

Silicon NPN Power Transistors

2SC3894

DESCRIPTION

- With TO-3PML package
- High speed
- High breakdown voltage
- High reliability

APPLICATIONS

- Ultrahigh-definition CRT display horizontal deflection output applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

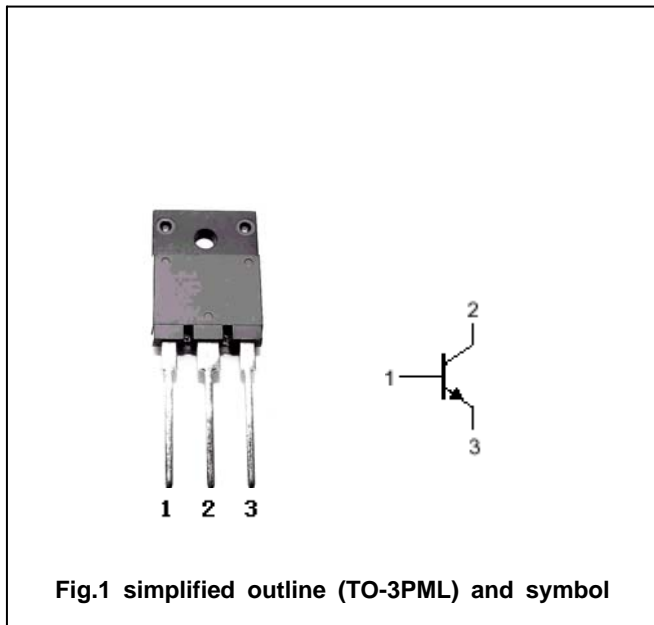


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	MAX	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		6	A
I_{CM}	Collector current-peak		16	A
P_C	Collector dissipation	Ta=25°C	3.0	W
		Tc=25°C	60	
T_j	Junction temperature		150	°C
T_{stg}	Storage temperature		-55~150	°C

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.1\text{A}; I_B=0$	800			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=4\text{A}; I_B=1\text{A}$			5.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=4\text{A}; I_B=1\text{A}$			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	$V_{CE}=1500\text{V}; R_{BE}=0$			1.0	mA
h_{FE-1}	DC current gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	8			
h_{FE-2}	DC current gain	$I_C=4\text{A}; V_{CE}=5\text{V}$	4		8	

Switching times

t_{stg}	Storage time	$I_C=4\text{A}; V_{CC}=200\text{V}$ $I_{B1}=0.8\text{A}; I_{B2}=1.6\text{A}$ $R_L=50\ \Omega$			3.0	μs
t_f	Fall time			0.1	0.2	μs

