

DESCRIPTION

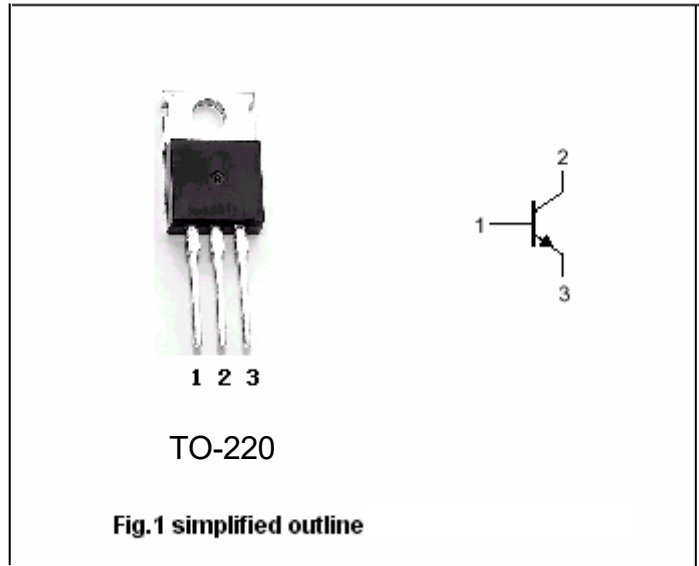
- With TO-220 package
- Complement to type TIP32/32A/32B/32C

APPLICATIONS

- Medium power linear switching applications

PINNING

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



Absolute maximum ratings($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	40	V
			60	
			80	
			100	
V_{CEO}	Collector-emitter voltage	Open base	40	V
			60	
			80	
			100	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current (DC)		3	A
I_{CM}	Collector current-Pulse		5	A
I_B	Base current		1	A
P_C	Collector power dissipation	$T_C=25^{\circ}\text{C}$	40	W
		$T_a=25^{\circ}\text{C}$	2	
T_j	Junction temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-65~150	$^{\circ}\text{C}$

CHARACTERISTICS

 T_j=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	TIP31	I _C =30mA; I _B =0	40			V
		TIP31A		60			
		TIP31B		80			
		TIP31C		100			
V _{CEsat}	Collector-emitter saturation voltage		I _C =3A I _B =0.375A			1.2	V
V _{BE}	Base-emitter on voltage		I _C =3A ; V _{CE} =4V			1.8	V
I _{CES}	Collector cut-off current	TIP31	V _{CE} =40V; V _{EB} =0			0.2	mA
		TIP31A	V _{CE} =60V; V _{EB} =0				
		TIP31B	V _{CE} =80V; V _{EB} =0				
		TIP31C	V _{CE} =100V; V _{EB} =0				
I _{CEO}	Collector cut-off current	TIP31/31A	V _{CE} =30V; I _B =0			0.3	mA
		TIP31B/31C	V _{CE} =60V; I _B =0				
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain		I _C =1A ; V _{CE} =4V	25			
h _{FE-2}	DC current gain		I _C =3A ; V _{CE} =4V	10		50	
f _T	Transiton frequency		I _C =0.5A ; V _{CE} =10V	3			MHz

