

Silicon NPN Power Transistors

2SC3591

DESCRIPTION

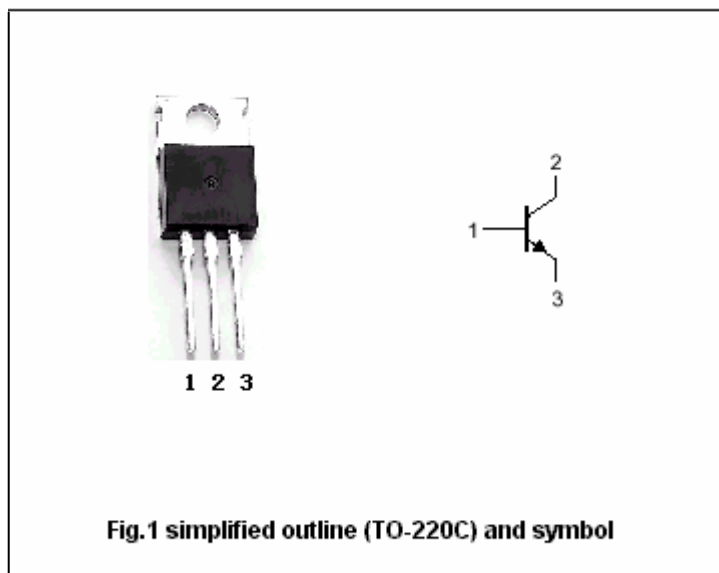
- With TO-220C package
- Fast switching speed
- Low collector saturation voltage

APPLICATIONS

- High-definition CRT display horizontal deflection output applications

PINNING

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

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	400	V
V_{CEO}	Collector-emitter voltage	Open base	200	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current		7	A
I_{CM}	Collector current-peak		12	A
I_B	Base current		4	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	50	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

Silicon NPN Power Transistors

2SC3591

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1mA$; $R_{BE}=\infty$	200			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA$; $I_E=0$	400			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1mA$; $I_C=0$	6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=5A$; $I_B=0.5A$			0.8	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=5A$; $I_B=0.5A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=250V$; $I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V$; $I_C=0$			100	μA
h_{FE-1}	DC current gain	$I_C=1A$; $V_{CE}=1V$	15			
h_{FE-2}	DC current gain	$I_C=5A$; $V_{CE}=1V$	10		50	
f_T	Transition frequency	$I_C=0.5A$; $V_{CE}=10V$	10			MHz
t_f	Fall time	$V_{CC}=50V$; $I_C=5A$; $I_{B1}=-I_{B2}=0.5A$; $R_L=10\Omega$			0.3	μs