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PACKAGE OUTLINE

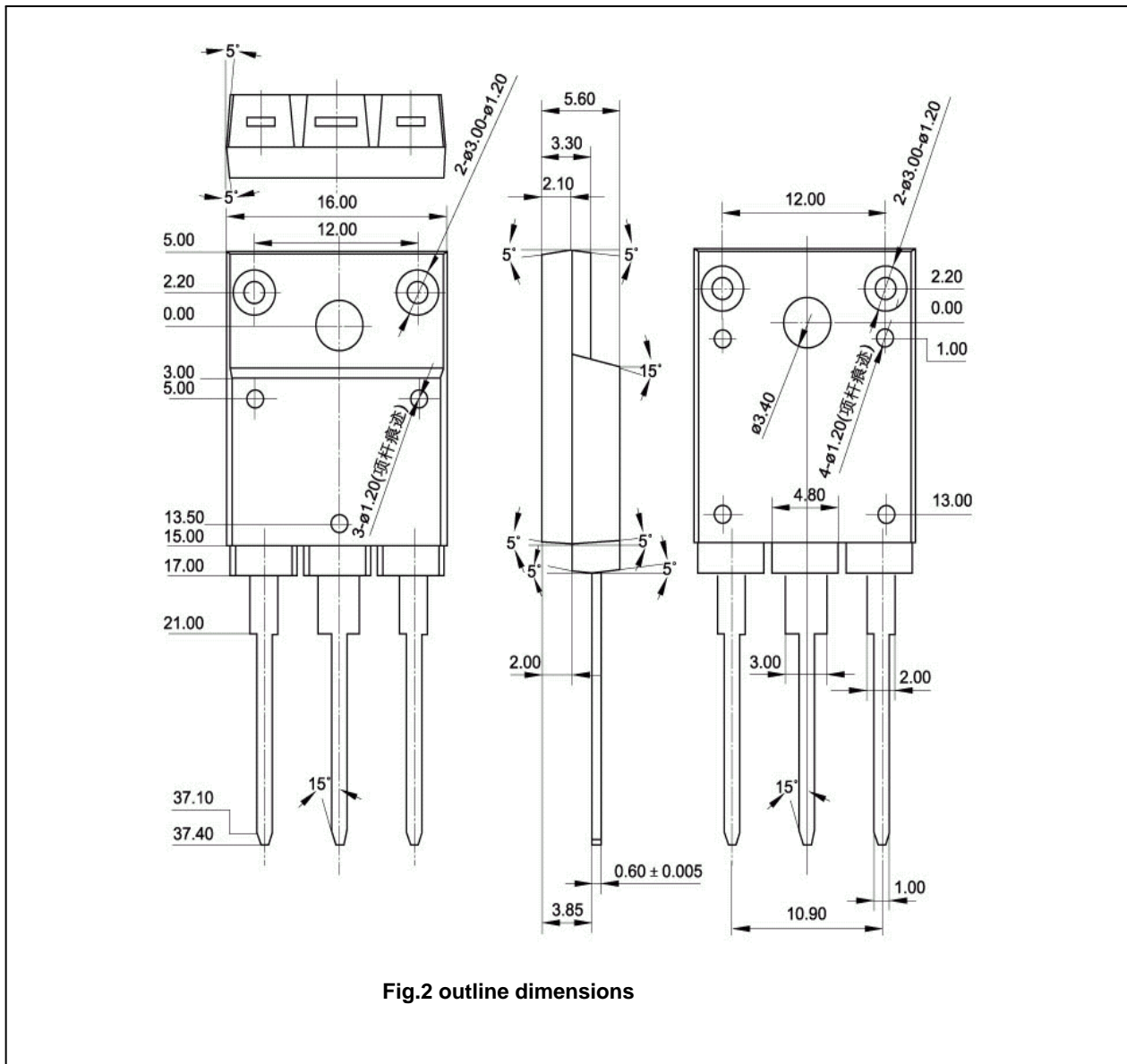


Fig.2 outline dimensions

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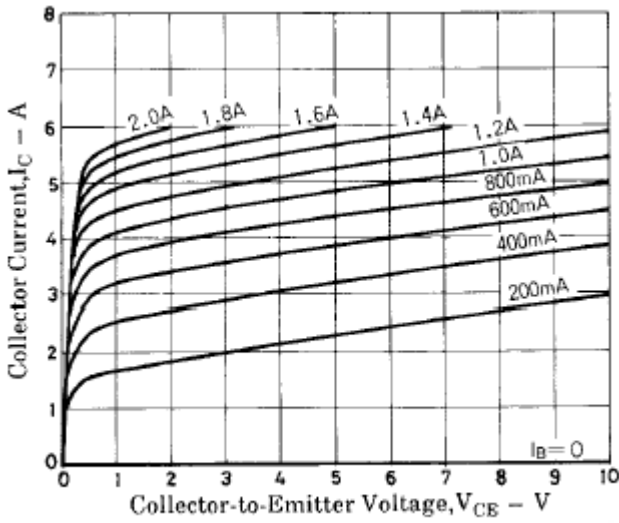


