

Silicon NPN Power Transistors

2SD1975 2SD1975A

DESCRIPTION

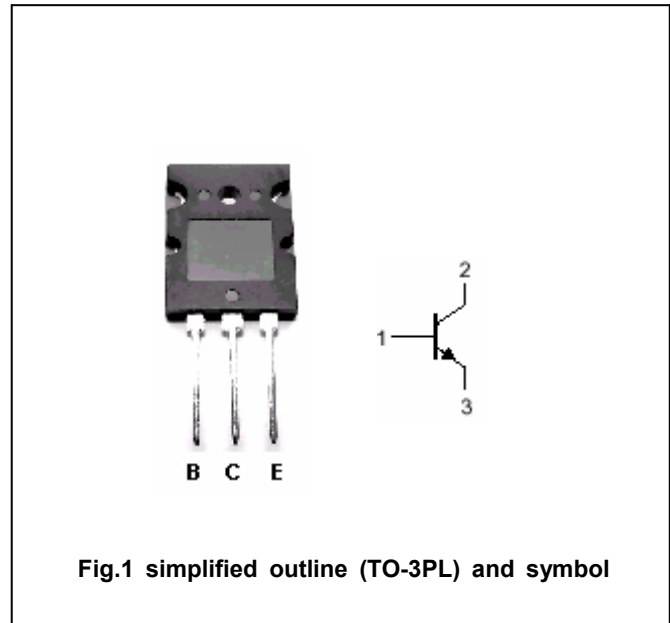
- With TO-3PL package
- Complement to type 2SB1317/1317A
- Wide area of safe operation
- High transition frequency f_T

APPLICATIONS

- For high power amplification
- Optimum for the output stage of a Hi-Fi audio amplifier

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_{CB0}	Collector-base voltage	2SD1975	180	V
		2SD1975A	200	
V_{CEO}	Collector-emitter voltage	2SD1975	180	V
		2SD1975A	200	
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		15	A
I_{CM}	Collector current-peak		25	A
P_C	Collector power dissipation	$T_a=25^\circ\text{C}$	3.5	W
		$T_c=25^\circ\text{C}$	150	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEsat}	Collector-emitter saturation voltage	I _C =10A ; I _B =1A			2.5	V
V _{BE}	Emitter-base voltage	I _C =8A ; V _{CE} =5V			1.8	V
I _{CBO}	Collector cut-off current	2SD1975			50	μA
		2SD1975A				
I _{EBO}	Emitter cut-off current	V _{EB} =3V ; I _C =0			50	μA
h _{FE-1}	DC current gain	I _C =20mA ; V _{CE} =5V	20			
h _{FE-2}	DC current gain	I _C =1A ; V _{CE} =5V	60		200	
h _{FE-3}	DC current gain	I _C =8A ; V _{CE} =5V	20			
f _T	Transition frequency	I _C =0.5A ; V _{CE} =5V		20		MHz
C _{OB}	Collector output capacitance	f=1MHz ; V _{CB} =10V		200		pF

