

Silicon NPN Power Transistors

D44C Series

DESCRIPTION

- With TO-220 package
- Complement to type D45C Series
- Very low collector saturation voltage
- Fast switching

APPLICATIONS

- Designed for various specific and general purpose application
- Shunt and switching regulators
- Low and high frequency inverters converters and etc.

PINNING

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

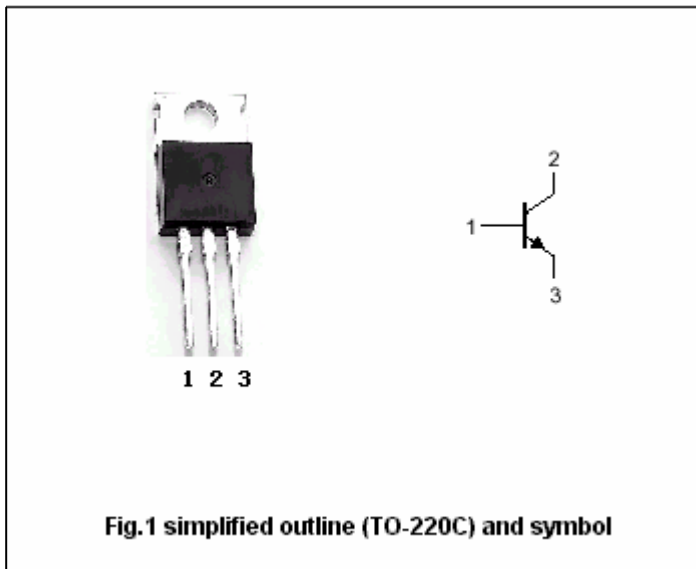


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
V _{CBO}	Collector-base voltage	Open emitter	D44C1,2,3	40	V
			D44C4,5,6	55	
			D44C7,8,9	70	
			D44C10,11,12	90	
V _{CEO}	Collector-emitter voltage	Open base	D44C1,2,3	30	V
			D44C4,5,6	45	
			D44C7,8,9	60	
			D44C10,11,12	80	
V _{EBO}	Emitter-base voltage	Open collector	5	V	
I _C	Collector current (DC)		4	A	
I _{CM}	Collector current -peak		6	A	
I _B	Base current (DC)		1	A	
P _D	Total power dissipation	T _C =25°C	30	W	
T _j	Junction temperature		150	°C	
T _{stg}	Storage temperature		-55~150	°C	

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat}	Collector-emitter saturation voltage	D44C2,3,5,6,8,9,11,12	I _C =1A ; I _B =50mA			0.5	V
		D44C1,4,7,10	I _C =1A ; I _B =0.1A				
V _{BEsat}	Base-emitter saturation voltage		I _C =1A ; I _B =0.1A			1.3	V
I _{CES}	Collector cut-off current		V _{CE} =Rated V _{CEs} ;			100	μA
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			10	μA
h _{FE-1}	DC current gain	D44C3,6,9,12	I _C =0.2A ; V _{CE} =1V	40		120	
		D44C2,5,8,11		100		220	
		D44C1,4,7,10		25			
h _{FE-2}	DC current gain	D44C1,4,7,10	I _C =1A ; V _{CE} =1V	10			
		D44C2,3,5,6,8,9,11,12	I _C =2A ; V _{CE} =1V	20			
f _T	Transition frequency		I _C =20mA; V _{CE} =4V; f=1.0MHz		50		MHz

Switching times

t _r	Rise time	I _C =1.0A; V _{CC} =20V I _{B1} =-I _{B2} =0.1A			0.3	μs
t _s	Storage time				0.7	μs
t _f	Fall time				0.4	μs

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PACKAGE OUTLINE

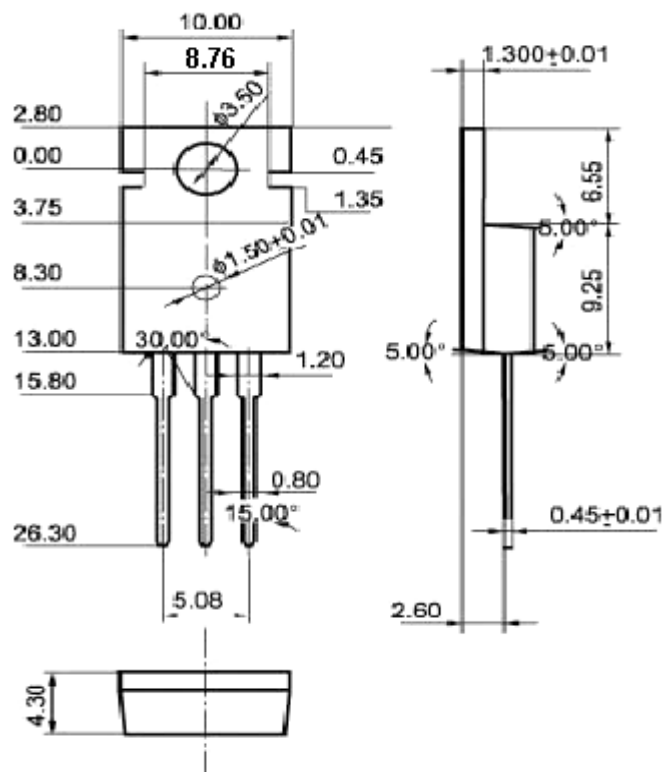


Fig.2 outline dimensions (unindicated tolerance: ± 0.10 mm)