Silicon NPN Power Transistors

2SC3591

PACKAGE OUTLINE



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

Silicon NPN Power Transistors

2SC3591

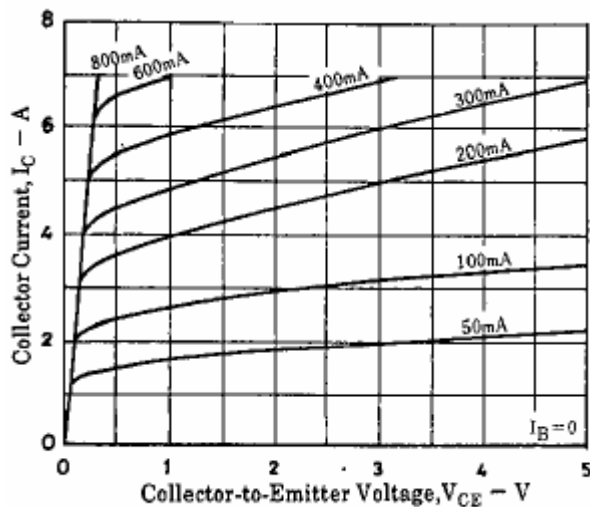


Fig.3 Static Characteristic

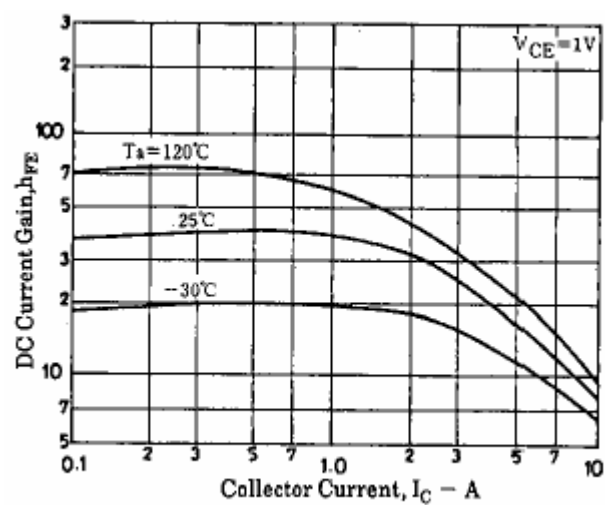


Fig.4 DC current Gain

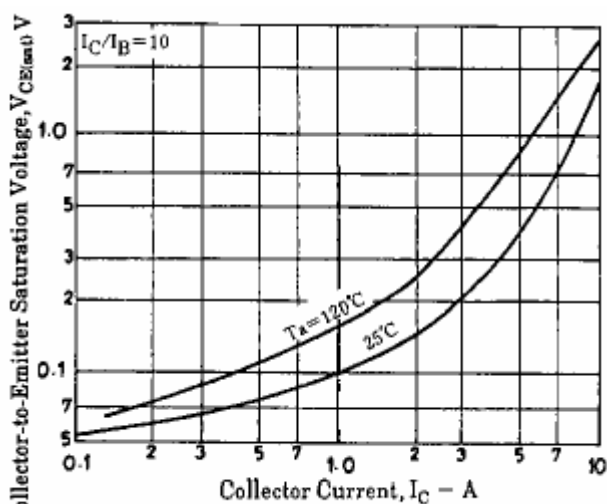


Fig.5 Collector-Emitter Saturation Voltage

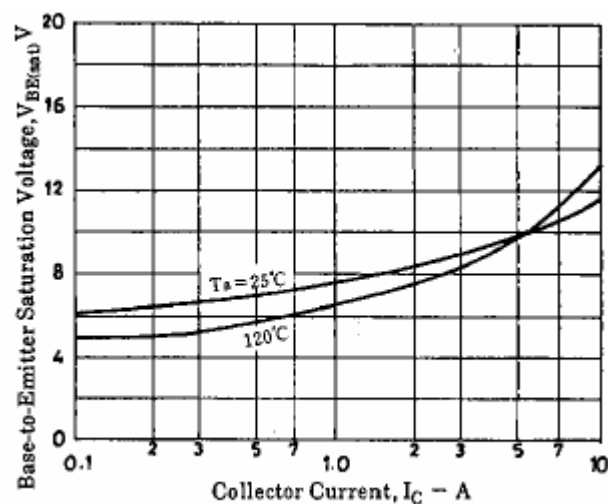


Fig.6 Base-Emitter Saturation Voltage

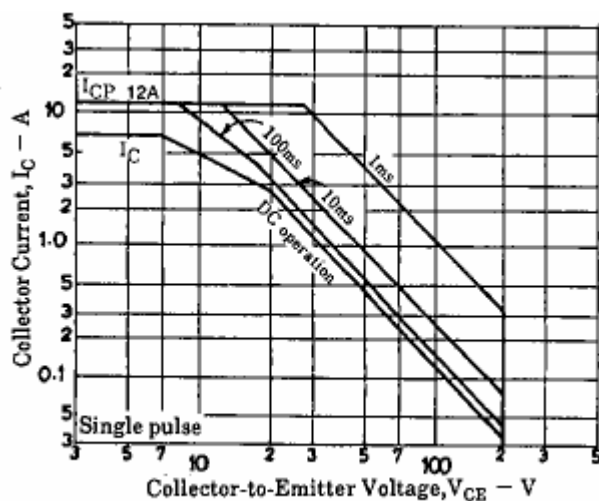


Fig.7 Safe Operating Area