

2SC3797, 2SC3797A

Silicon PNP Triple-Diffused Planar Type

High Breakdown Voltage, High Speed Switching

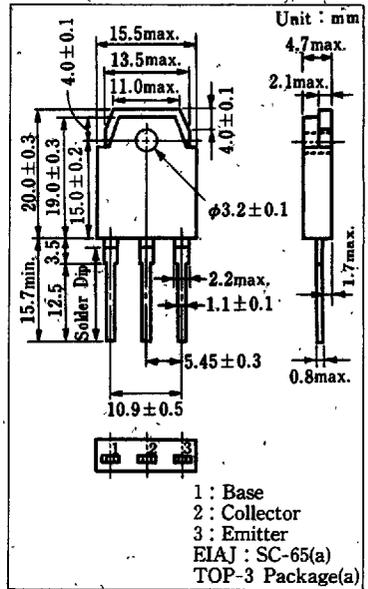
■ Features

- High speed switching
- High collector-base voltage (V_{CB0})
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

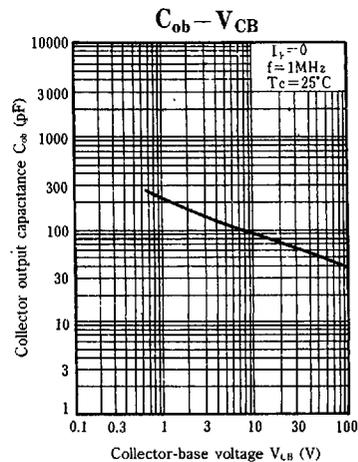
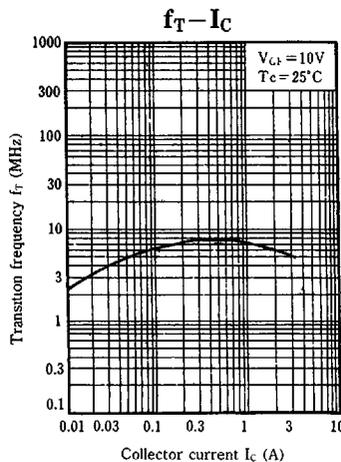
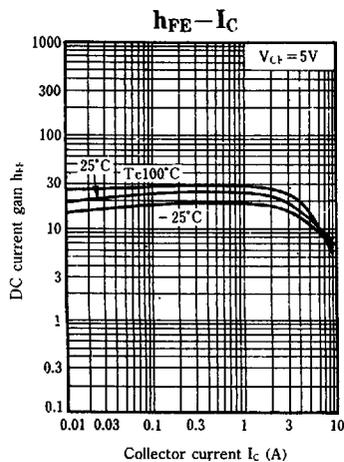
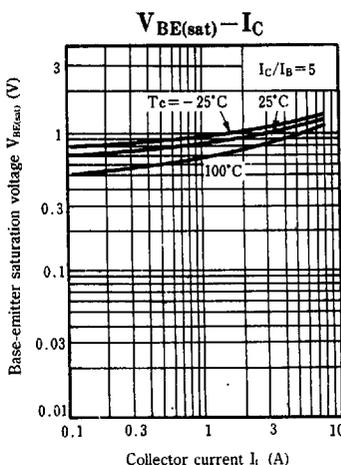
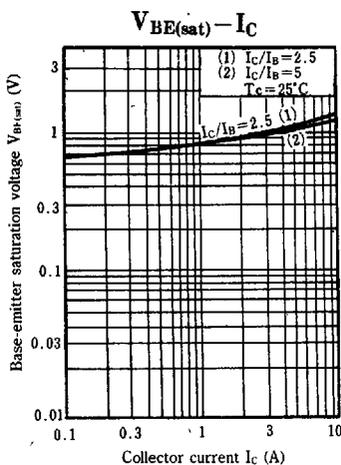
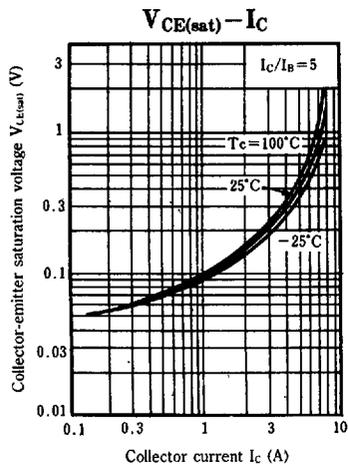
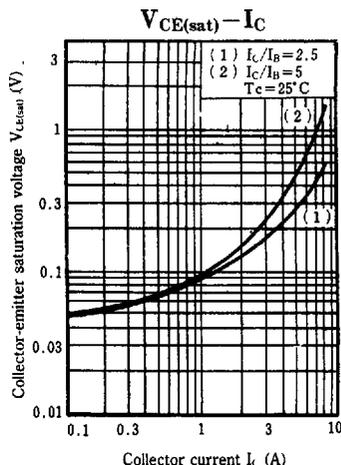
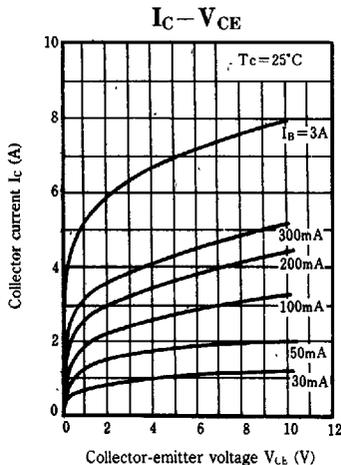
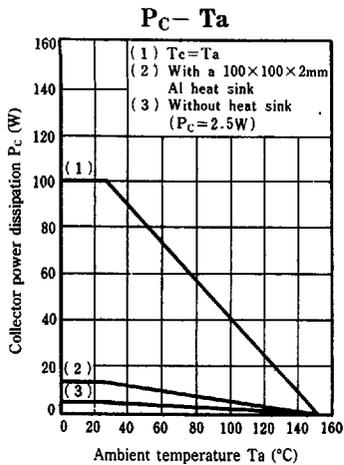
Item	Symbol	Value	Unit
Collector-base voltage	2SC3797	800	V
	2SC3797A	900	
Collector-emitter voltage	2SC3797	800	V
	2SC3797A	900	
Collector-emitter voltage	V_{CEO}	500	V
Emitter-base voltage	V_{EBO}	8	V
Peak collector current	I_{CP}	15	A
Collector current	I_C	7	A
Base current	I_B	4	A
Collector power dissipation	$T_c=25^\circ\text{C}$	100	W
	$T_a=25^\circ\text{C}$	2.5	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