Fig.3 Static Characteristic

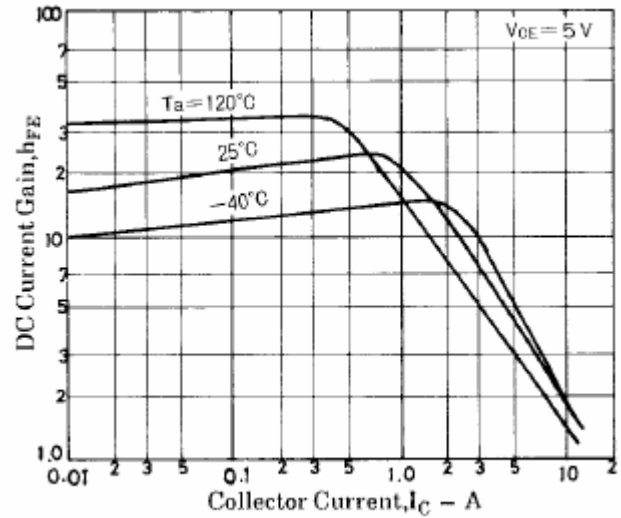


Fig.4 DC current Gain

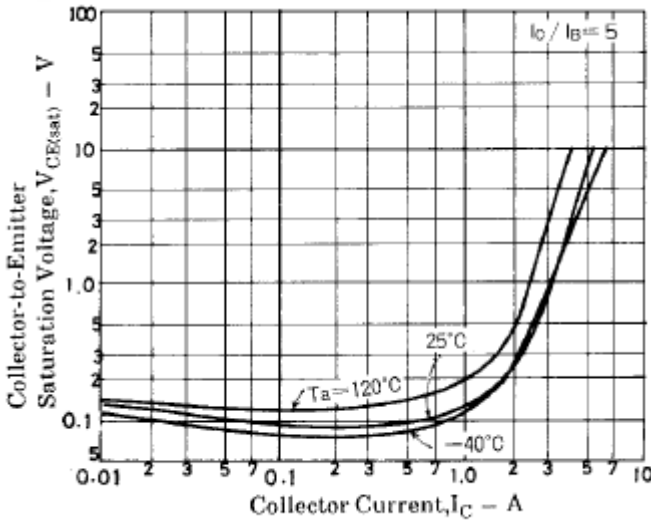


Fig.5 Collector-Emitter Saturation Voltage

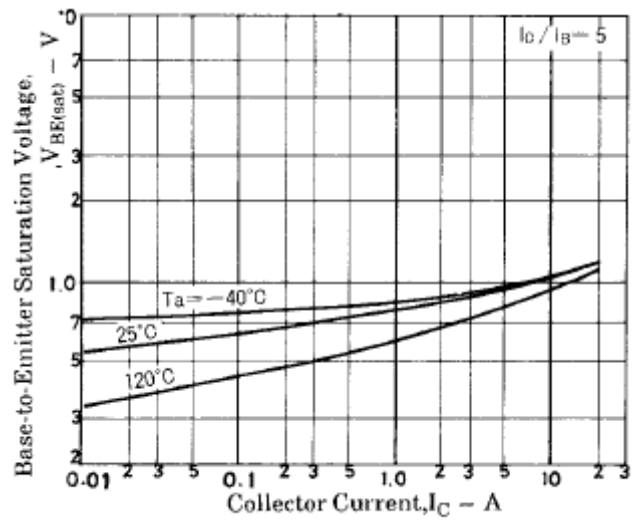


Fig.6 Base-Emitter Saturation Voltage

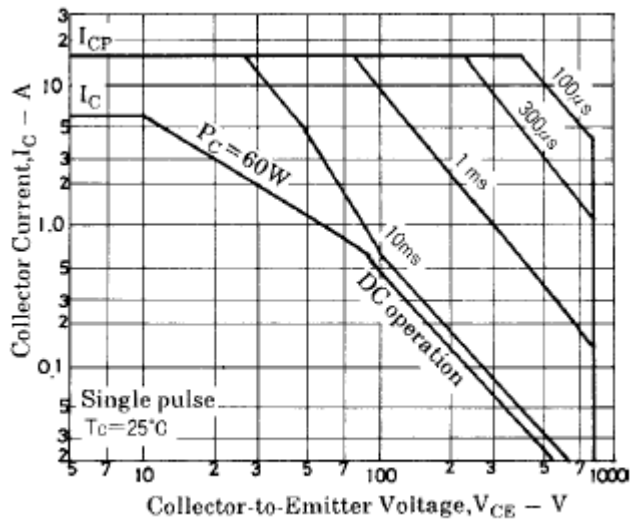


Fig.7 Safe Operating Area