

# 2SC3942

## Silicon NPN triple diffusion planar type

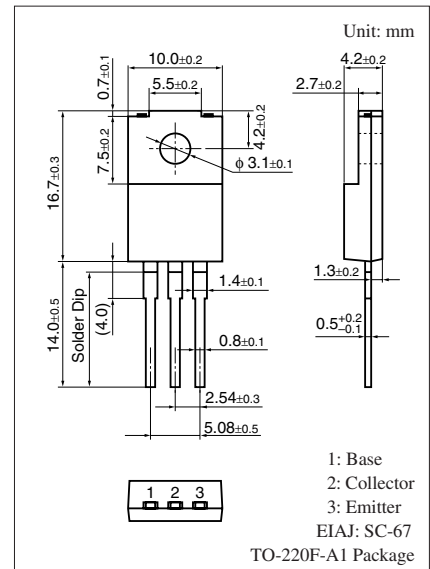
For color TV chroma output

### ■ Features

- High collector-emitter voltage (Base open)  $V_{CEO}$
- Small collector output capacitance (Common base, input open circuited)  $C_{ob}$
- Full-pack package which can be installed to the heat sink with one screw

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

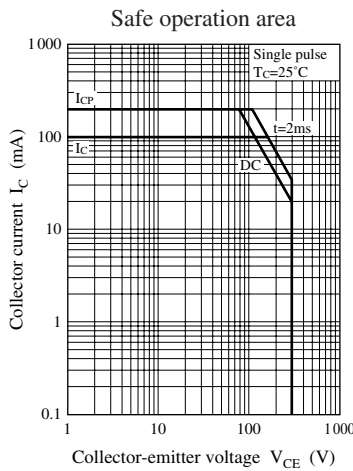
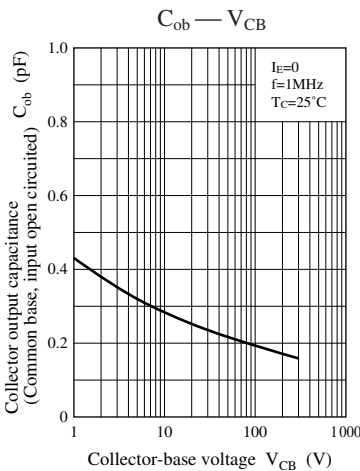
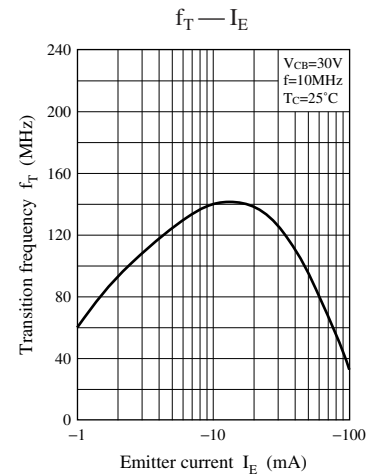
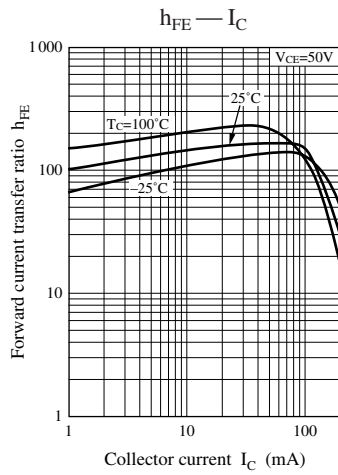
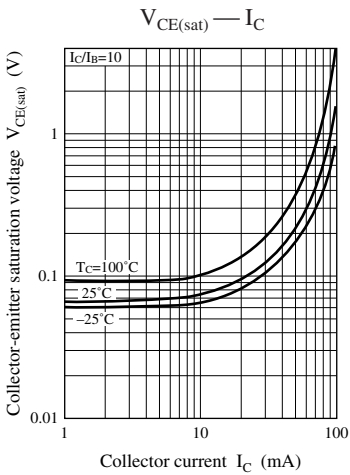
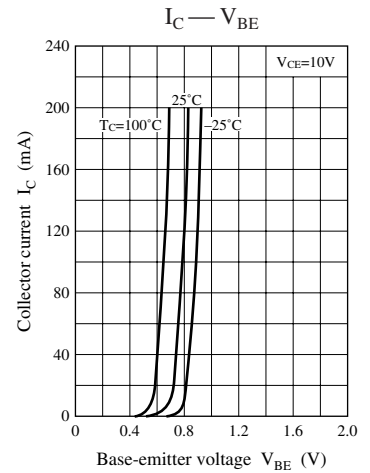
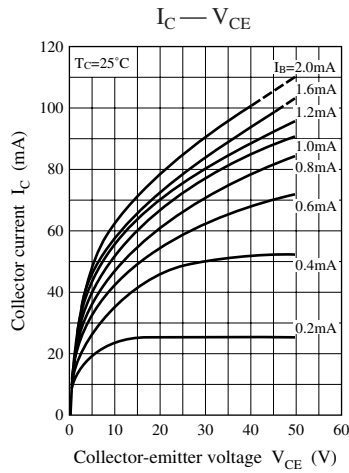
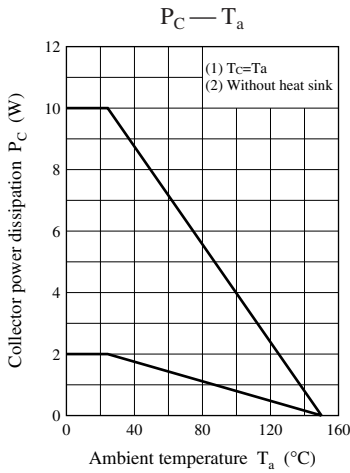
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	300	V
Collector-emitter voltage (Base open)	$V_{CEO}$	300	V
Emitter-base voltage (Collector open)	$V_{EBO}$	7	V
Collector current	$I_C$	0.1	A
Peak collector current	$I_{CP}$	0.2	A
Collector power dissipation	$P_C$	10 2	W
	$T_C = 25^\circ\text{C}$		
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}$ , $I_E = 0$	300			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 1 \text{ mA}$ , $I_B = 0$	300			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}$ , $I_C = 0$	7			V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 10 \text{ V}$ , $I_C = 30 \text{ mA}$			1.2	V
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 200 \text{ V}$ , $I_B = 0$			10	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 50 \text{ V}$ , $I_C = 5 \text{ mA}$	50		250	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30 \text{ mA}$ , $I_B = 3 \text{ mA}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 30 \text{ V}$ , $I_C = 20 \text{ mA}$ , $f = 10 \text{ MHz}$	70	140		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 30 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$		2.7		pF

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



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