

Silicon NPN Power Transistors

2SD1138

DESCRIPTION

- With TO-220C package
- Complement to type 2SB861

APPLICATIONS

- Low frequency high voltage power amplifier TV vertical deflection output

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

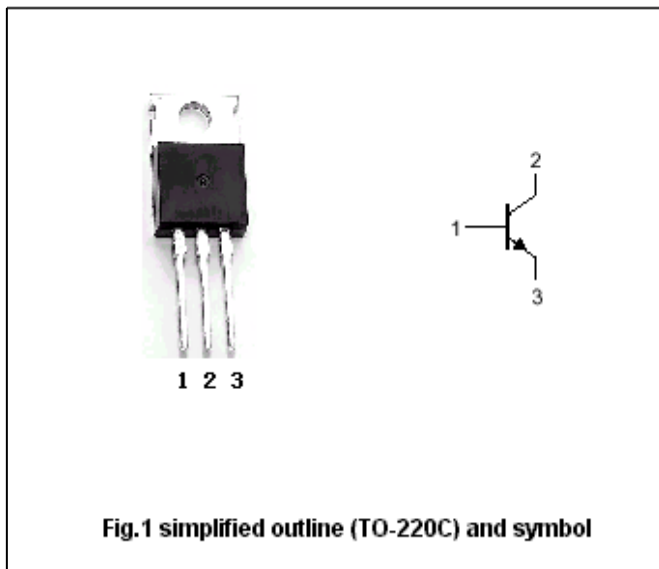


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	200	V
V_{CEO}	Collector-emitter voltage	Open base	150	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		2	A
I_{CP}	Collector current-peak		5	A
P_C	Collector power dissipation	$T_a=25^\circ\text{C}$	1.8	W
		$T_C=25^\circ\text{C}$	30	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-45~150	$^\circ\text{C}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =50mA; R _{BE} =∞	150			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =5mA; I _C =0	6			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =0.5 A; I _B =50m A			3.0	V
V _{BE}	Base-emitter voltage	I _C =50mA ; V _{CE} =4V			1.0	V
I _{CBO}	Collector cut-off current	V _{CB} =120V; I _E =0			1	μ A
h _{FE-1}	DC current gain	I _C =50mA ; V _{CE} =4V	60		320	
h _{FE-2}	DC current gain	I _C =0.5A ; V _{CE} =10V	60			
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =100V, f=1MHz		20		pF

◆ h_{FE-1} classifications

B	C	D
60-120	100-200	160-320

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PACKAGE OUTLINE

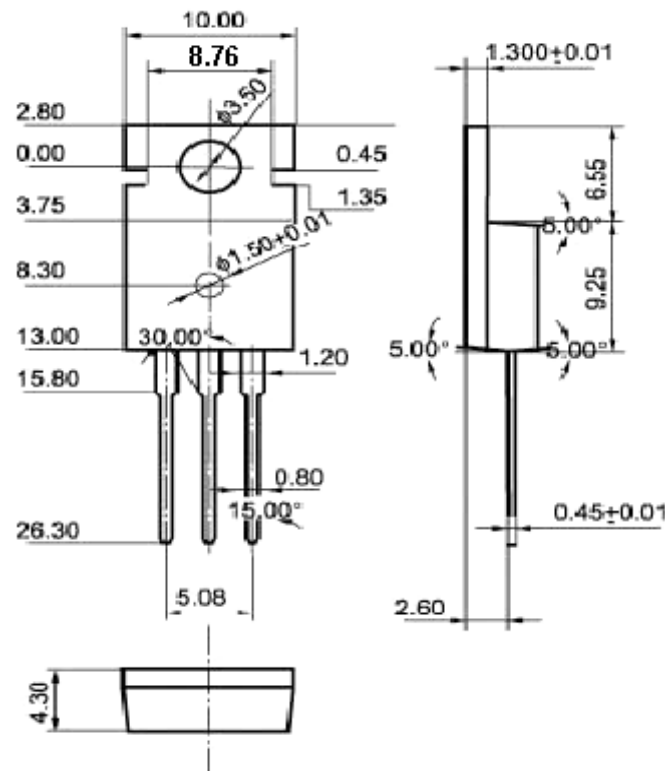


Fig.2 Outline dimensions (unindicated tolerance: ± 0.10 mm)

