

2SC3795, 2SC3795A

Silicon NPN triple diffusion planar type

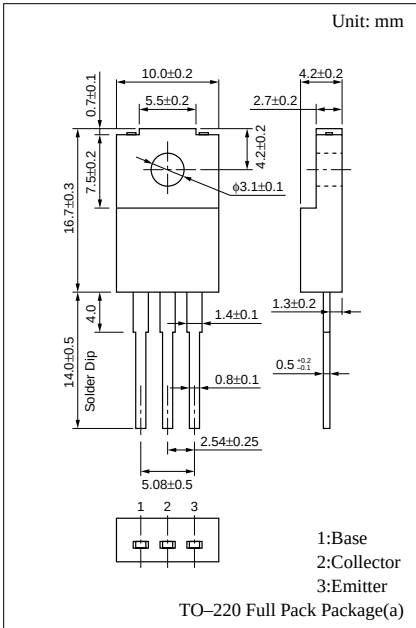
For high breakdown voltage high-speed switching

Features

- High-speed switching
- High collector to base voltage V_{CBO}
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

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

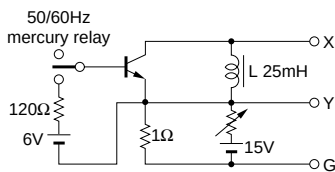
Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SC3795	V_{CBO}	800	V
	2SC3795A		900	
Collector to emitter voltage	2SC3795	V_{CES}	800	V
	2SC3795A		900	
Collector to emitter voltage		V_{CEO}	500	V
Emitter to base voltage		V_{EBO}	8	V
Peak collector current		I_{CP}	10	A
Collector current		I_C	5	A
Base current		I_B	3	A
Collector power dissipation	$T_C=25^{\circ}C$	P_C	40	W
	$T_a=25^{\circ}C$		2	
Junction temperature		T_j	150	$^{\circ}C$
Storage temperature		T_{sig}	-55 to +150	$^{\circ}C$

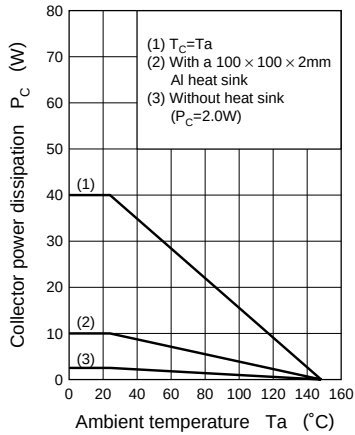
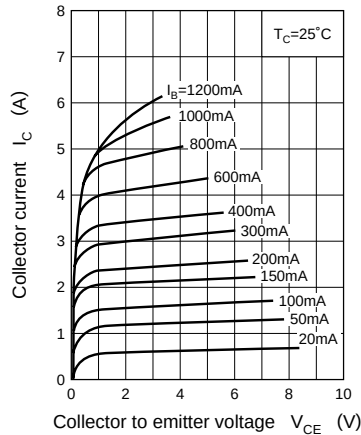
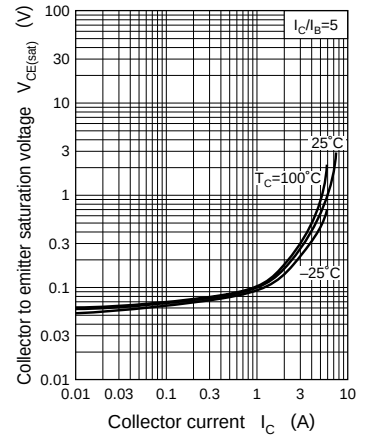
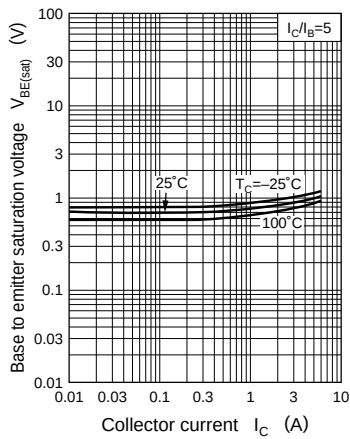
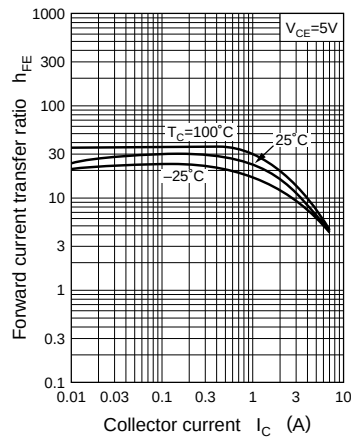
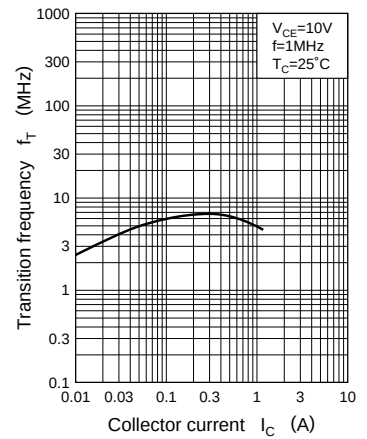
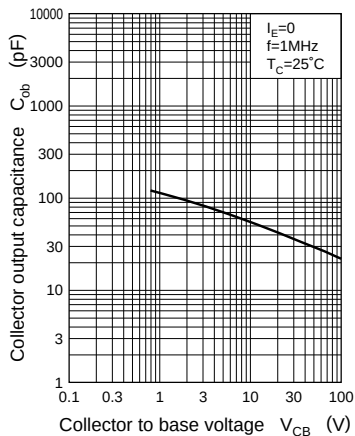
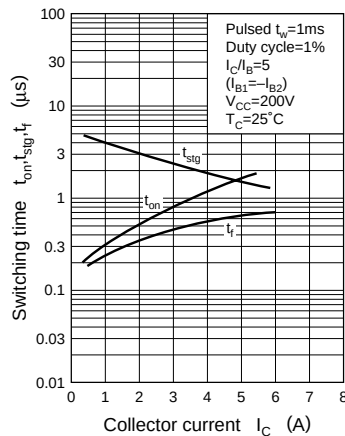


