

# 2SC5393

## Silicon NPN triple diffusion planar type

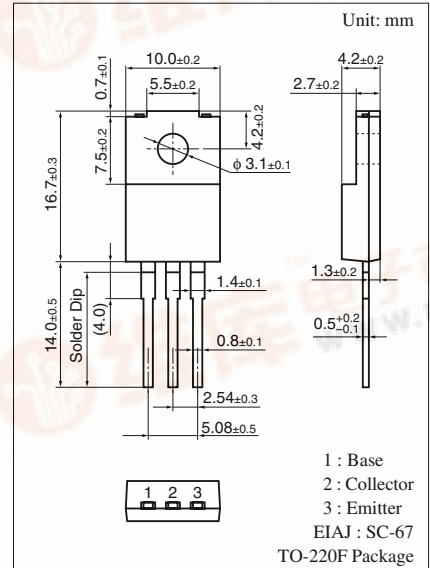
For high breakdown voltage high-speed switching

### ■ Features

- High-speed switching
- High collector to base voltage  $V_{CBO}$
- Wide area of safe operation (ASO)
- Satisfactory linearity of forward current transfer ratio  $h_{FE}$
- Full-pack package which can be installed to the heat sink with one screw

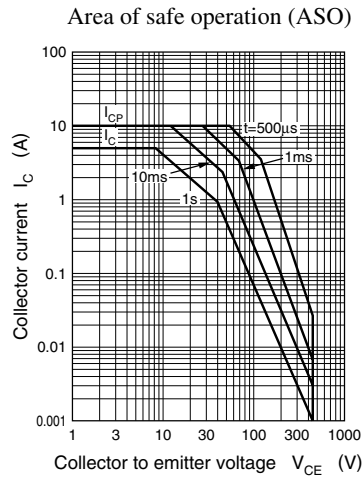
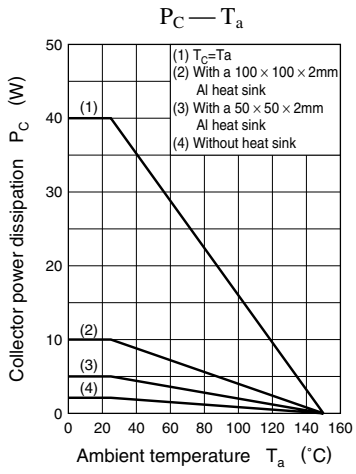
### ■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector to base voltage	$V_{CBO}$	600	V	
Collector to emitter voltage	$V_{CES}$	600	V	
	$V_{CEO}$	400	V	
Emitter to base voltage	$V_{EBO}$	7	V	
Peak collector current	$I_{CP}$	10	A	
Collector current	$I_C$	5	A	
Base current	$I_B$	1	A	
Collector power dissipation	$P_C$	$T_C = 25^\circ\text{C}$	40	W
		$T_a = 25^\circ\text{C}$	2	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	



### ■ Electrical Characteristics $T_C = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 600\text{ V}, I_E = 0$			100	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			100	$\mu\text{A}$
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = 5\text{ V}, I_C = 0.1\text{ A}$	10		60	
	$h_{FE2}$	$V_{CE} = 5\text{ V}, I_C = 1.5\text{ A}$	8			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1.5\text{ A}, I_B = 0.3\text{ A}$			1	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1.5\text{ A}, I_B = 0.3\text{ A}$			2	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 0.1\text{ A}, f = 0.5\text{ MHz}$		30		MHz
Storage time	$t_{stg}$	$I_C = 2\text{ A}, I_{B1} = 0.4\text{ A}, I_{B2} = -0.8\text{ A}$			2.0	$\mu\text{s}$
Fall time	$t_f$	$V_{CC} = 150\text{ V}$			0.3	$\mu\text{s}$



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