

Silicon NPN Power Transistors

2SC3559

DESCRIPTION

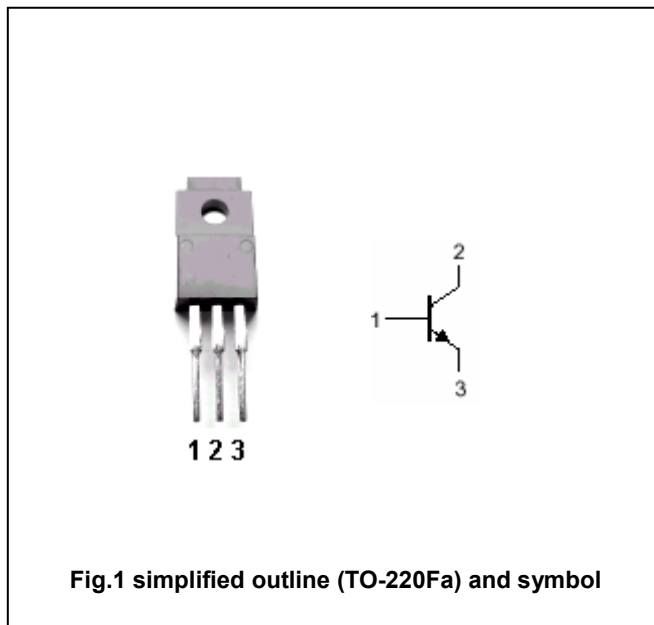
- With TO-220Fa package
- High breakdown voltage
- High speed switching

APPLICATIONS

- Switching regulator and high voltage switching applications
- High speed DC-DC converter applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		3	A
I_{CM}	Collector current-Peak		5	A
I_B	Base current		1	A
P_C	Collector power dissipation	$T_C=25$	30	W
		$T_a=25$	2	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

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CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=10mA$, $I_B=0$	800			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA$, $I_E=0$	900			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=0.8A$; $I_B=0.16A$			0.6	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=0.8A$; $I_B=0.16A$			1.2	V
I_{CBO}	Collector cut-off current	$V_{CB}=800V$; $I_E=0$			0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=7V$; $I_C=0$			1.0	mA
h_{FE}	DC current gain	$I_C=0.8A$; $V_{CE}=5V$	10			

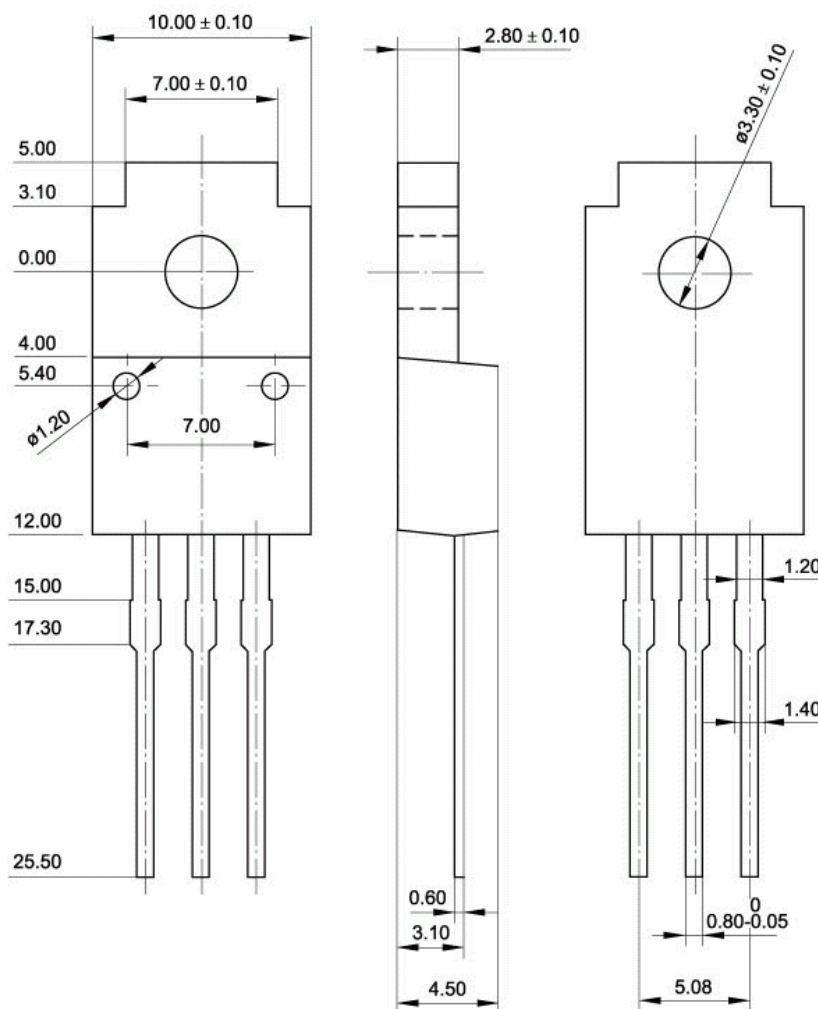
Switching times

t_r	Rise time	$I_{B1}=0.08A$; $I_{B2}=-0.2A$ $V_{CC}=400V$; $R_L=500\Omega$			1.0	μs
t_s	Storage time				4.0	μs
t_f	Fall time				1.0	μs

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)