Electrical Characteristics ($T_C=25^\circ\text{C}$)

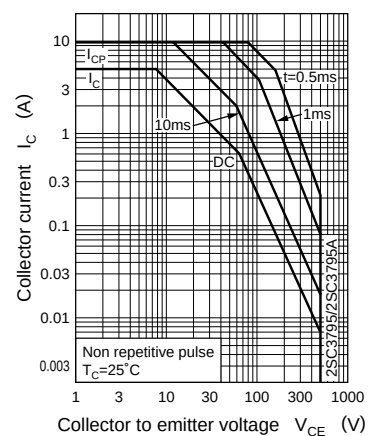
Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SC3795	I _{CBO}	V _{CB} = 800V, I _E = 0			100	μA
	2SC3795A		V _{CB} = 900V, I _E = 0			100	
Emitter cutoff current		I _{EBO}	V _{EB} = 5V, I _C = 0			100	μA
Collector to emitter voltage		V _{CEO(sus)} *	I _C = 0.2A, L = 25mH	500			V
Forward current transfer ratio		h _{FE1}	V _{CE} = 5V, I _C = 0.1A	15			
		h _{FE2}	V _{CE} = 5V, I _C = 3A	8			
Collector to emitter saturation voltage		V _{CE(sat)}	I _C = 3A, I _B = 0.6A			1	V
Base to emitter saturation voltage		V _{BE(sat)}	I _C = 3A, I _B = 0.6A			1.5	V
Transition frequency		f _T	V _{CE} = 10V, I _C = 0.5A, f = 1MHz		8		MHz
Turn-on time	2SC3795	t _{on}	I _C = 3A, I _{B1} = 0.6A, I _{B2} = − 0.6A, V _{CC} = 200V			1	μs
	2SC3795A					1.2	
Storage time		t _{stg}				3	μs
Fall time	2SC3795	t _f				1	μs
	2SC3795A					1.2	

* $V_{CEO(sus)}$ Test circuit

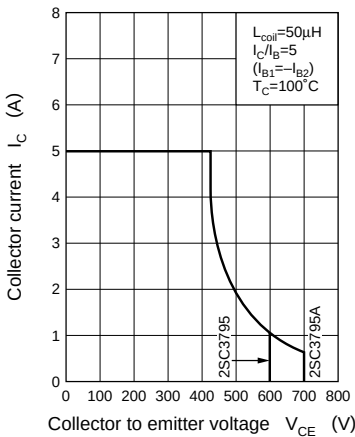


$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(\text{sat})} - I_C$  $V_{BE(\text{sat})} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$  $t_{on}, t_{stg}, t_f - I_C$ 

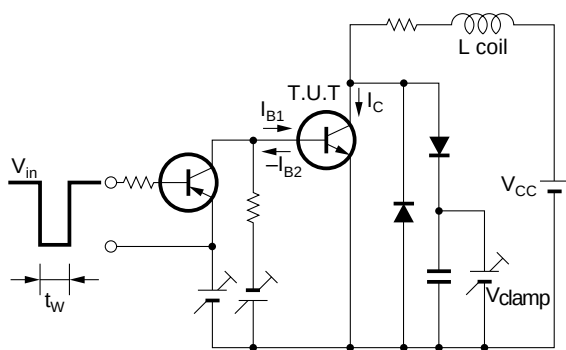
Area of safe operation (ASO)



Area of safe operation, reverse bias ASO



Reverse bias ASO measuring circuit



$R_{th}(t) - t$

