

Silicon NPN Power Transistors

2SC3157

DESCRIPTION

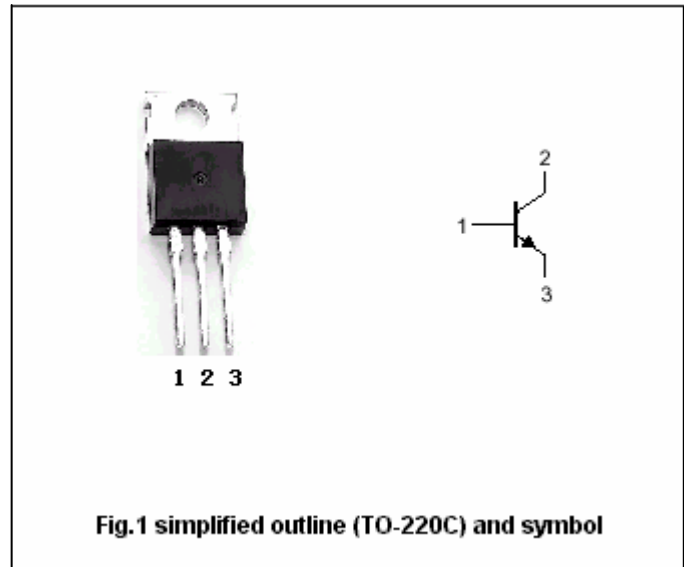
- With TO-220 package
- High switching speed
- Low collector saturation voltage
- Complement to type 2SA1261

APPLICATIONS

- For high voltage ,high speed and power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	100	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		10	A
I_{CM}	Collector current-Peak		20	A
I_B	Base current		3.5	A
P_T	Total power dissipation	$T_a=25$	1.5	W
		$T_C=25$	60	
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(SUS)}	Collector-emitter sustaining voltage	I _C =5A ; I _{B1} =0.5A; L=1mH	100			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A; I _B =0.5A			0.6	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A; I _B =0.5A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =100V; I _E =0			0.01	mA
I _{CEX}	Collector cut-off current	V _{CE} =100V; V _{BE} =1.5V T _a =125			0.01 1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.01	mA
h _{FE-1}	DC current gain	I _C =0.5A ; V _{CE} =5V	40			
h _{FE-2}	DC current gain	I _C =3A ; V _{CE} =5V	40		200	
h _{FE-3}	DC current gain	I _C =5A ; V _{CE} =5V	20			

Switching times

t _{on}	Turn-on time	I _C =5A; I _{B1} =I _{B2} =0.5A , R _L =10 ; V _{CC} 50V			0.5	μs
t _s	Storage time				1.5	μs
t _f	Fall time				0.5	μs

◆ h_{FE-2} classifications

M	L	K
40-80	60-120	100-200

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PACKAGE OUTLINE



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