

Silicon NPN Power Transistors

2SD1877

DESCRIPTION

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

APPLICATIONS

- Color TV horizontal deflection output
- Color display horizontal deflection output

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

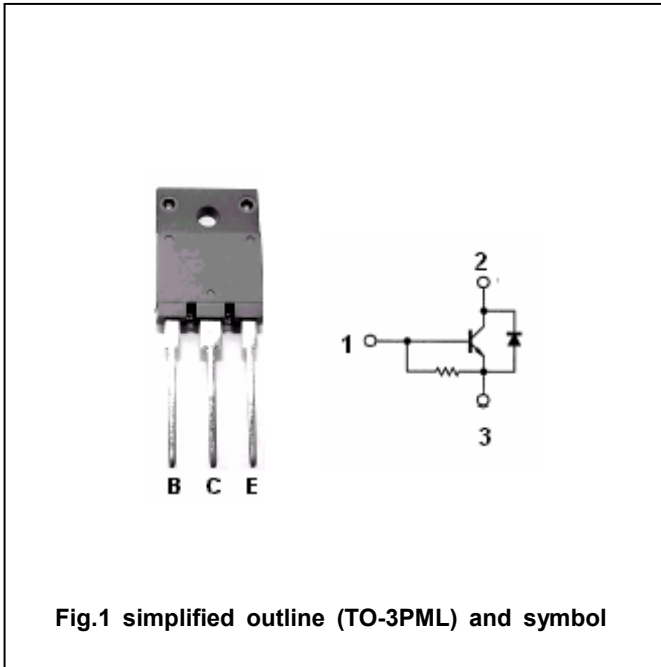


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings(Tc=25°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		4	A
I _{CM}	Collector current-peak		12	A
P _C	Collector power dissipation		50	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

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 $T_j=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=100\text{mA}; I_B=0$	800			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=2.5\text{A}; I_B=0.8\text{A}$			5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=2.5\text{A}; I_B=0.8\text{A}$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=800\text{V}; I_E=0$			10	μA
I_{CES}	Collector cut-off current	$V_{CB}=1500\text{V}; R_{BE}=0$			1.0	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=4\text{V}; I_C=0$	40		130	mA
h_{FE-1}	DC current gain	$I_C=0.5\text{A}; V_{CE}=5\text{V}$	8			
h_{FE-2}	DC current gain	$I_C=2.5\text{A}; V_{CE}=5\text{V}$	3.5		7	
V_F	Diode forward voltage	$I_{EC}=4\text{A}$			2.0	V
t_f	Fall time	$I_C=3\text{A}; R_L=50\Omega$ $I_{B1}=0.8\text{A}; I_{B2}=-1.6\text{A}; V_{CC}=200\text{V}$		0.1	0.3	μs

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PACKAGE OUTLINE

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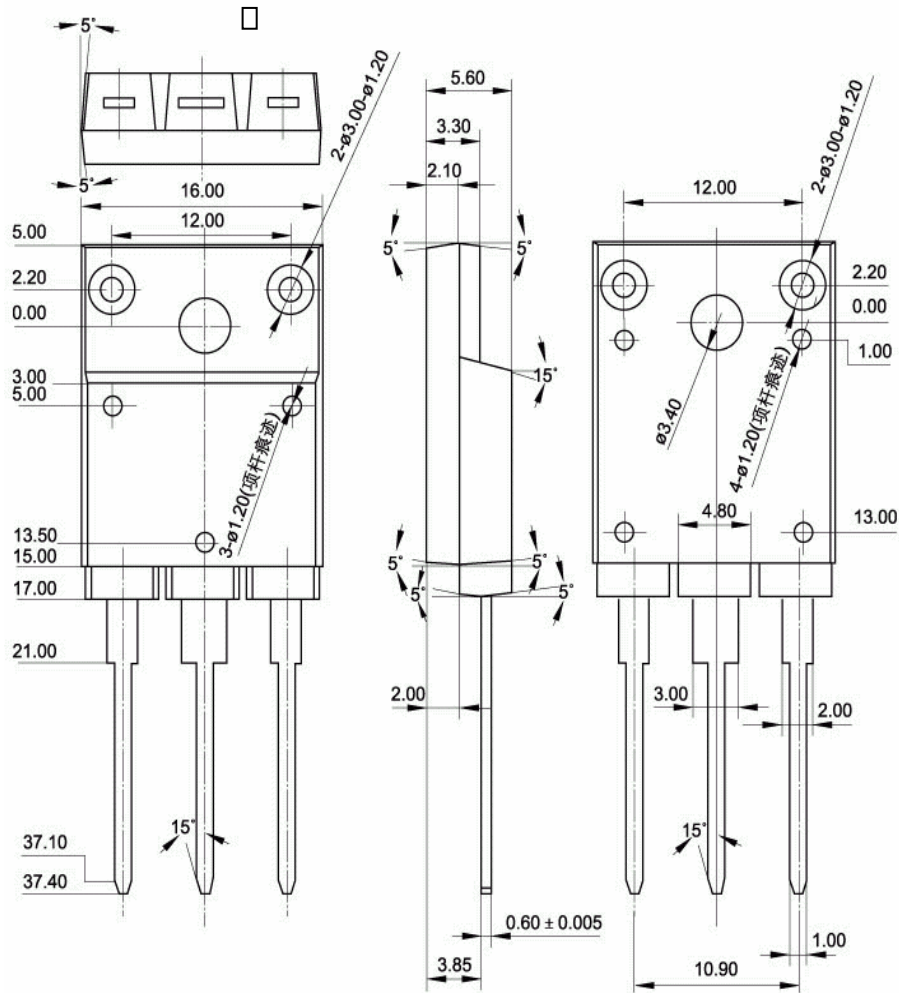