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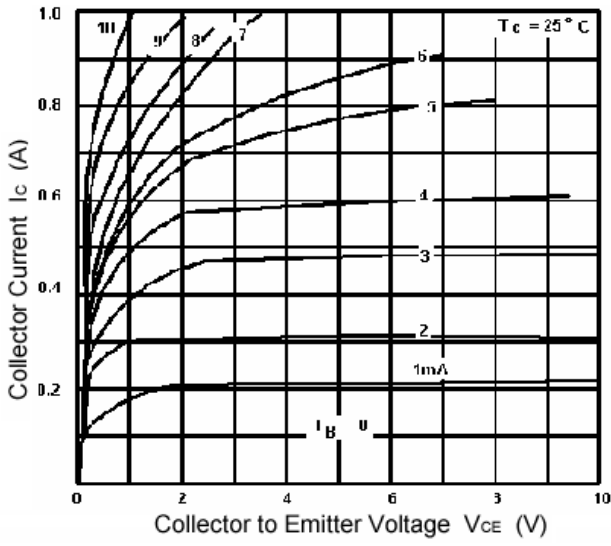


Fig.3 Static Characteristic

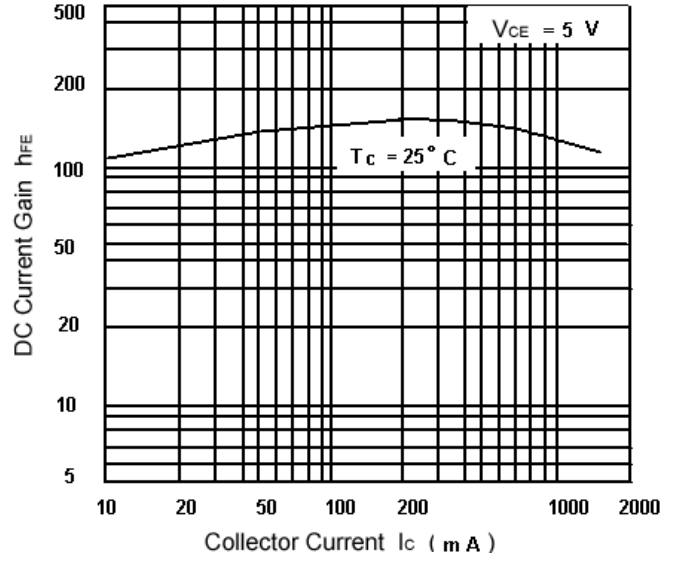


Fig.4 DC current Gain

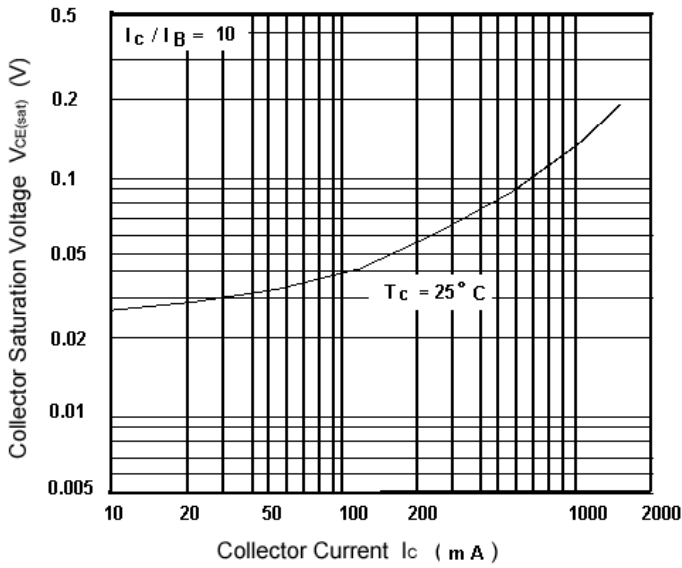


Fig.5 Collector-Emitter Saturation Voltage

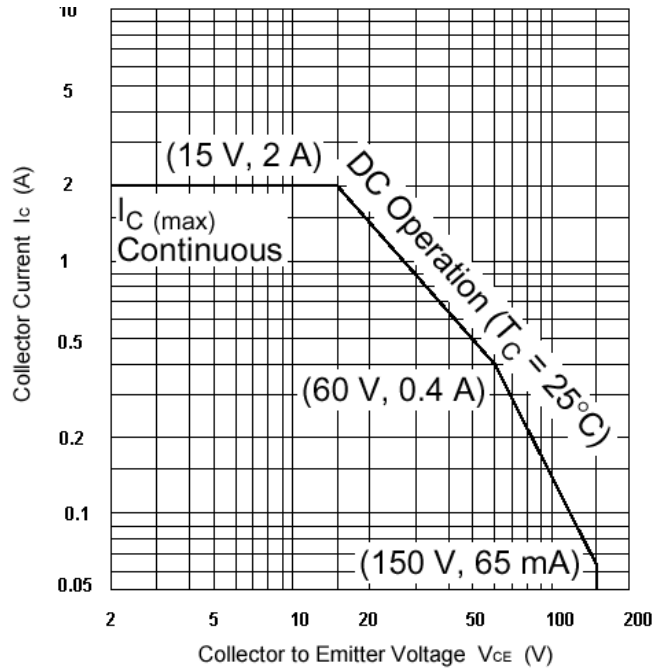


Fig.6 Safe Operating Area