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

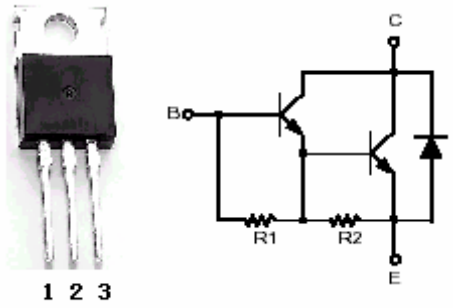

Fig.1 simplified outline (TO-220C) and symbol

ABSOLUTE MAXIMUM RATINGS(Tc=25□)

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	TIP110	Open emitter	60	V
		TIP111		80	
		TIP112		100	
V_{CEO}	Collector-emitter voltage	TIP110	Open base	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

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	TIP110	I_C=30mA, I_B=0	60			V
		TIP111		80			
		TIP112		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	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

PACKAGE OUTLINE

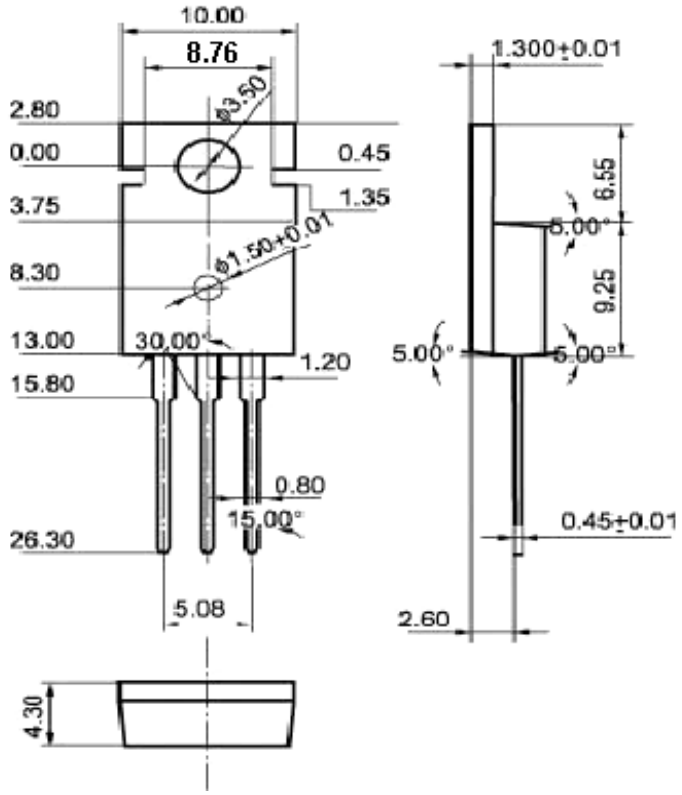

Fig.2 Outline dimensions

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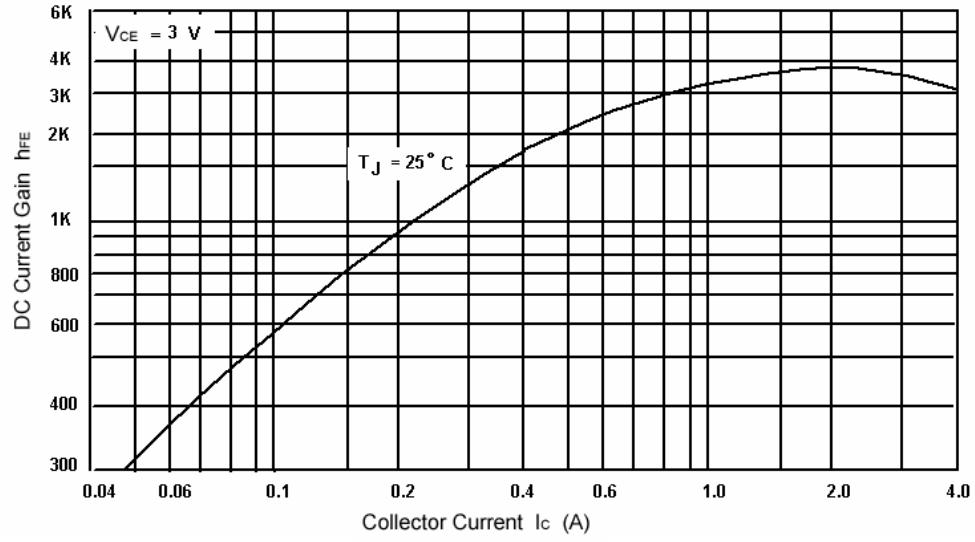

