

Silicon NPN Power Transistors

2SD2251

DESCRIPTION

- With TO-3PML package
- High speed
- High breakdown voltage
- High reliability
- Built-in damper diode

APPLICATIONS

- Color TV horizontal deflection output

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

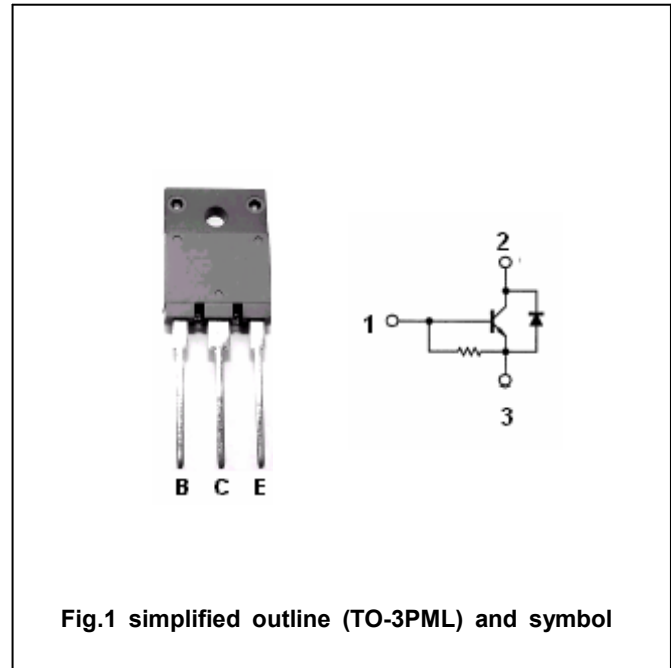


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1500	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		7	A
I_{CM}	Collector current-peak		20	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	60	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 _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =100mA; I _B =0	800			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5 A; I _B =1A			5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5 A; I _B =1A			1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =800V; I _E =0			10	μA
I _{CES}	Collector cut-off current	V _{CE} =1500V ; R _{BE} =0			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =4V; I _C =0	40		130	mA
h _{FE-1}	DC current gain	I _C =5A ; V _{CE} =5V	5		8	
h _{FE-2}	DC current gain	I _C =1A ; V _{CE} =5V	8			
V _F	Diode forward voltage	I _{EC} =7A; I _B =0			2.0	V
t _f	Fall time	I _C =4A; R _L =50Ω I _{B1} =0.8A; -I _{B2} =1.6A; V _{CC} =200V		0.1	0.3	μs

