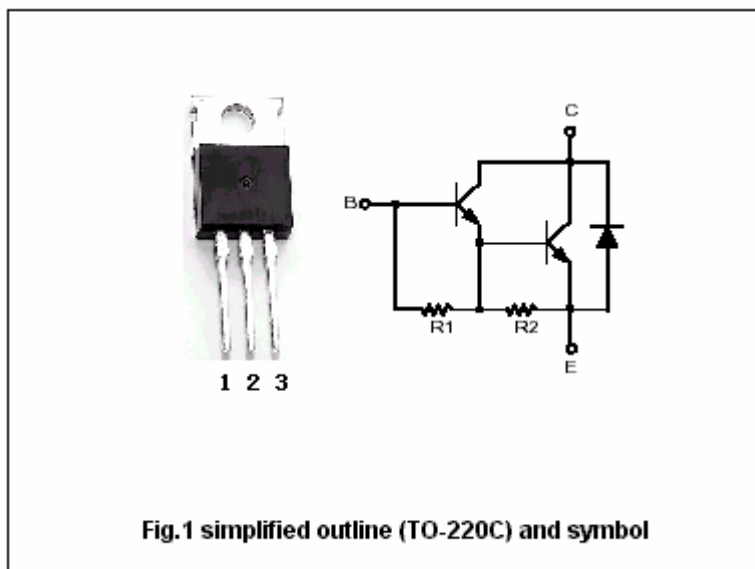
- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP115/116/117

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	TIP110	60	V
		TIP111	80	
		TIP112	100	
V_{CEO}	Collector-emitter voltage	TIP110	60	V
		TIP111	80	
		TIP112	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

T_j=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(SUS)}	Collector-emitter sustaining voltage	TIP110	I _C =30mA, I _B =0	60			V
		TIP111		80			
		TIP112		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	TIP110	V _{CB} =60V, I _E =0			1	mA
		TIP111	V _{CB} =80V, I _E =0				
		TIP112	V _{CB} =100V, I _E =0				
I _{CEO}	Collector cut-off current	TIP110	V _{CE} =30V, I _B =0			2	mA
		TIP111	V _{CE} =40V, I _B =0				
		TIP112	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			100	pF

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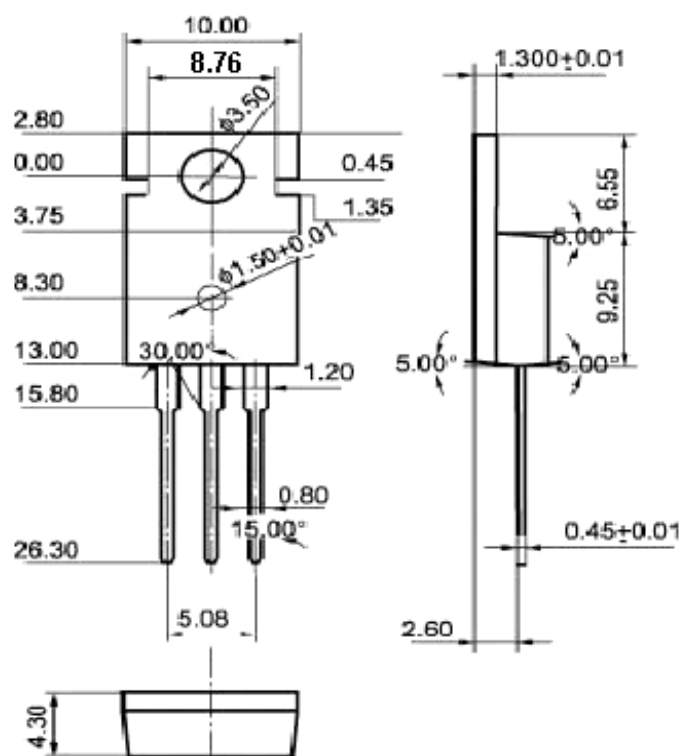


