

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

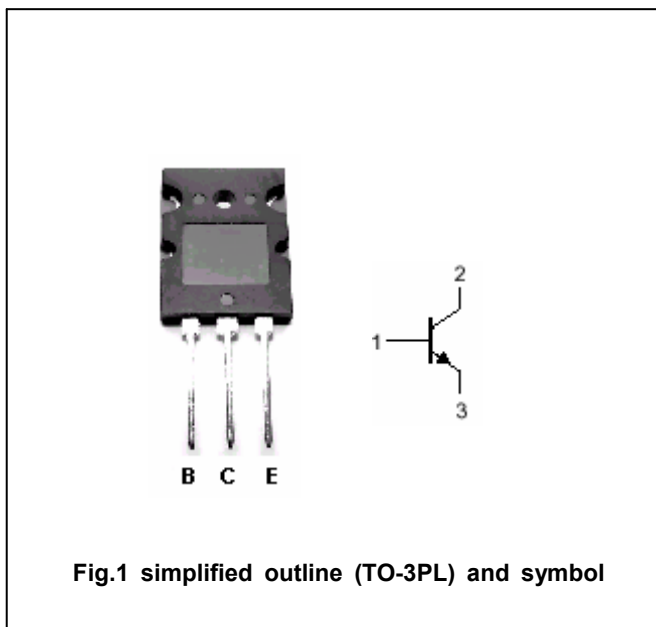


Fig.1 simplified outline (TO-3PL) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	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°C	3.5	W
		T _C =25°C	150	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°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	V _{CB} =180V; I _E =0			50	μA
		2SD1975A	V _{CB} =200V; I _E =0				
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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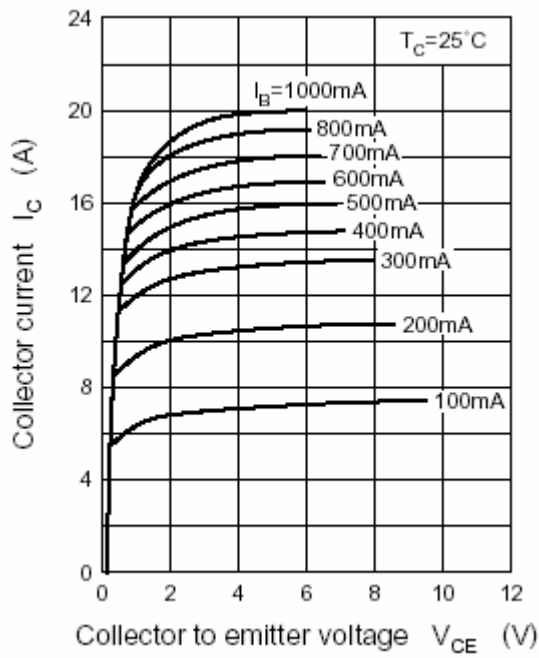


Fig.3 Static Characteristic

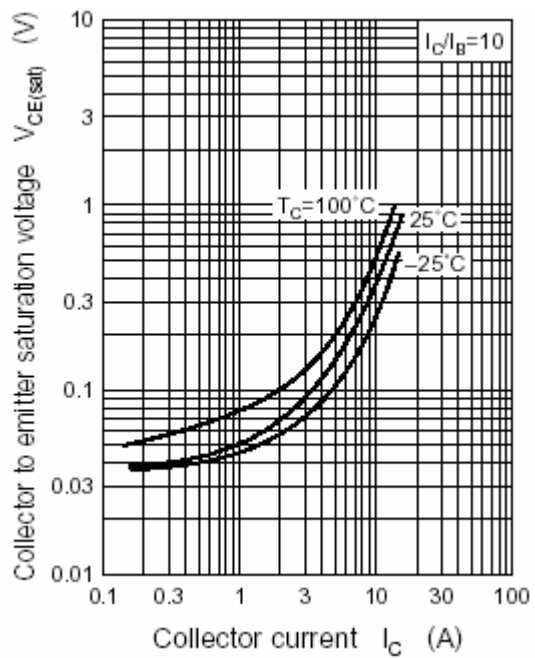


Fig.4 Collector-Emitter Saturation Voltage

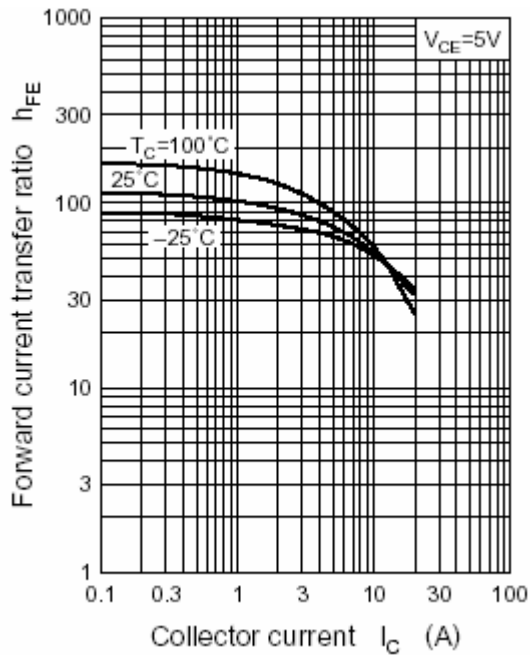


Fig.5 DC current Gain

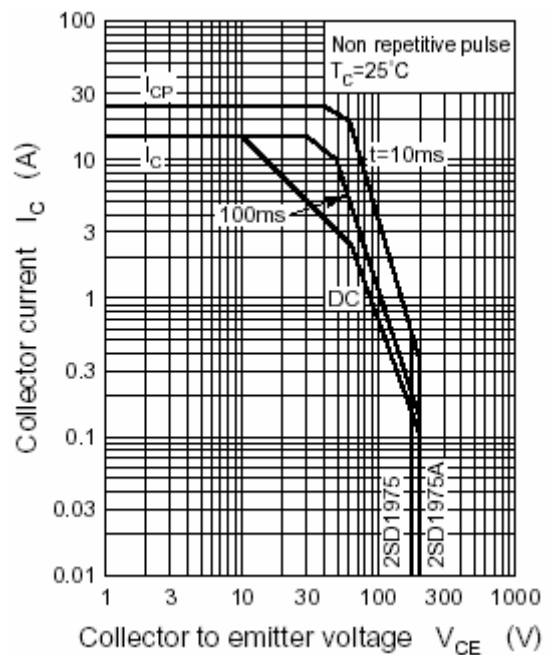


Fig.6 Safe Operating Area