Fig.2 Outline dimensions

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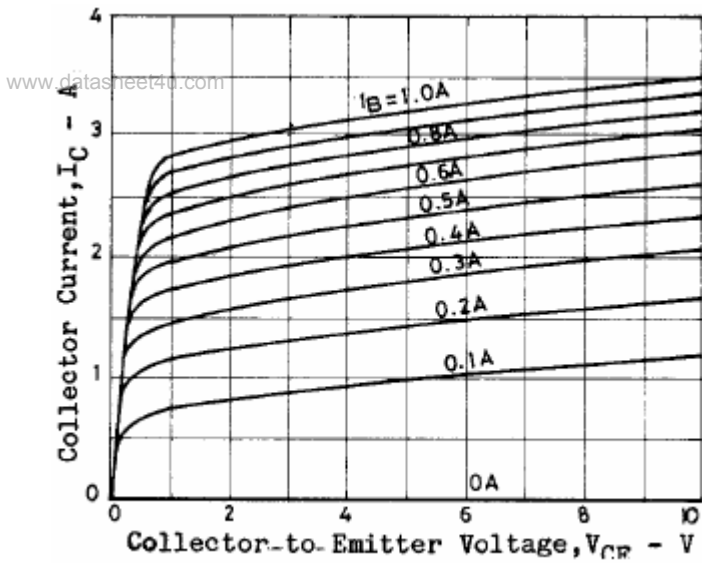


Fig.3 Static Characteristic

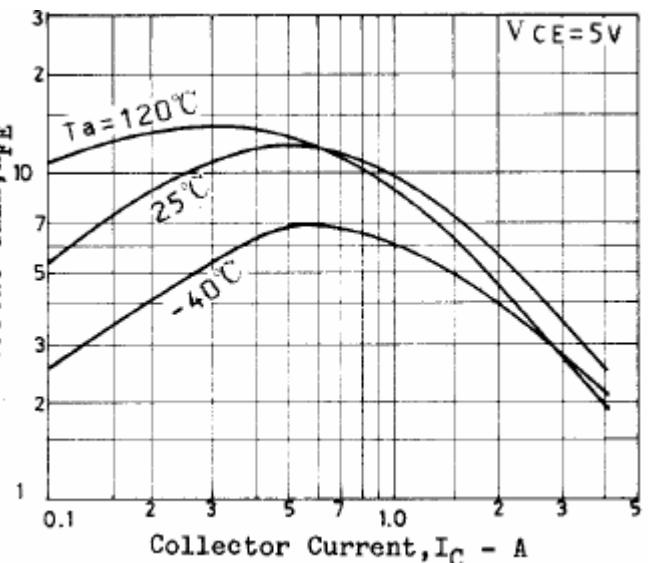


Fig.4 DC current Gain

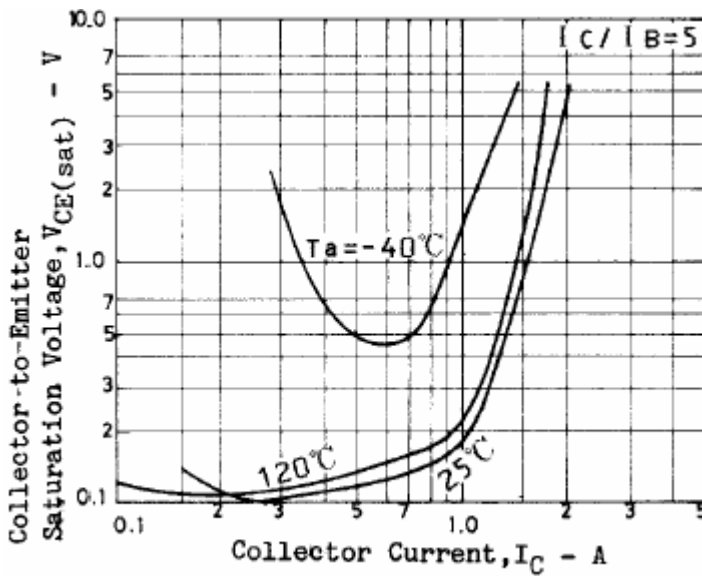


Fig.5 Collector-Emitter Saturation Voltage

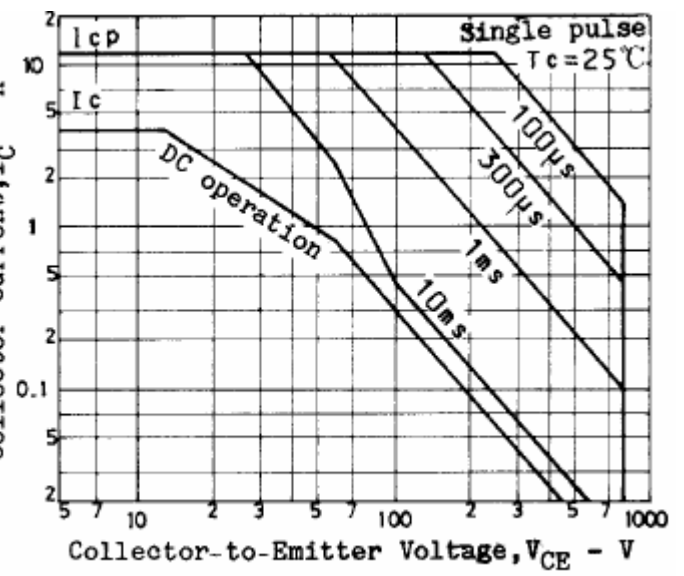


Fig.6 Safe Operating Area