

Silicon NPN Power Transistors

2SD1668

DESCRIPTION

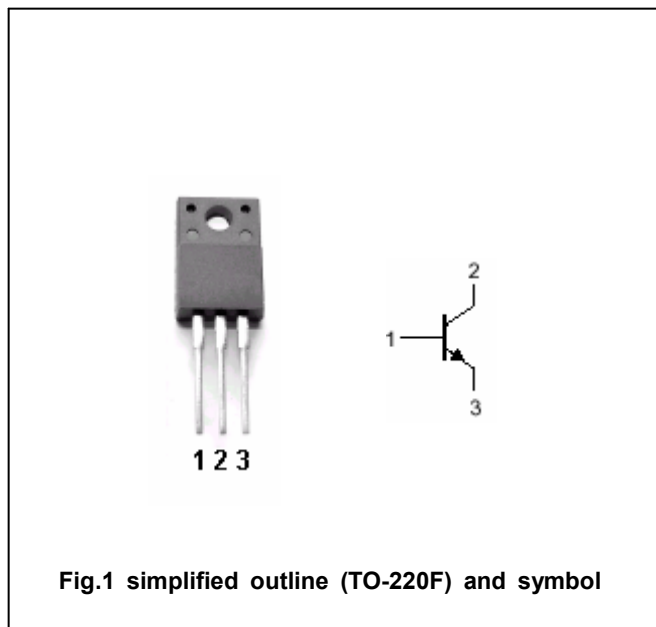
- With TO-220F package
- Complement to type 2SB1135
- Low collector saturation voltage
- Wide safe operating area

APPLICATIONS

- For relay drivers, high-speed inverters, converters, and other general high-current switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{CBO}	Collector-base voltage	Open emitter	60	V
V_{CEO}	Collector-emitter voltage	Open base	50	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		7	A
I_{CM}	Collector current-peak		12	A
P_C	Collector dissipation	$T_a=25^\circ\text{C}$	2	W
		$T_C=25^\circ\text{C}$	30	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

Silicon NPN Power Transistors

2SD1668

CHARACTERISTICS

T_j=25°C unless otherwise specified

www.datasheet4u.com

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =1mA ; R _{BE} =∞	50			V
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =1mA ; I _E =0	60			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =1mA ; I _C =0	6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =4A ; I _B =0.4A			0.4	V
I _{CBO}	Collector cut-off current	V _{CB} =40V ; I _E =0			100	μA
I _{EBO}	Emitter cut-off current	V _{EB} =4V ; I _C =0			100	μA
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =2V	70		280	
h _{FE-2}	DC current gain	I _C =5A ; V _{CE} =2V	30			
f _T	Transition frequency	I _C =1A ; V _{CE} =5V		10		MHz

Switching times

t _{on}	Turn-on time	I _C =2.0A ; I _{B1} =-I _{B2} =0.2A V _{CC} =20V ; R _L =10Ω		0.20		μs
t _s	Storage time			0.90		μs
t _f	Fall time			0.30		μs

◆ h_{FE-1} Classifications

Q	R	S
70-140	100-200	140-280

Silicon NPN Power Transistors

2SD1668

PACKAGE OUTLINE

www.datasheet4u.com

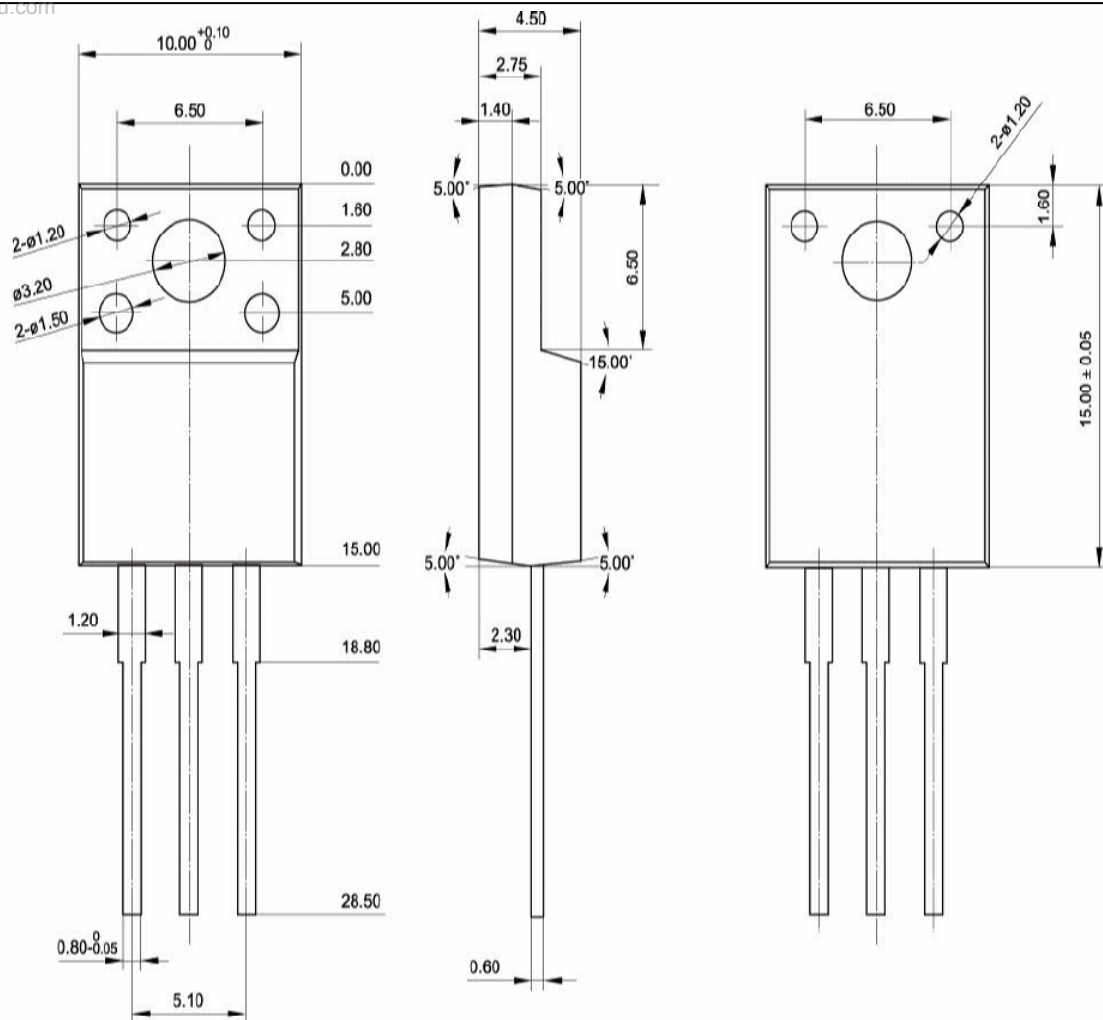


Fig.2 Outline dimensions