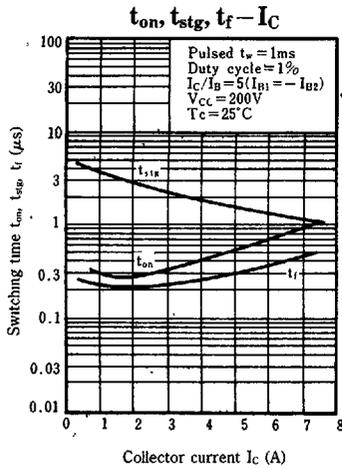
■ Package Dimensions



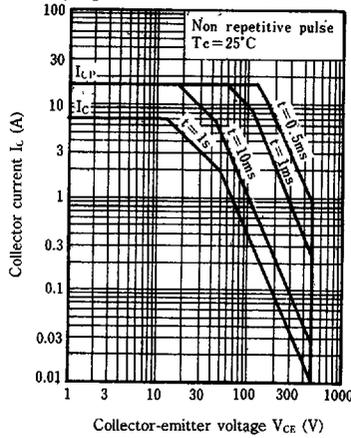
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=800\text{ V}, I_E=0$			100	μA
		$V_{CB}=900\text{ V}, I_E=0$			100	
Emitter cutoff current	I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			100	μA
Collector-emitter voltage	$V_{CEO(sus)}$	$I_C=0.2\text{ A}, L=25\text{ mH}$	500			V
DC current gain	h_{FE1}	$V_{CE}=5\text{ V}, I_C=0.1\text{ A}$	15			
	h_{FE2}	$V_{CE}=5\text{ V}, I_C=5\text{ A}$	8			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=5\text{ A}, I_B=1\text{ A}$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=5\text{ A}, I_B=1\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=1\text{ MHz}$		8		MHz
Turn-on time	2SC3797	t_{on}	$I_C=5\text{ A}$		1	μs
	2SC3797A				1.2	
Storage time	t_{stg}	$I_{B1}=1\text{ A}, I_{B2}=-1\text{ A}$			3	μs
Collector current fall time	2SC3797	t_f	$V_{CC}=200\text{ V}$		1	μs
	2SC3797A				1.2	

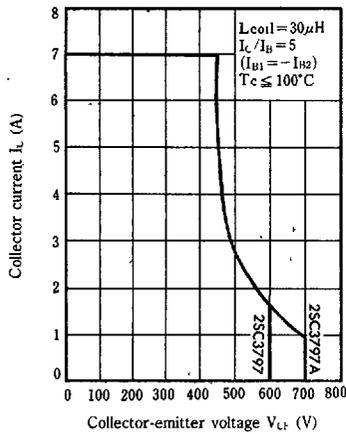




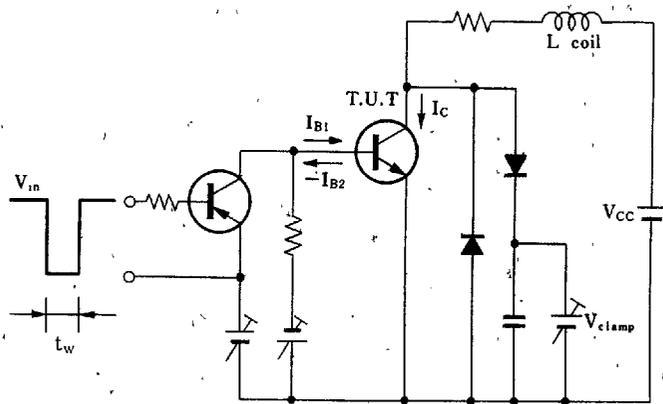
Safety operation area-forward bias (ASO)



Safety operation area-reverse bias (ASO)



Measurement circuit of reverse bias ASO



$R_{th}(t) - t$