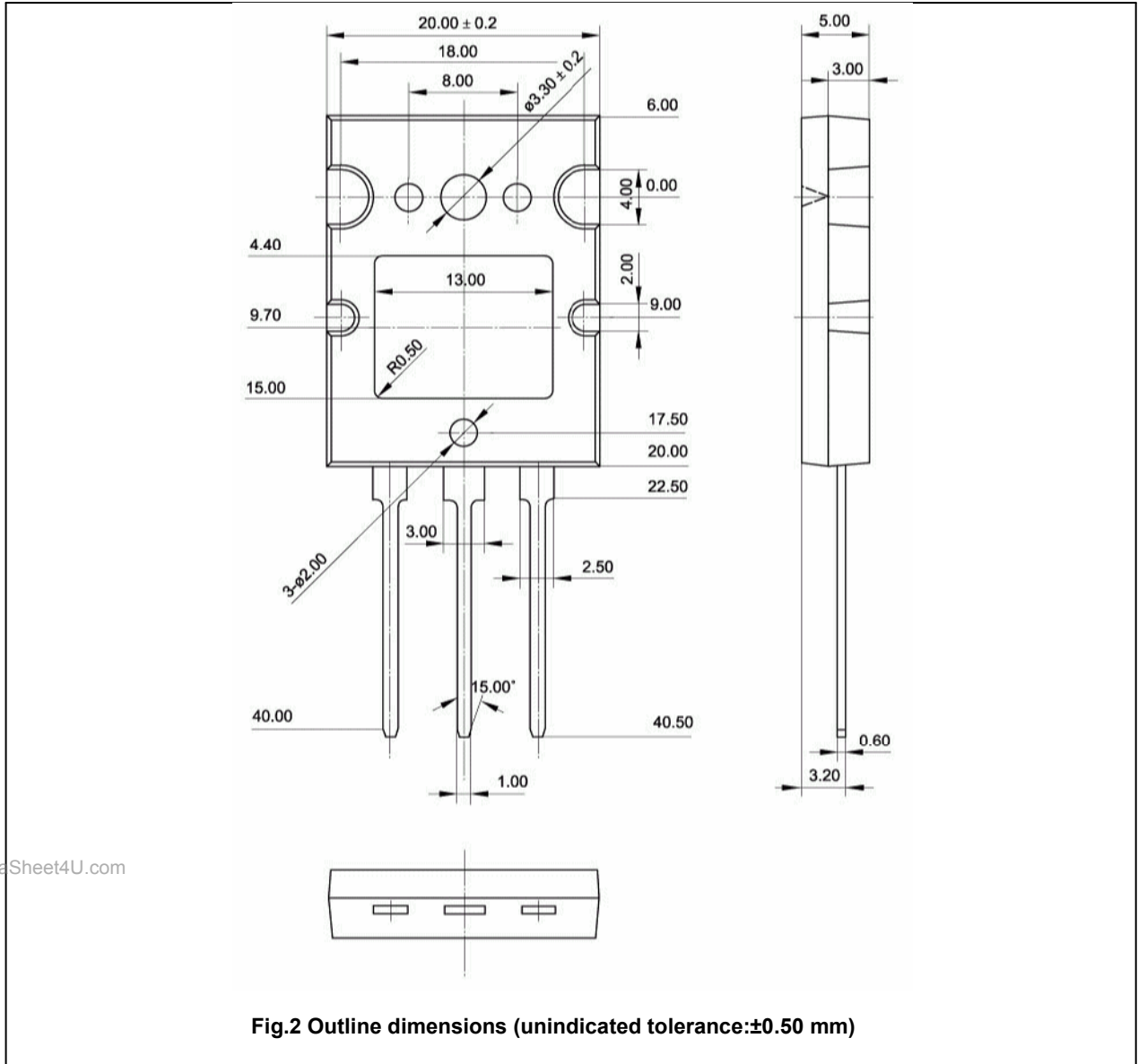
◆ h_{FE-2} classifications

Q	S	P
60-120	80-160	100-200

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PACKAGE OUTLINE



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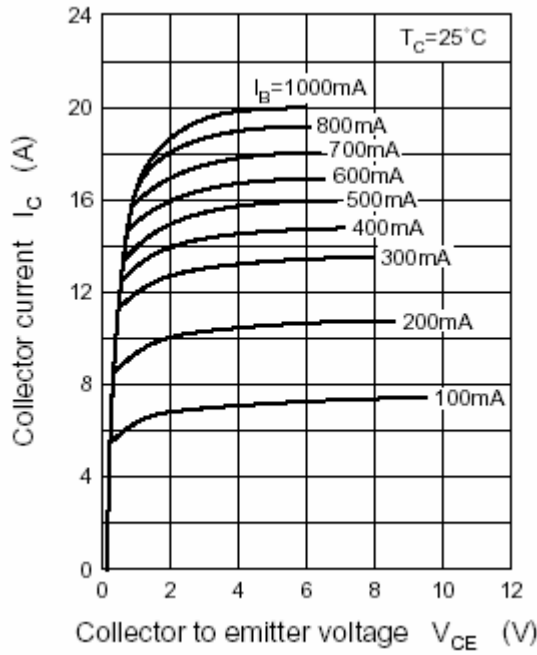