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PACKAGE OUTLINE

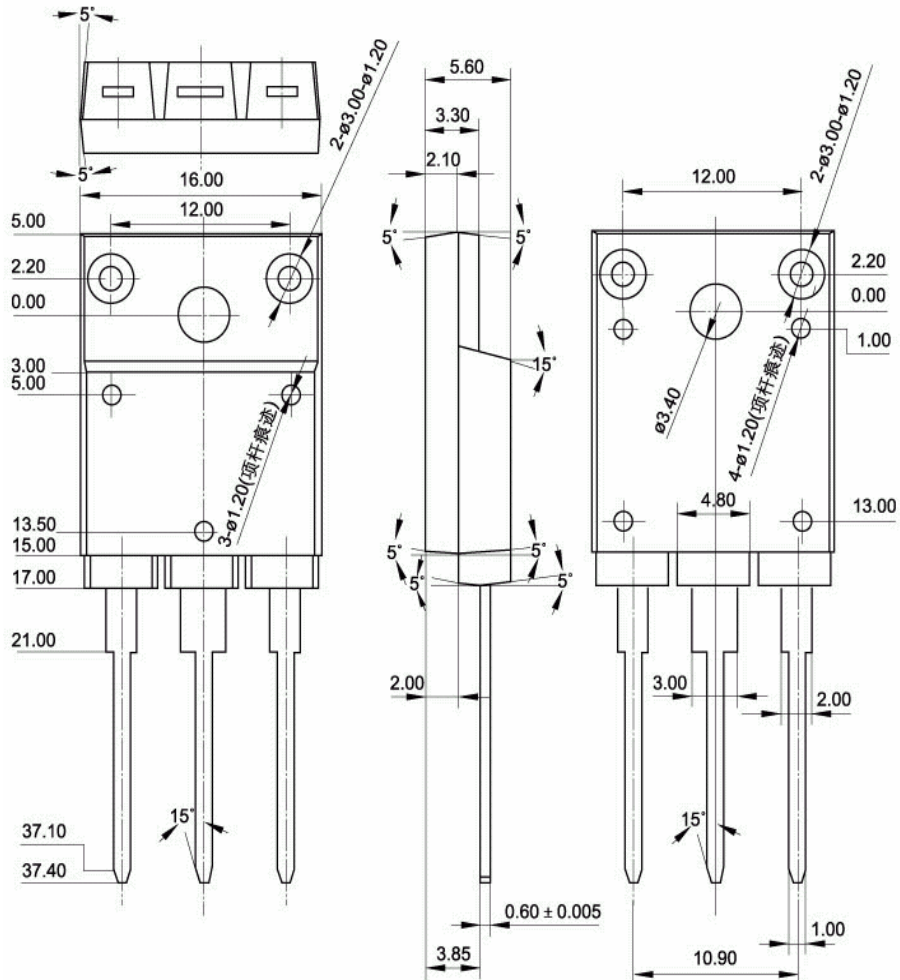


Fig.2 Outline dimensions

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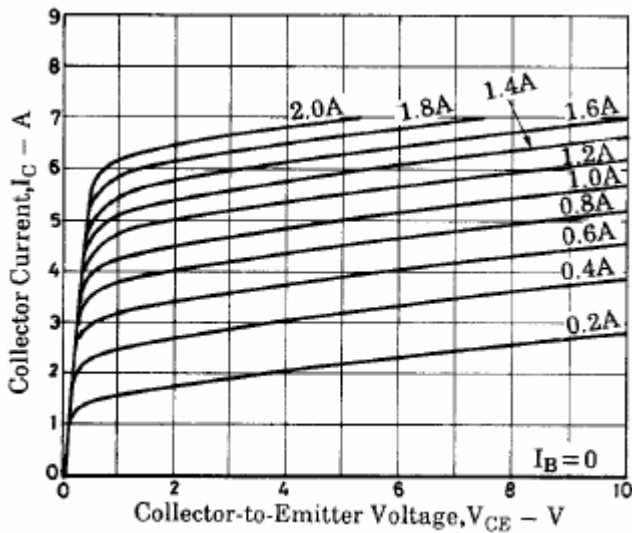


Fig.3 Static Characteristic

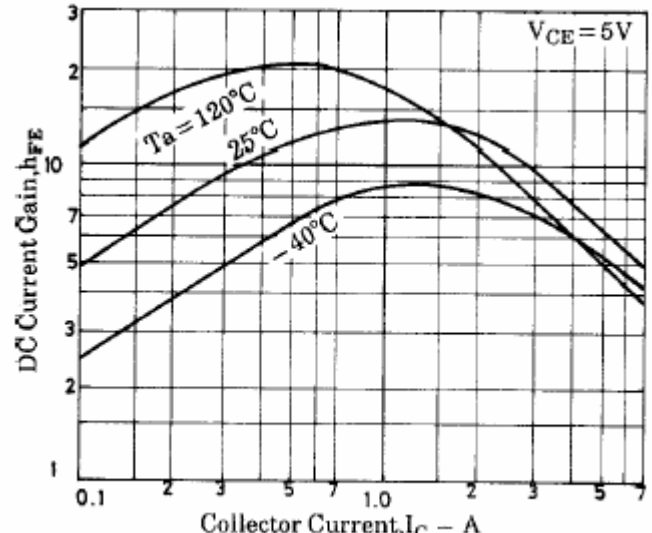


Fig.4 DC current Gain

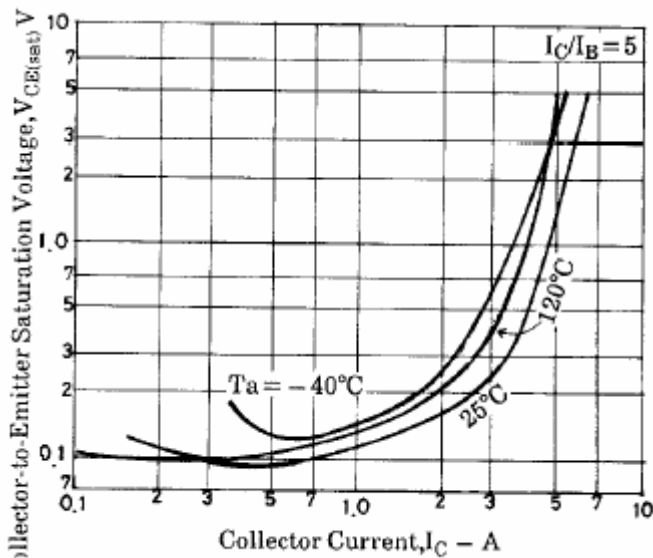


Fig.5 Collector-Emitter Saturation Voltage

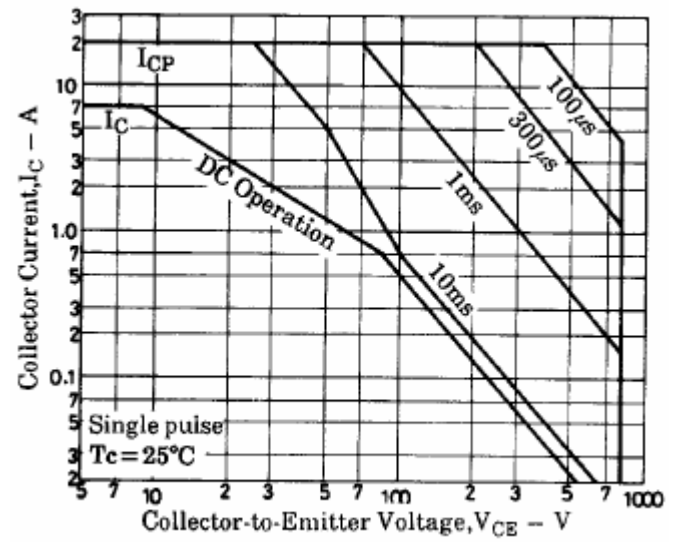


Fig.6 Safe Operating Area