

Silicon NPN Power Transistors

2SD1023

DESCRIPTION

- With TO-220 package
- High DC current gain
- DARLINGTON

PINNING

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

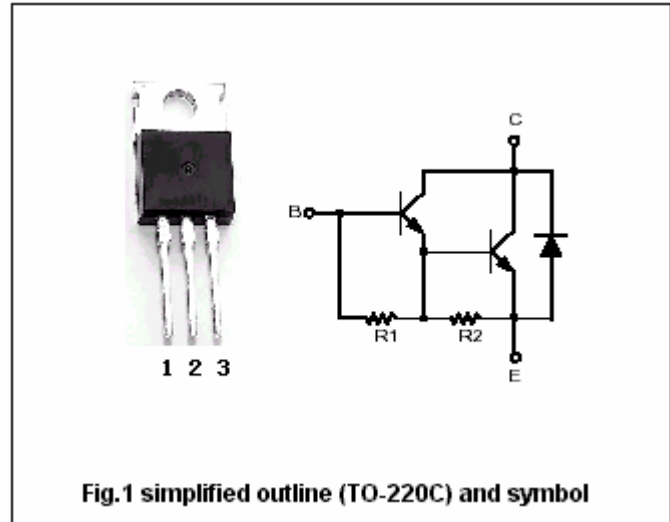


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25℃)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	200	V
V _{CEO}	Collector-emitter voltage	Open base	200	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current-Continuous		5	A
I _{CM}	Collector current-Peak		8	A
I _B	Base current		0.5	A
I _{BM}	Base current-Peak		1	A
P _T	Total power dissipation	T _C =25℃	30	W
T _j	Junction temperature		150	℃
T _{stg}	Storage temperature		-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance junction to case	4.17	℃/W

Silicon NPN Power Transistors

2SD1023

CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A; I _B =5mA			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =3A ; I _B =5mA			2.0	V
I _{CEO}	Collector cut-off current	V _{CE} =200V; I _B =0			0.1	mA
I _{CBO}	Collector cut-off current	V _{CB} =200V; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =7V; I _C =0			5	mA
h _{FE}	DC current gain	I _C =3A ; V _{CE} =3V	1500		30000	
f _T	Transition frequency	I _C =0.5A ; V _{CE} =10V		20		MHz
t _{on}	Turn-on time	I _C =3A; I _B =5mA R _L =10Ω V _{BB2} =4V			2	μs
t _s	Storage time				8	μs
t _f	Fall time				5	μs

