

Silicon NPN Power Transistors

2SD866 2SD866A

DESCRIPTION

- With TO-220C package
- Low collector saturation voltage
- Excellent linearity of h_{FE}
- High collector current

APPLICATIONS

- For power switching applications

PINNING

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

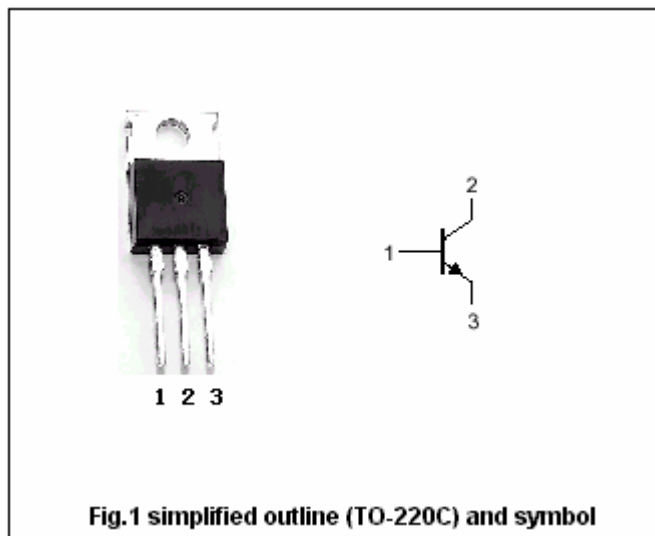


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Tc=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	2SD866	130	V
		2SD866A	150	
V_{CEO}	Collector-emitter voltage	2SD866	80	V
		2SD866A	100	
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		7	A
I_{CM}	Collector current-peak		15	A
P_C	Collector power dissipation	$T_C=25^\circ C$	40	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 _{(BR)CEO}	Collector-emitter breakdown voltage	2SD866	I _C =0.2A; I _B =0	80			V
		2SD866A		100			
V _{CEsat}	Collector-emitter saturation voltage		I _C =5 A; I _B =0.25 A			0.5	V
V _{BEsat}	Base-emitter saturation voltage		I _C =5 A; I _B =0.25 A			1.5	V
I _{CBO}	Collector cut-off current		V _{CB} =100V; I _E =0			10	μA
I _{EBO}	Emitter cut-off current		V _{EB} =5V; I _C =0			50	μA
h _{FE-1}	DC current gain		I _C =0.1A ; V _{CE} =2V	45			
h _{FE-2}	DC current gain		I _C =3A ; V _{CE} =2V	60		260	
f _T	Transition frequency		I _C =0.5A ; V _{CE} =10V		30		MHz

Switching times

t _{on}	Turn-on time	I _C =3A; I _{B1} =-I _{B2} =0.3 A		0.5		μs
t _s	Storage time			1.5		μs
t _f	Fall time			0.1		μs

◆ h_{FE-2} classifications

R	Q	P
60-120	90-180	130-260

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PACKAGE OUTLINE

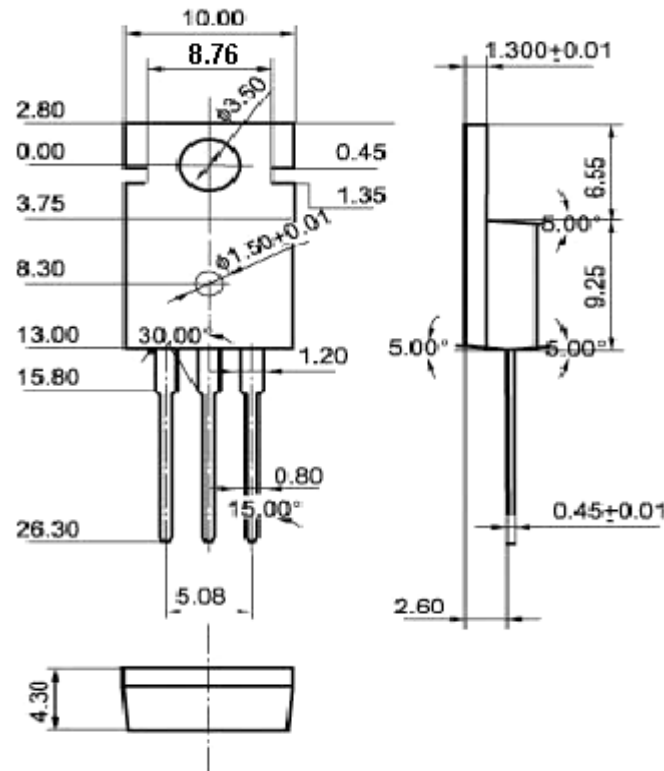


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)