

Silicon NPN Power Transistors

2SD381

DESCRIPTION

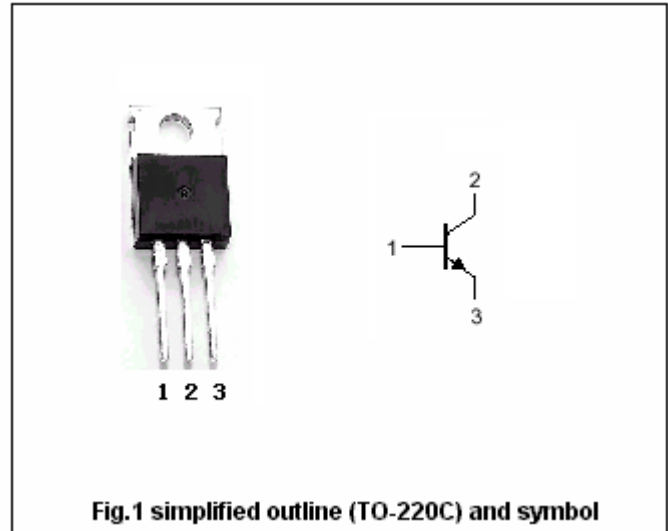
- With TO-220C package
- Complement to type 2SB536
- Low collector saturation voltage

APPLICATIONS

- Audio frequency power amplifier
- Low speed power switching

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	130	V
V_{CEO}	Collector-emitter voltage	Open base	120	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		1.5	A
I_{CM}	Collector current-peak		3.0	A
I_B	Base current		0.3	A
P_T	Total power dissipation	$T_a=25^\circ\text{C}$	1.5	W
		$T_C=25^\circ\text{C}$	20	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-50~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA; I _B =0	120			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =1A; I _B =0.1A			2.0	V
V _{BEsat}	Base-emitter saturation voltage	I _C =1A; I _B =0.1A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =120V; I _E =0			1.0	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =3V; I _C =0			1.0	μ A
h _{FE-1}	DC current gain	I _C =5mA ; V _{CE} =5V	25			
h _{FE-2}	DC current gain	I _C =0.3A ; V _{CE} =5V	40		250	
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V; f=1MHz		25		pF
f _T	Transition frequency	I _C =0.1A ; V _{CE} =5V		45		MHz

◆ h_{FE-2} Classifications

N	M	L	K
40-80	60-120	80-160	120-250

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance: ±0.10mm)