Silicon NPN Power Transistors 2SD1669

DESCRIPTION

- With TO-220F package
- Complement to type 2SB1136
- Low collector saturation voltage
- Wide safe operating area

APPLICATIONS

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

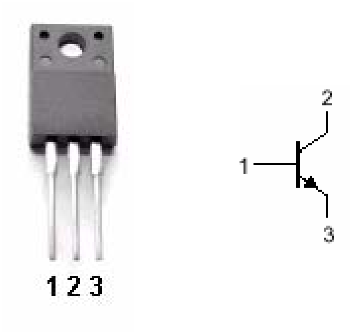

Fig.1 simplified outline (TO-220F) and symbol

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings (Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	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		12	A
I_{CM}	Collector current-peak		15	A
P_C	Collector dissipation	T_a=25℃	2	W
		T_C=25℃	30	
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

CHARACTERISTICS

Tj=25℃ unless otherwise specified

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=6A ;I_B=0.6A			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;RL=4Ω		0.10		μs
t_s	Storage time			1.20		μs
t_f	Fall time			0.05		μs

◆ h_{FE-1} Classifications

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

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PACKAGE OUTLINE

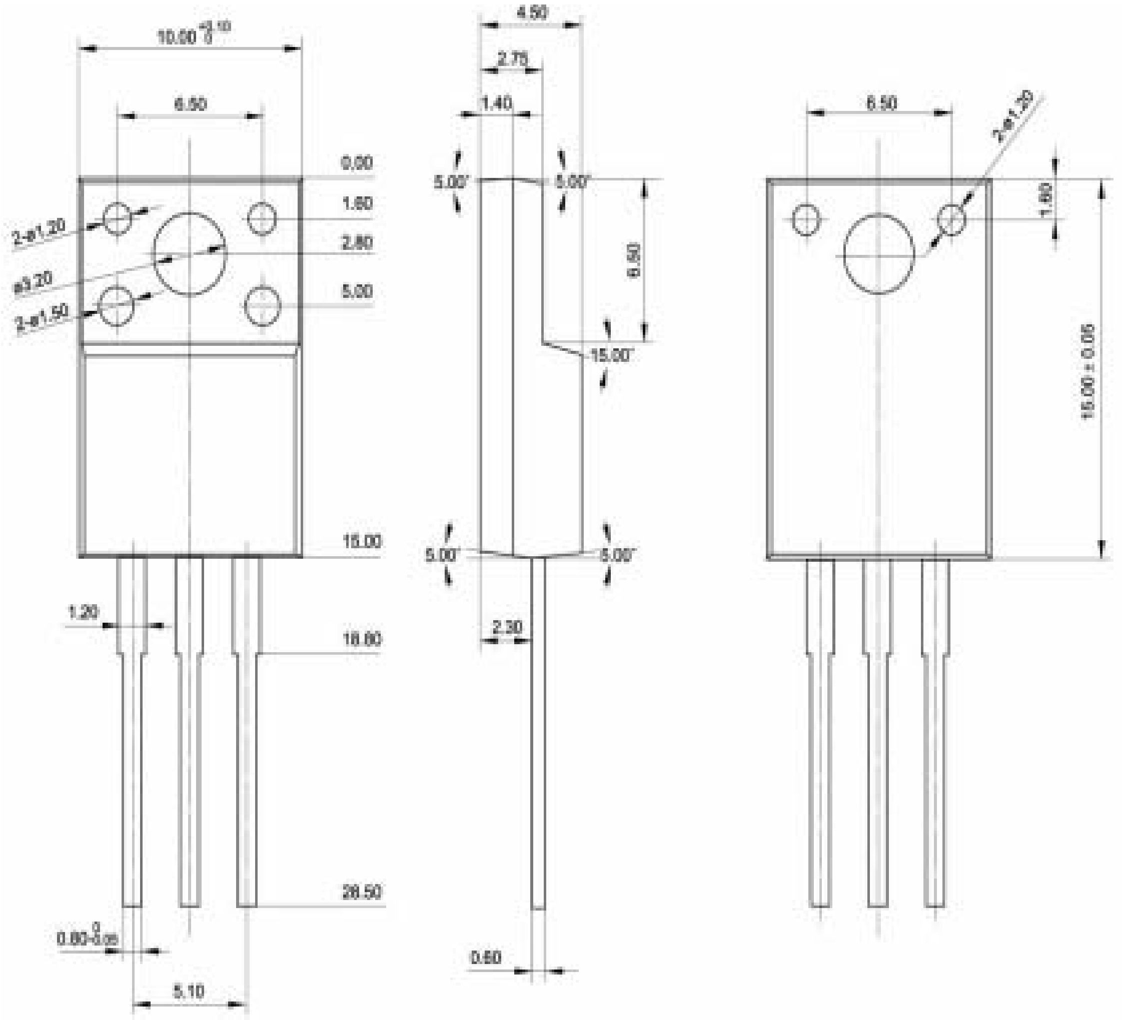

Fig.2 Outline dimensions