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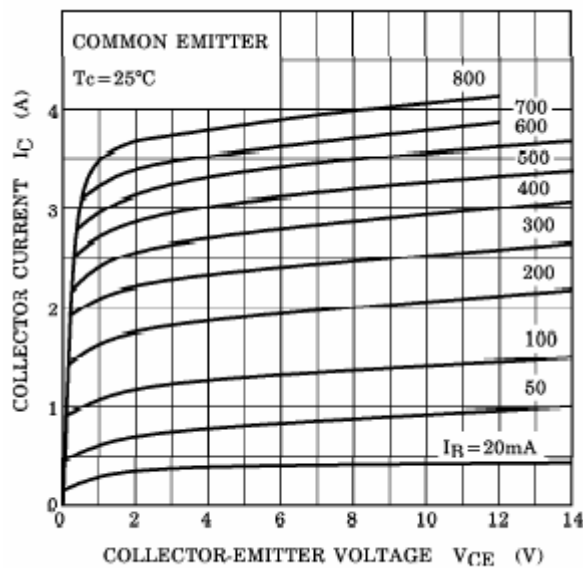


Fig.3 Static Characteristic

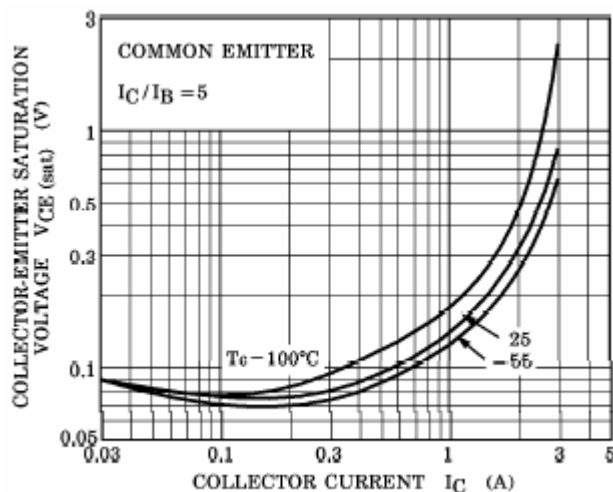


Fig.5 Collector-Emitter Saturation Voltage

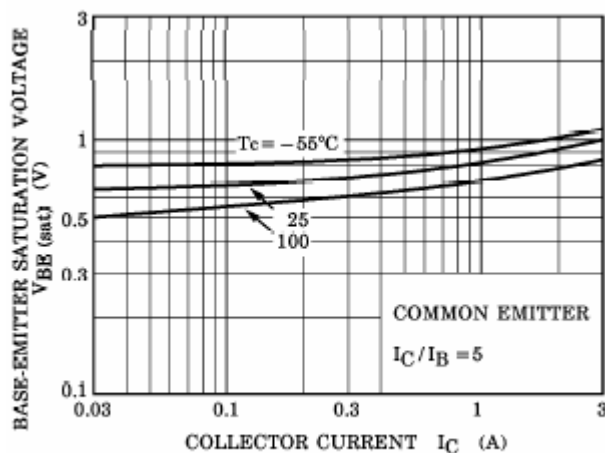


Fig.6 Base-Emitter Saturation Voltage

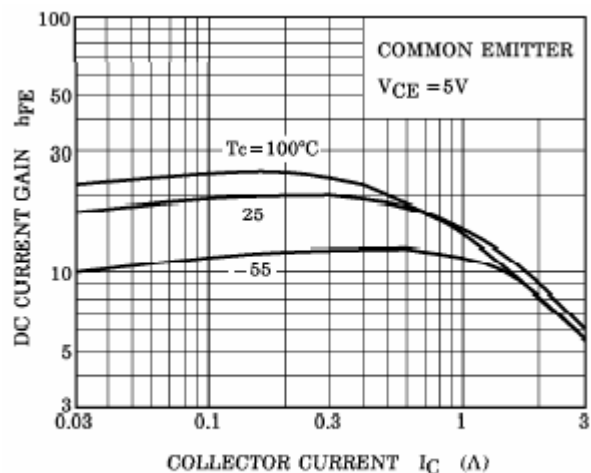


Fig.4 DC current Gain

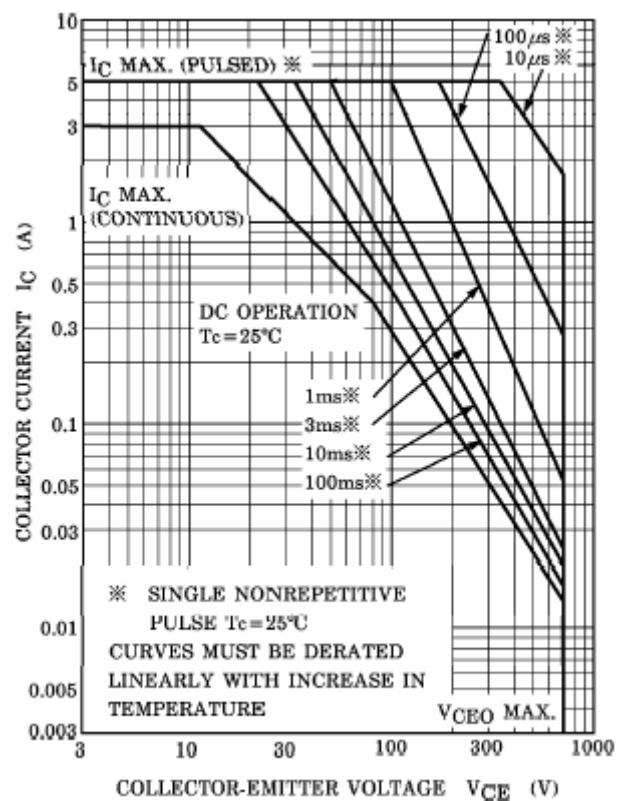


Fig.7 Safe Operating Area