Fig.2 Outline dimensions

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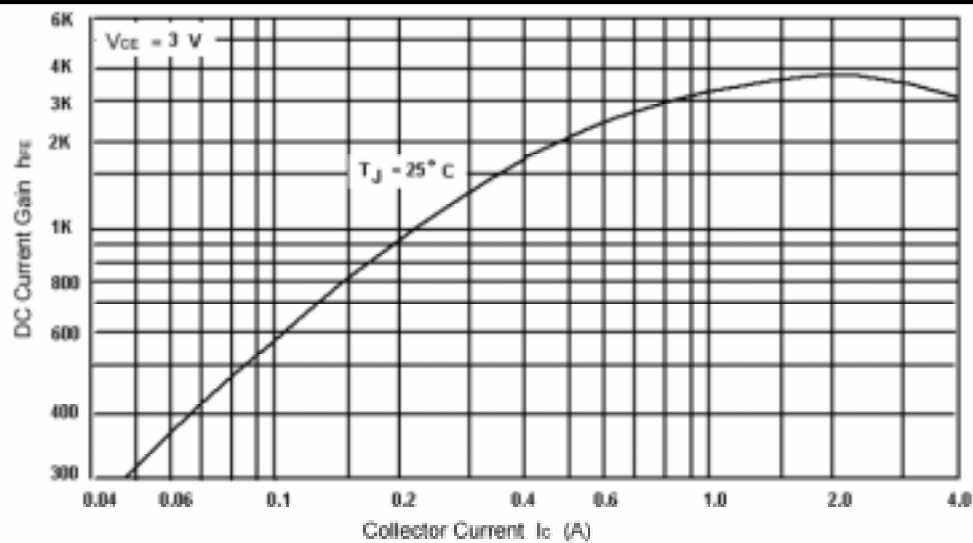


Fig.3 DC current Gain

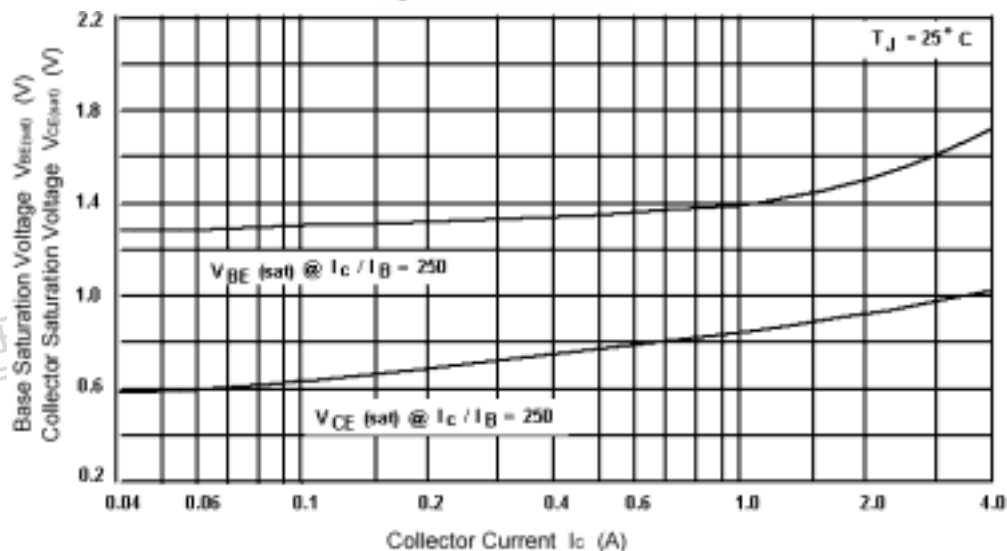
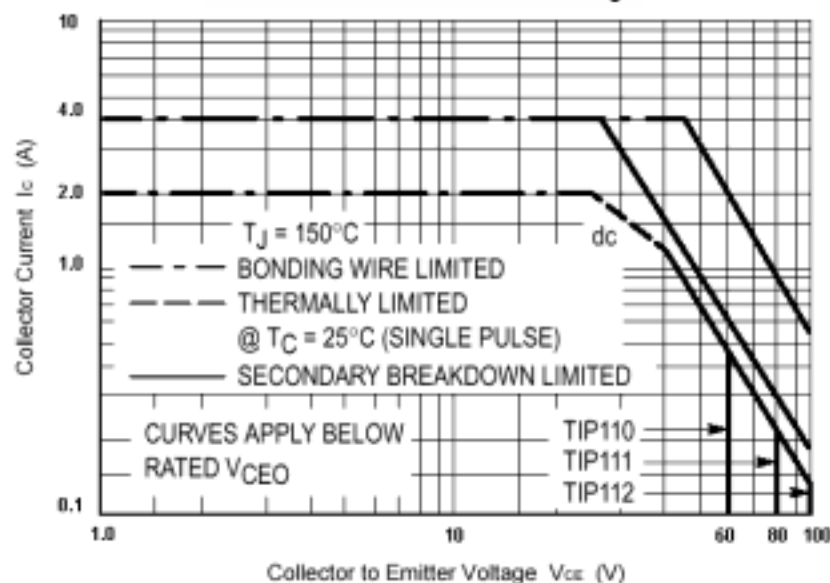
Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Fig.5 Safe Operating Area