PACKAGE OUTLINE

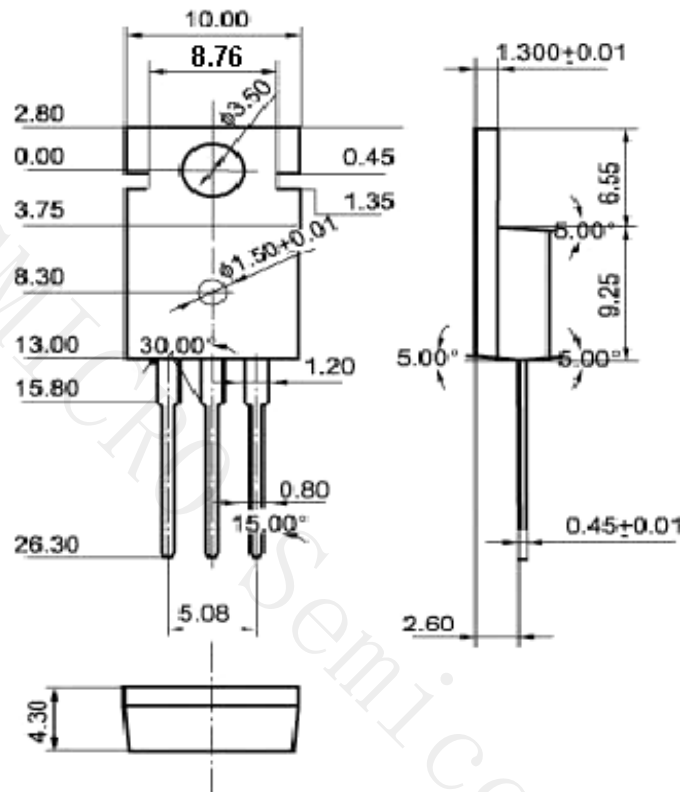


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

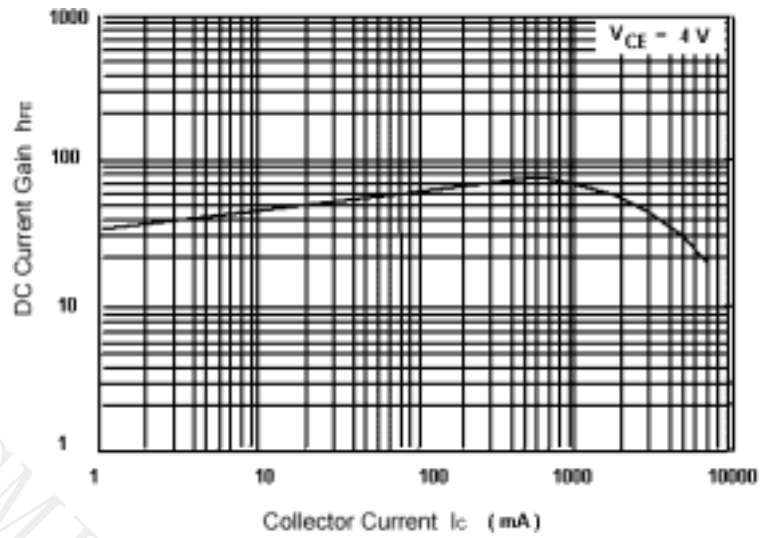


Fig.3 DC current Gain

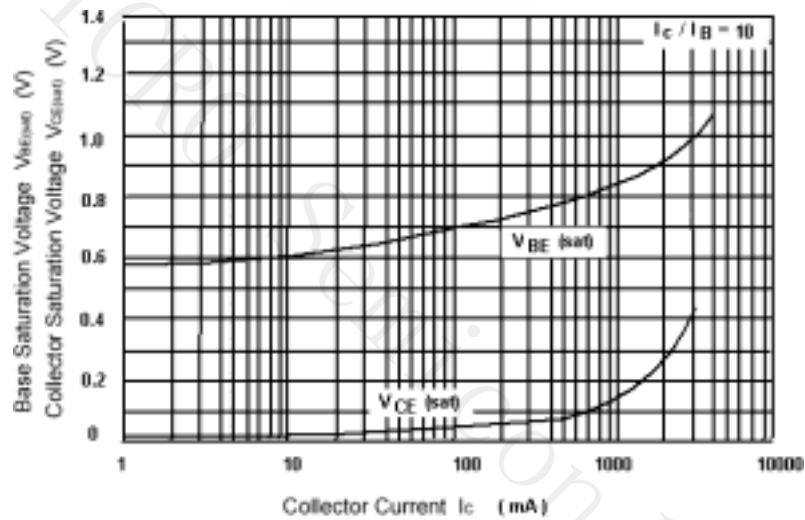


Fig.4 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

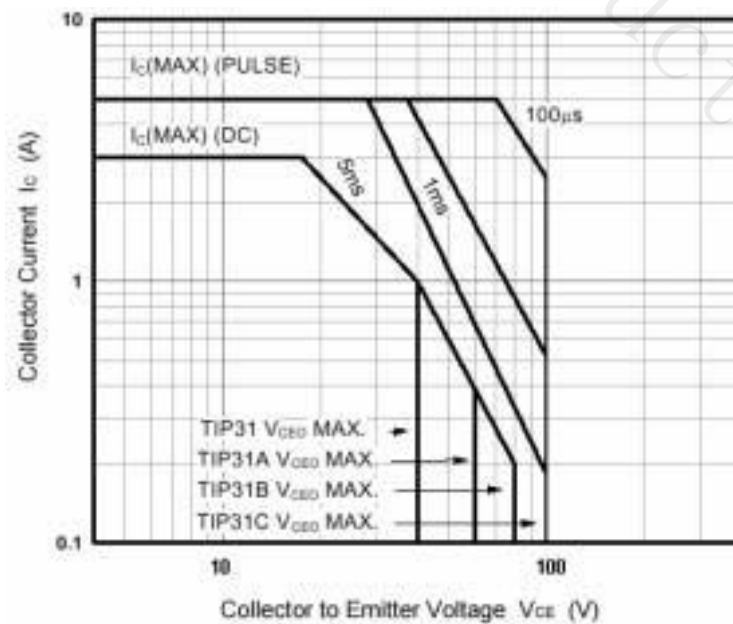


Fig.5 Safe Operating Area