

**DESCRIPTION**

- With TO-220 package
- Complement to type D44C 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	Emitter
2	Collector; connected to mounting base
3	Base

**D45C Series**

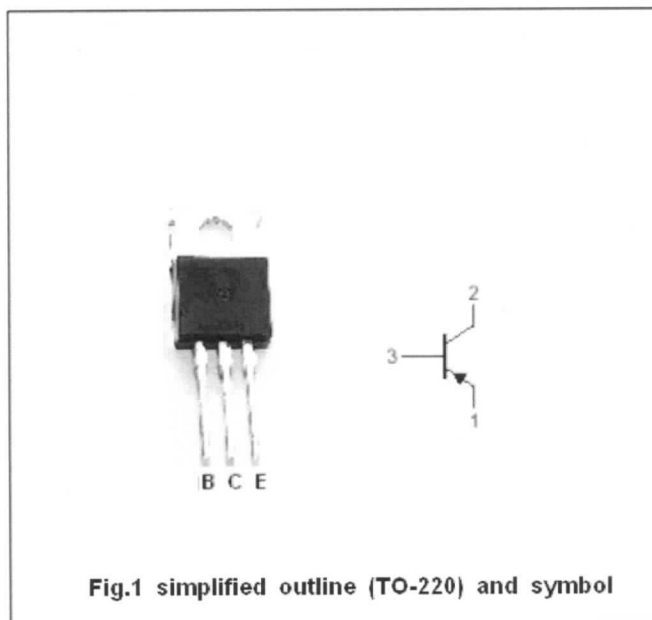


Fig.1 simplified outline (TO-220) and symbol

**Absolute maximum ratings (Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT	
V <sub>CB0</sub>	Collector-base voltage	Open emitter	D45C1,2,3	-40	V
			D45C4,5,6	-55	
			D45C7,8,9	-70	
			D45C10,11,12	-90	
V <sub>CE0</sub>	Collector-emitter voltage	Open base	D45C1,2,3	-30	V
			D45C4,5,6	-45	
			D45C7,8,9	-60	
			D45C10,11,12	-80	
V <sub>EB0</sub>	Emitter-base voltage	Open collector	-5	V	
I <sub>C</sub>	Collector current (DC)		-4	A	
I <sub>CM</sub>	Collector current -peak		-6	A	
I <sub>B</sub>	Base current (DC)		-1	A	
P <sub>D</sub>	Total power dissipation	T <sub>C</sub> =25°C	30	W	
T <sub>J</sub>	Junction temperature		150	°C	
T <sub>stg</sub>	Storage temperature		-55~150	°C	



# Silicon PNP Power Transistors

# D45C Series

## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEsat</sub>	Collector-emitter saturation voltage	D45C2,3,5,6,8,9,11,12	I <sub>C</sub> =-1A ; I <sub>B</sub> =50mA			-0.5	V
		D45C1,4,7,10	I <sub>C</sub> =-1A ; I <sub>B</sub> =0.1A				
V <sub>BEsat</sub>	Base-emitter saturation voltage		I <sub>C</sub> =-1A ; I <sub>B</sub> =0.1A			-1.3	V
I <sub>CEs</sub>	Collector cut-off current		V <sub>CE</sub> =Rated V <sub>CEs</sub>			-100	μ A
I <sub>EB0</sub>	Emitter cut-off current		V <sub>EB</sub> =-5V ; I <sub>C</sub> =0			-10	μ A
h <sub>FE-1</sub>	DC current gain	D45C2,3,5,6,8,9,11,12	I <sub>C</sub> =-0.2A ; V <sub>CE</sub> =1V	40		120	
		D45C1,4,7,10		25			
h <sub>FE-2</sub>	DC current gain	D45C1,4,7,10	I <sub>C</sub> =-1A ; V <sub>CE</sub> =1V	10			
		D45C2,5,8,11		20			
		D45C3,6,9,12	I <sub>C</sub> =-2A ; V <sub>CE</sub> =1V	20			
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =-20mA ; V <sub>CE</sub> =-4V ; f=1.0MHz		40		MHz

### Switching times

t <sub>r</sub>	Rise time	I <sub>C</sub> =-1.0A ; V <sub>CC</sub> =-20V I <sub>B1</sub> =-I <sub>B2</sub> =0.1A			0.2	μ s
t <sub>s</sub>	Storage time				0.6	μ s
t <sub>f</sub>	Fall time				0.3	μ s

PACKAGE OUTLINE

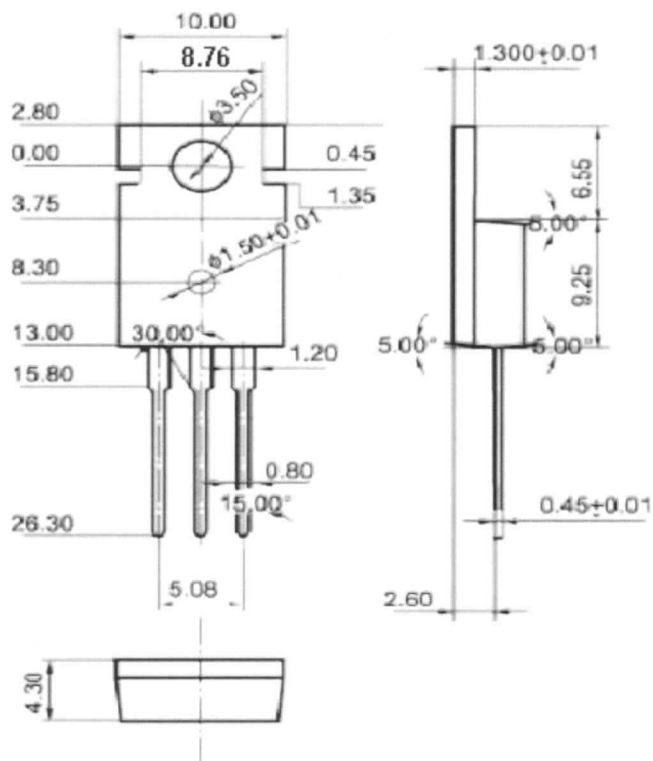


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)