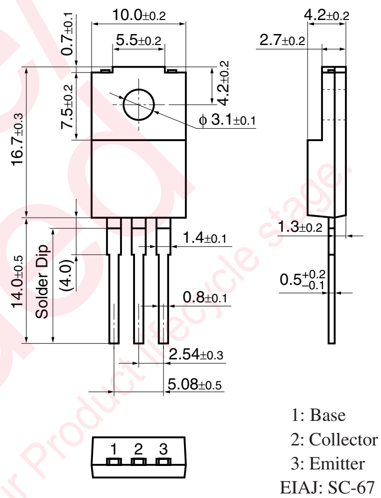
2SC3942

Silicon NPN triple diffusion planar type

For color TV chroma output

Unit: mm



1: Base
2: Collector
3: Emitter
EIAJ: SC-67
TO-220F-A1 Package

■ 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 $T_a = 25°C$

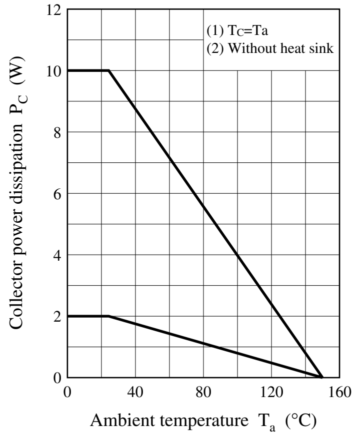
Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)		V_{CBO}	300	V
Collector-emitter voltage (Base open)		V_{CEO}	300	V
Emitter-base voltage (Collector open)		V_{EBO}	7	V
Collector current		I_C	0.1	A
Peak collector current		I_{CP}	0.2	A
Collector power dissipation	$T_C = 25°C$	P_C	10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

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

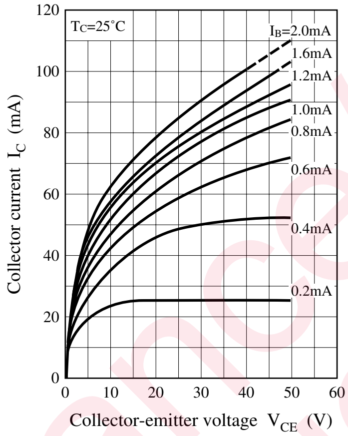
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	300			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1\ mA$, $I_B = 0$	300			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	7			V
Base-emitter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

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

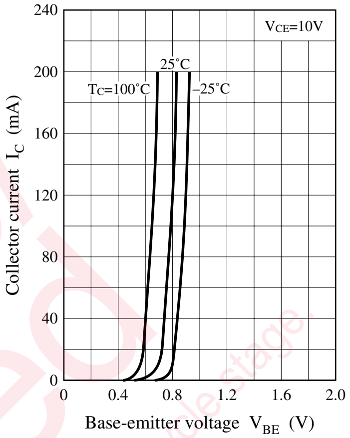
P_C — T_a



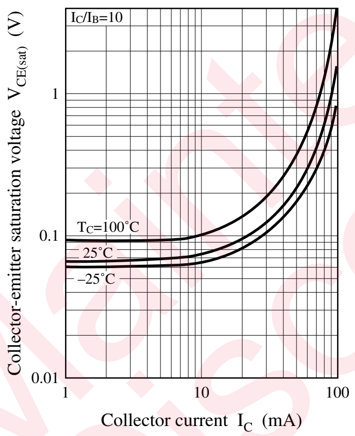
I_C — V_{CE}



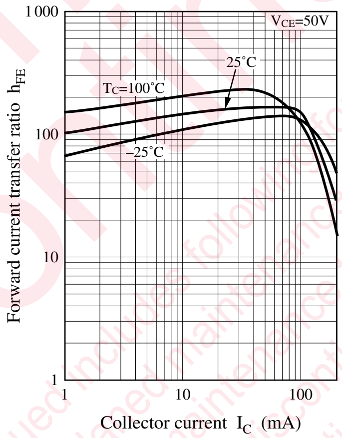
I_C — V_{BE}



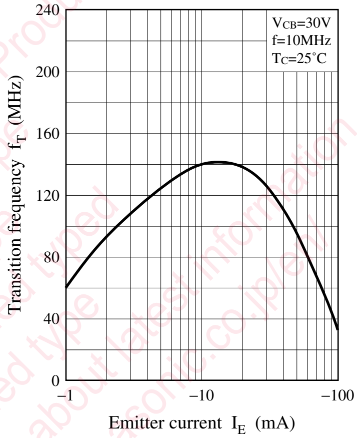
$V_{CE(sat)}$ — I_C



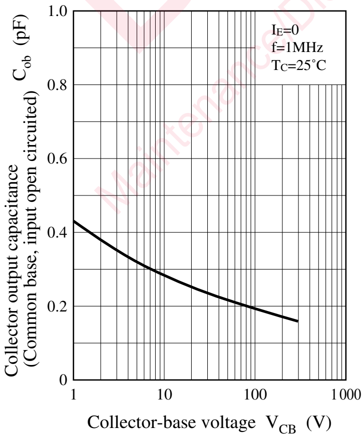
h_{FE} — I_C



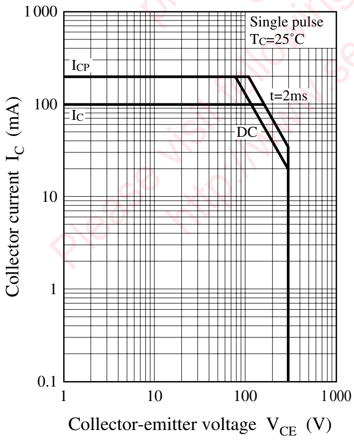
f_T — I_E



C_{ob} — V_{CB}



Safe operation area



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