

Silicon NPN Power Transistors

2SC3157

DESCRIPTION

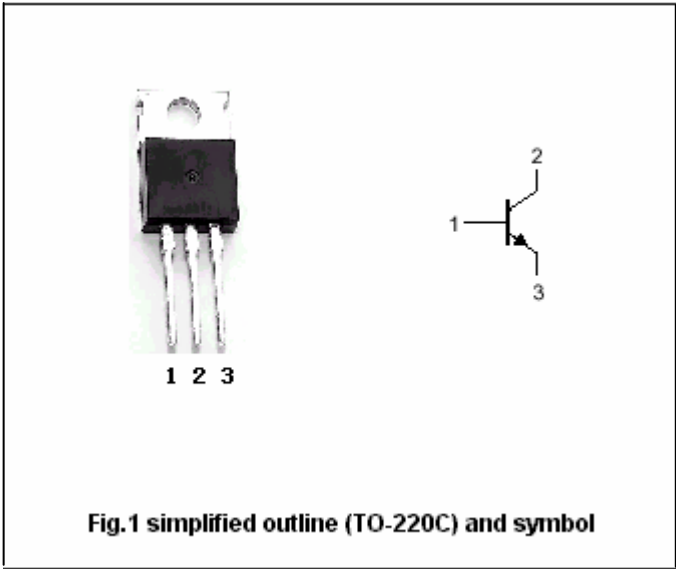
- With TO-220 package
- High switching speed
- Low collector saturation voltage
- Complement to type 2SA1261

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

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	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	$I_C=5A$; $I_{B1}=-I_{B2}=0.5A$, $R_L=10\Omega$; $V_{CC} \approx 50V$			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

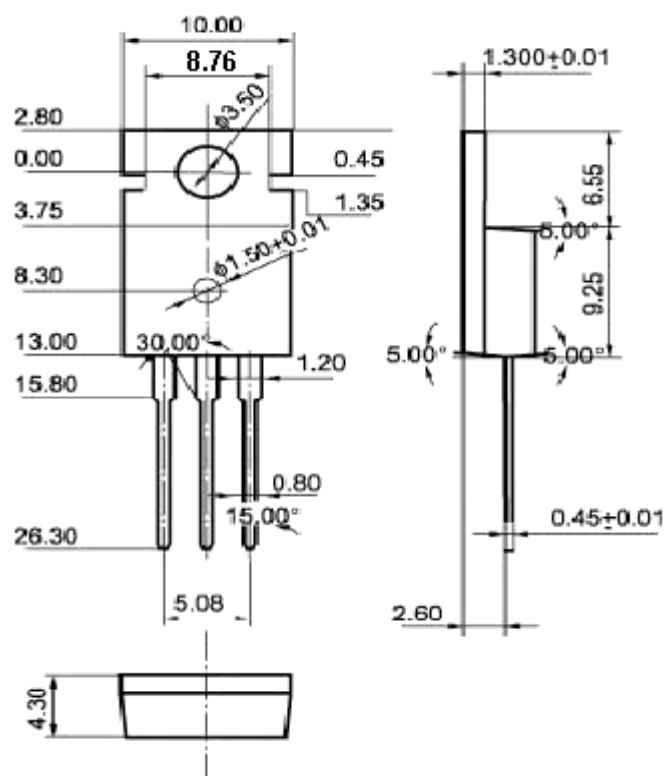


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)