

Silicon NPN Power Transistors

2SD1414

DESCRIPTION

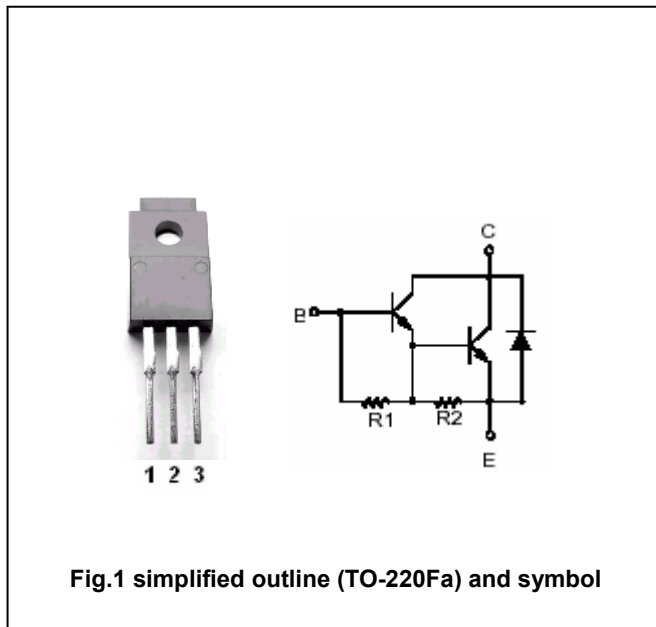
- With TO-220Fa package
- High DC current gain
- Low saturation voltage
- Complement to type 2SB1024
- DARLINGTON

APPLICATIONS

- Power amplifier and switching applications
- Hammer drive,pulse motor drive applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	100	V
V _{CEO}	Collector -emitter voltage	Open base	80	V
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current		4	A
I _B	Base current		0.5	A
P _C	Collector power dissipation	T _C =25°C	20	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

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 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10\text{mA}; I_B=0$	80			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=3\text{A}; I_B=6\text{mA}$			1.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=3\text{A}; I_B=6\text{mA}$			2.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=100\text{V}; I_E=0$			20	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			2.5	mA
h_{FE-1}	DC current gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	2000			
h_{FE-2}	DC current gain	$I_C=3\text{A}; V_{CE}=2\text{V}$	1000			

Switching times

t_{on}	Turn-on time	$I_{B1}=-I_{B2}=6\text{mA}$ $V_{CC}=30\text{V}, R_L=10\Omega$		0.2		μs
t_{stg}	Storage time			1.5		μs
t_f	Fall time			0.6		μs

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PACKAGE OUTLINE

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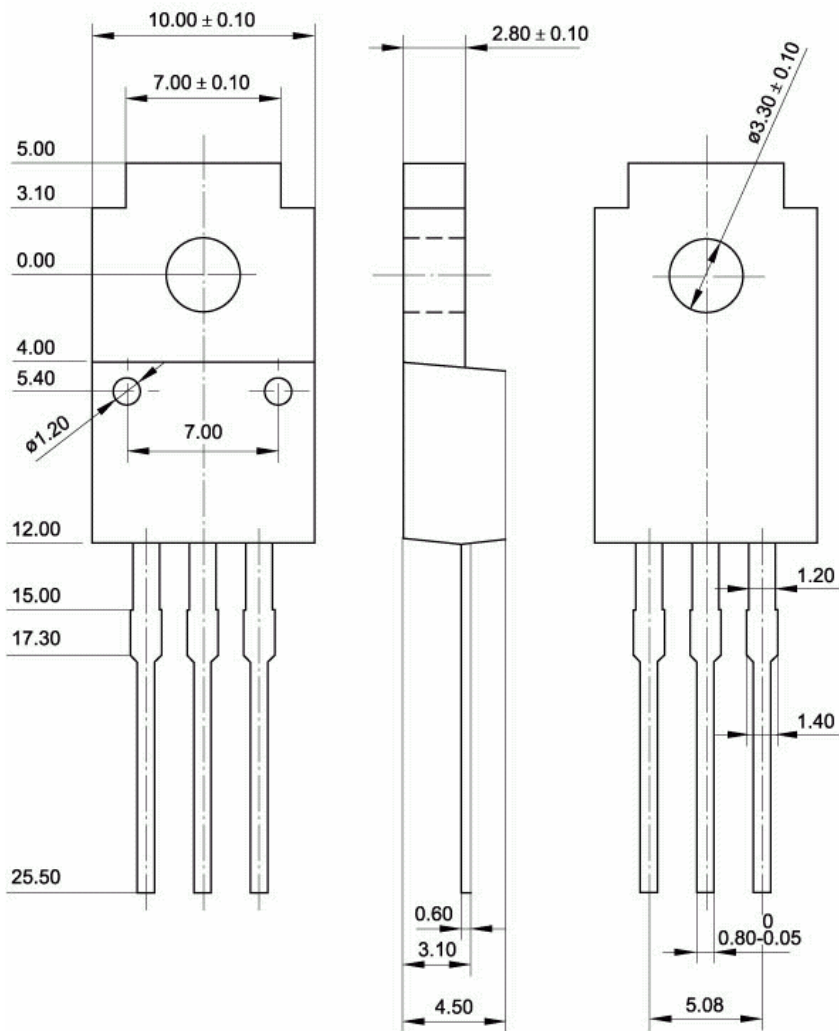


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)