

Silicon NPN Darlington Power Transistors

TIP100/101/102

DESCRIPTION

- With TO-220C package
- DARLINGTON
- High DC current gain
- Low collector saturation voltage
- Complement to type TIP105/106/107

APPLICATIONS

- For industrial use

PINNING

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

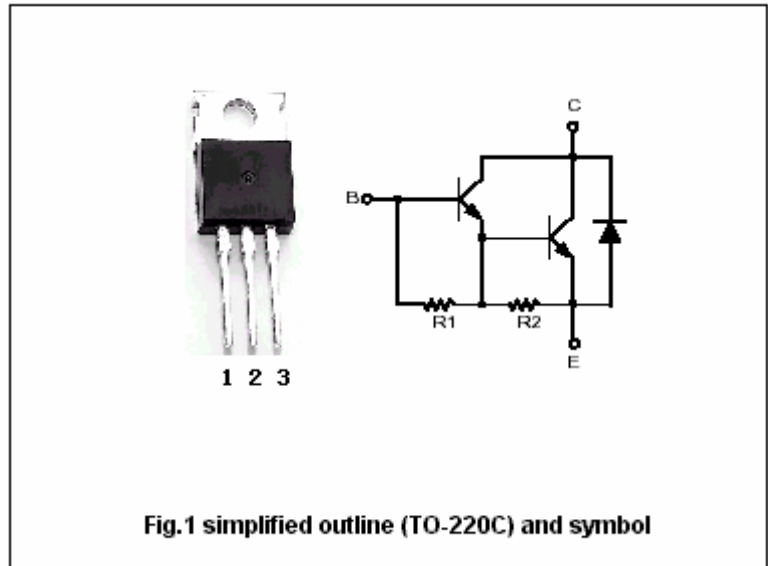


Fig.1 simplified outline (TO-220C) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	TIP100	60	V
		TIP101	80	
		TIP102	100	
V_{CEO}	Collector-emitter voltage	TIP100	60	V
		TIP101	80	
		TIP102	100	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current-DC		8	A
I_{CM}	Collector current-Pulse		15	A
I_B	Base current-DC		1	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	80	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

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO(SUS)}	Collector-emitter sustaining voltage	TIP100	60			V	
		TIP101	80				
		TIP102	100				
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =3A, I _B =6mA			2.0	V	
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =8A, I _B =80mA			2.5	V	
V _{BE}	Base-emitter on voltage	I _C =8A ; V _{CE} =4V			2.8	V	
I _{CBO}	Collector cut-off current	TIP100	V _{CB} =60V, I _E =0			50	μA
		TIP101	V _{CB} =80V, I _E =0				
		TIP102	V _{CB} =100V, I _E =0				
I _{CEO}	Collector cut-off current	TIP100	V _{CE} =30V, I _B =0			50	μA
		TIP101	V _{CE} =40V, I _B =0				
		TIP102	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 =3A ; V _{CE} =4V	1000		20000		
h _{FE-2}	DC current gain	I _C =8A ; V _{CE} =4V	200				
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V, f=0.1MHz			200	pF	

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PACKAGE OUTLINE

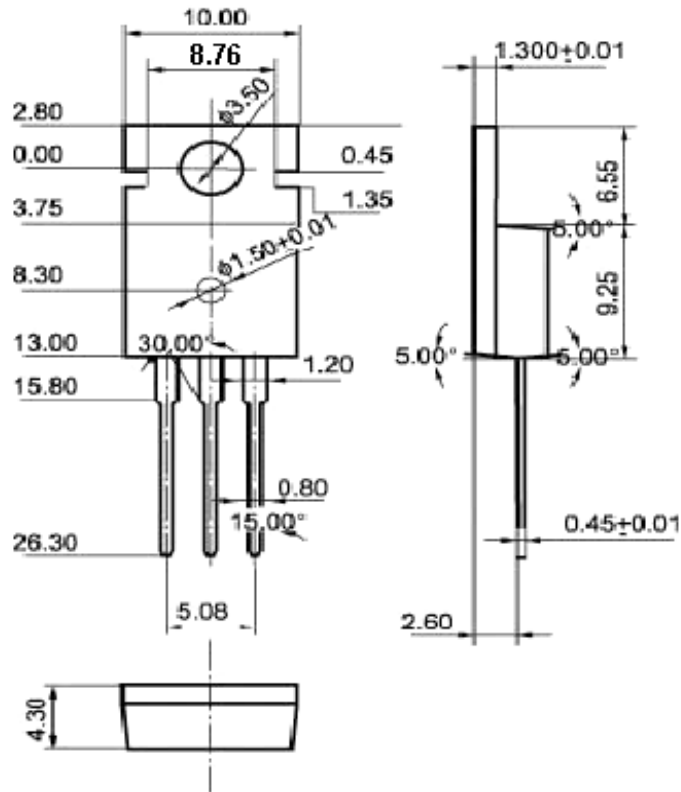


Fig.2 Outline dimensions (unindicated tolerance:±0.1mm)