Fig.3 DC current Gain

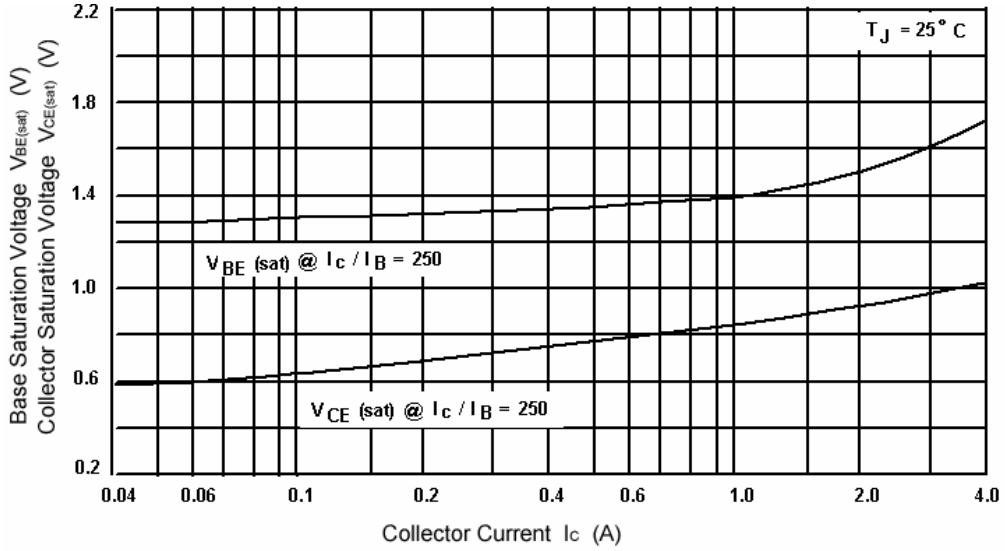

Fig.4 Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

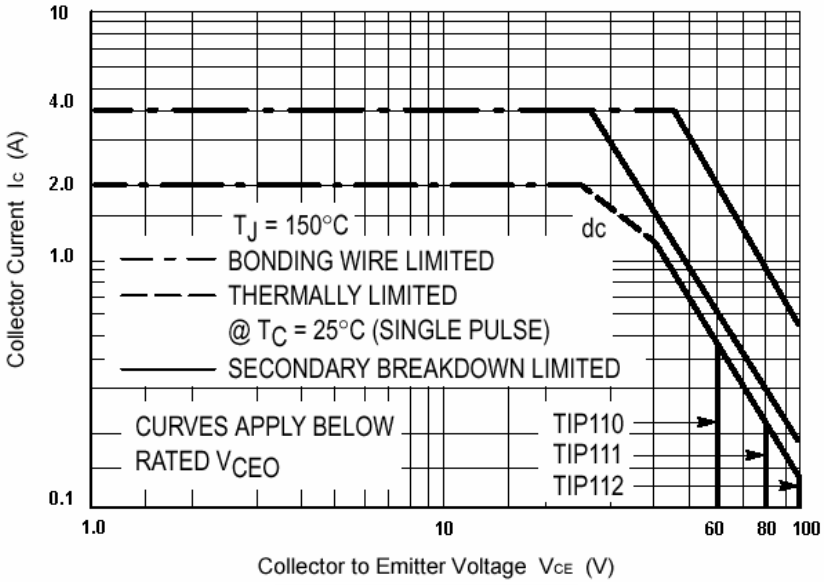

Fig.5 Safe Operating Area