

Silicon NPN Power Transistors

2SD1409

DESCRIPTION

- With TO-220F package
- High DC current gain
- Monolithic construction with built-in base-emitter shunt resistor

APPLICATIONS

- Igniter applications
- High voltage switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

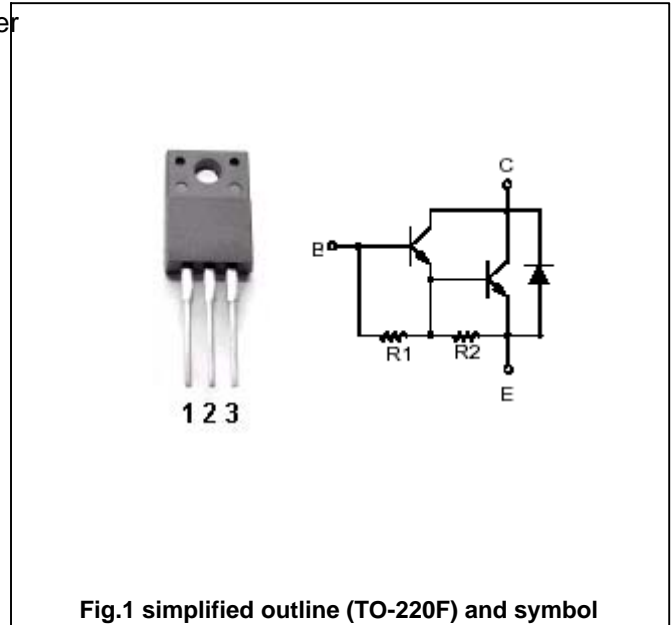


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	600	V
V _{CEO}	Collector -emitter voltage	Open base	400	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		6	A
I _B	Base current		1	A
P _C	Collector power dissipation	T _C =25	25	W
		T _a =25	2.0	
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO}	Collector-emitter voltage	I _C =10mA; I _B =0	400			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =4A ; I _B =0.04A			2.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =4A ; I _B =0.04A			2.5	V
V _{ECF}	Emitter-collector forward voltage	I _E =4A; I _B =0			3.0	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			0.5	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			3	mA
h _{FE-1}	DC current gain	I _C =2A ; V _{CE} =2V	600			
h _{FE-2}	DC current gain	I _C =4A ; V _{CE} =2V	100			
C _{OB}	Collector output capacitance	f=1MHz ; V _{CB} =50V; I _E =0		35		pF

Switching times

t _{on}	Turn-on time	I _{B1} =-I _{B2} =0.04A V _{CC} =100V , R _L =25		1		μs
t _{stg}	Storage time			8		μs
t _f	Fall time			5		μs

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PACKAGE OUTLINE

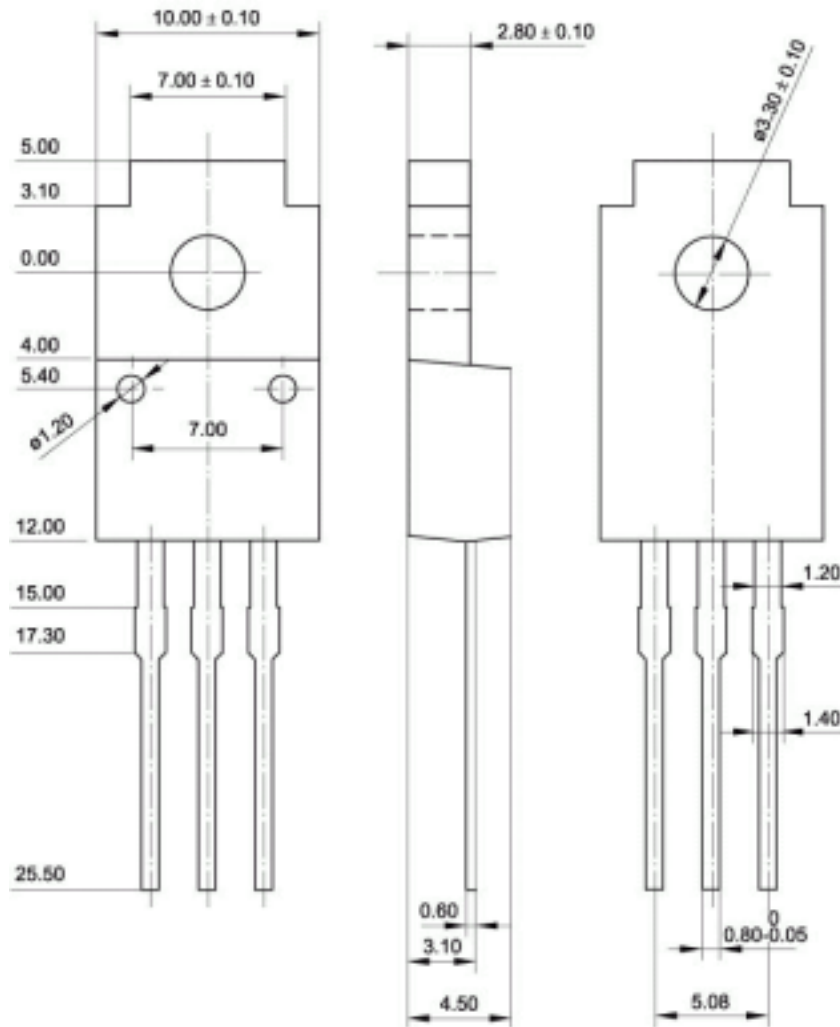


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)