Fig.3 Static Characteristic

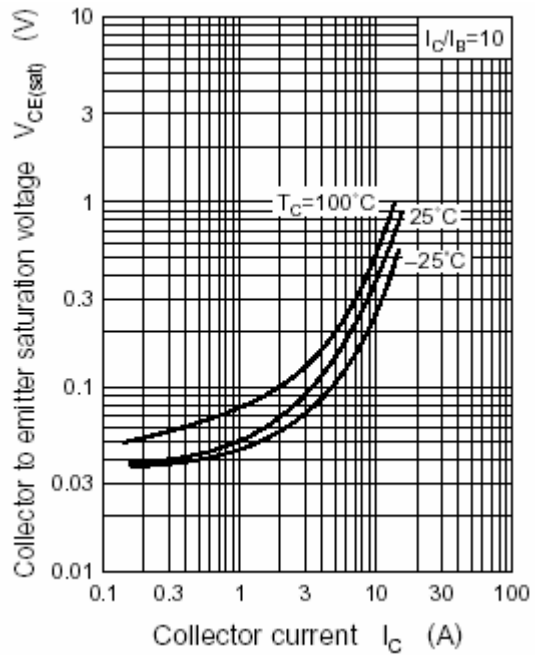


Fig.4 Collector-Emitter Saturation Voltage

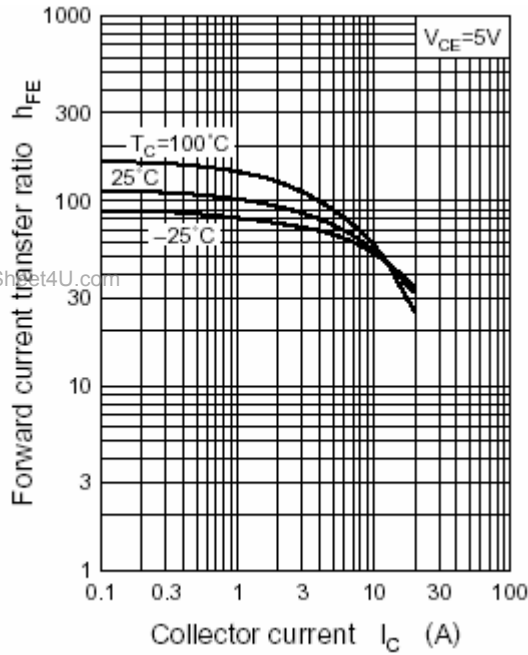


Fig.5 DC current Gain

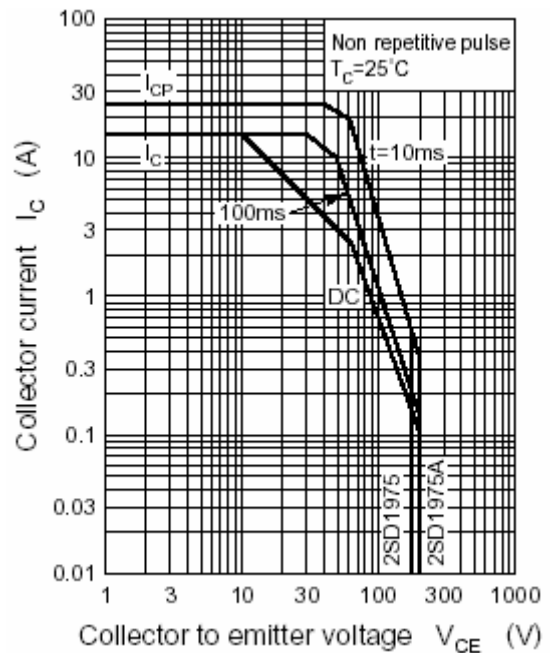


Fig.6 Safe Operating Area