

Silicon NPN Power Transistors

2SD1715

DESCRIPTION

- With TO-3PFa package
- Complement to type 2SB1160
- High transition frequency f_T
- Satisfactory linearity of h_{FE}
- Wide area of safe operation

APPLICATIONS

- For high power amplifier applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

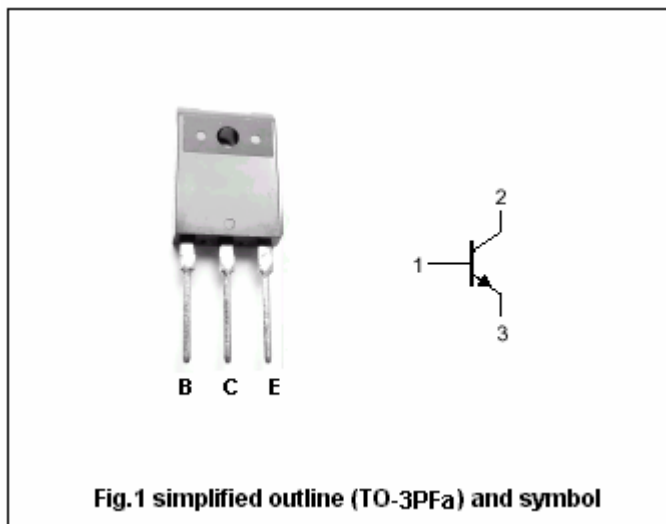


Fig.1 simplified outline (TO-3PFa) and symbol

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	150	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		9	A
I_{CP}	Collector current-peak		15	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	100	W
			3	
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 =7A ; I _B =0.7A			2.0	V
V _{BE}	Base-emitter on voltage	I _C =7A ; V _{CE} =5V			1.8	V
I _{CBO}	Collector cut-off current	V _{CB} =150V; I _E =0			50	μA
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 =7A ; V _{CE} =5V	20			
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =10V; f=1MHz		140		pF
f _T	Transition frequency	I _C =0.5A ; V _{CE} =5V		20		MHz

◆ h_{FE-2} classifications

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

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:±0.30mm)

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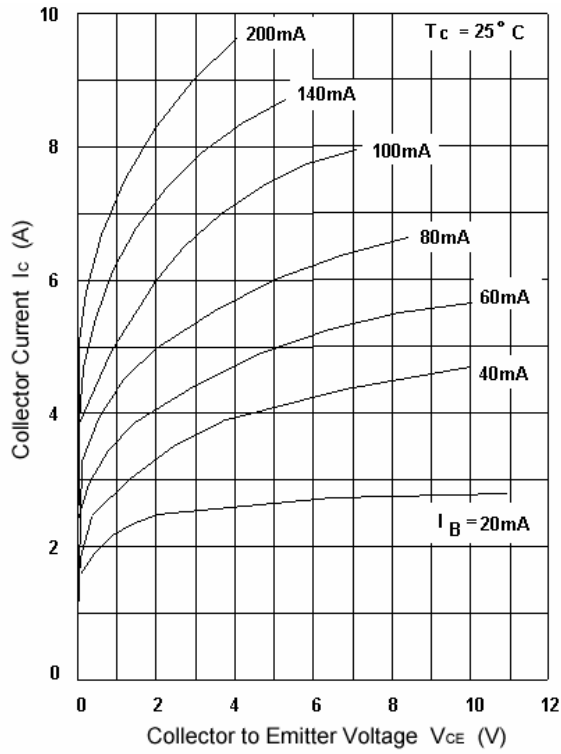


Fig.3 Static Characteristic

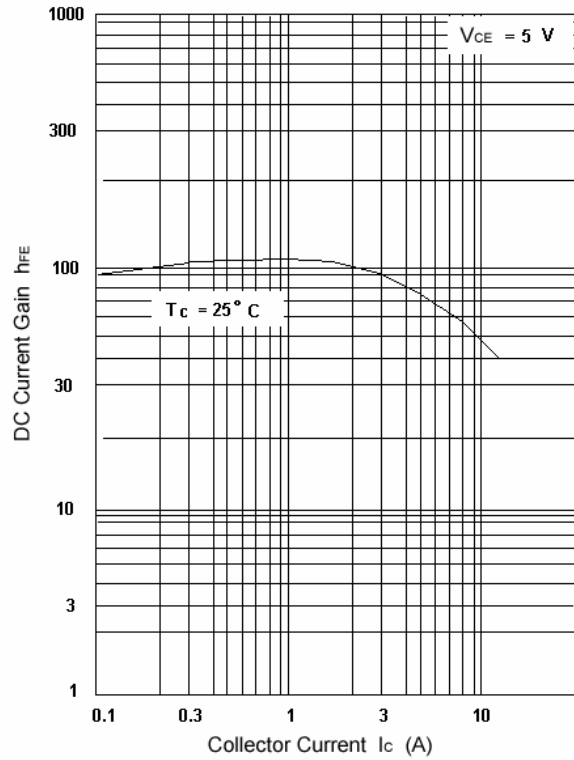


Fig.4 DC current Gain

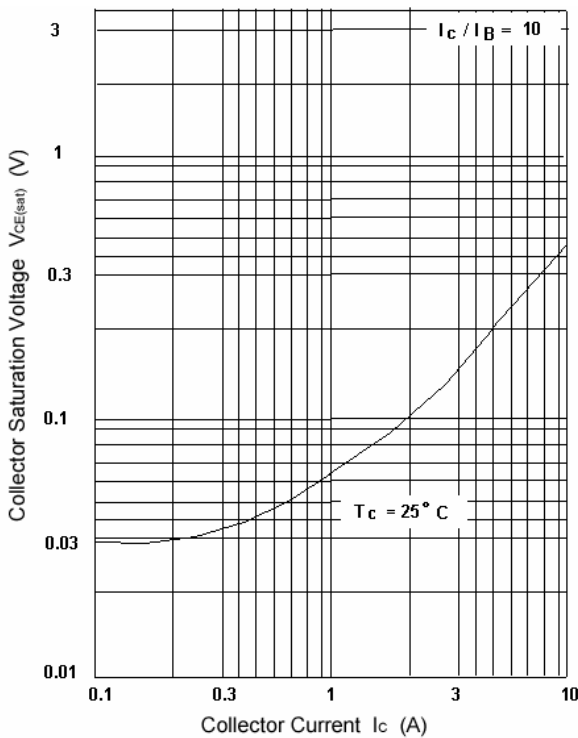


Fig.5 Collector-Emitter Saturation Voltage

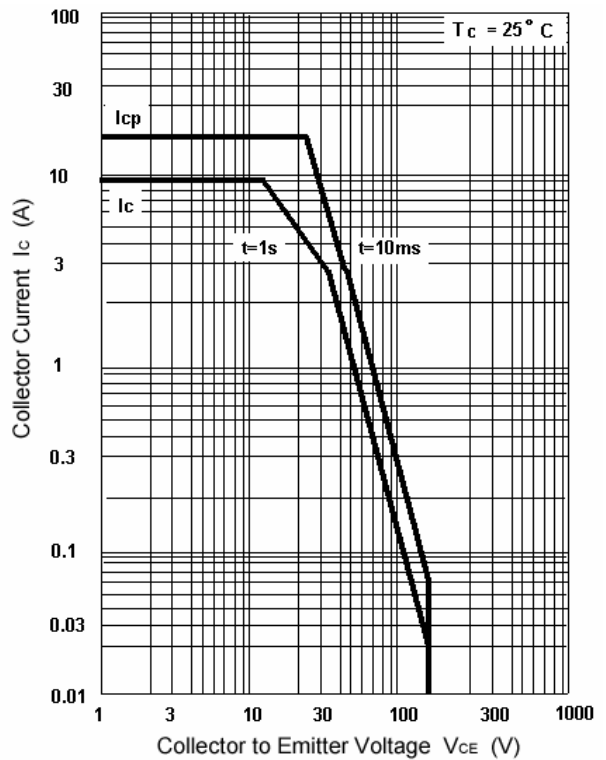


Fig.8 Safe Operating Area