

# 2SC3944, 2SC3944A

## Silicon NPN epitaxial planar type

For low-frequency driver and high power amplification  
Complementary to 2SA1535 and 2SA1535A

### ■ Features

- Excellent collector current  $I_C$  characteristics of forward current transfer ratio  $h_{FE}$
- High transition frequency  $f_T$
- A complementary pair with 2SA1535 and 2SA1535A, is optimum for the driver stage of a 60 W to 100 W output amplifier
- 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)	2SC3944	150	V	
	2SC3944A	180		
Collector-emitter voltage (Base open)	2SC3944	150	V	
	2SC3944A	180		
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V	
Collector current	$I_C$	1	A	
Peak collector current	$I_{CP}$	1.5	A	
Collector power dissipation	$T_C = 25^\circ\text{C}$	$P_C$	15	W
			2.0	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

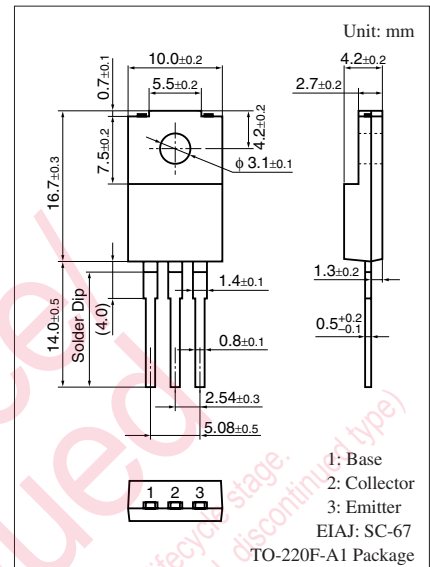
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

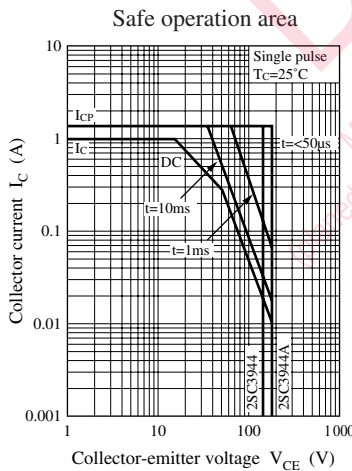
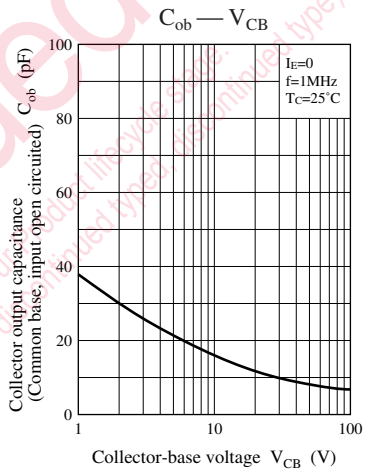
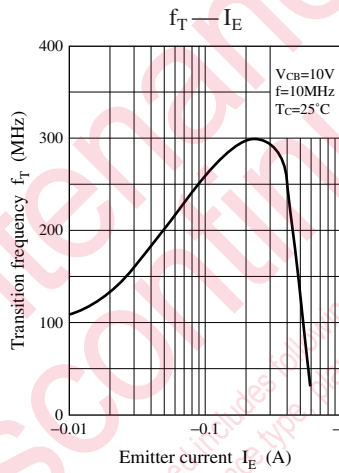
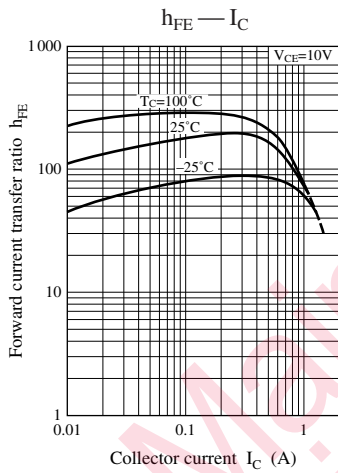
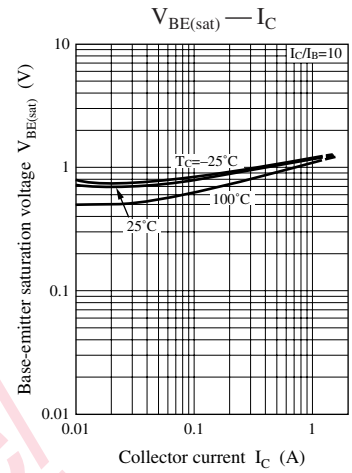
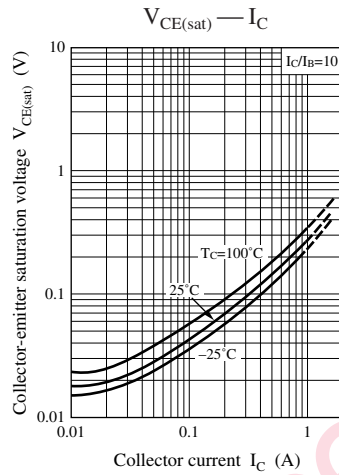
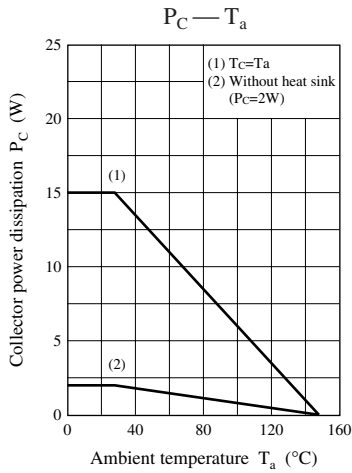
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SC3944	$I_C = 1\text{ mA}, I_B = 0$	150			V
	2SC3944A					
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	2SC3944	$V_{CB} = 150\text{ V}, I_E = 0$			10	$\mu\text{A}$
	2SC3944A					
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = 10\text{ V}, I_C = 150\text{ mA}$	65	160	330	—
		$V_{CE} = 5\text{ V}, I_C = 500\text{ mA}$	50	100		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		0.5	2.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		1.0	2.0	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 50\text{ mA}, f = 10\text{ MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		30	50	pF

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

Rank	P	Q	R	S
$h_{FE1}$	65 to 110	90 to 155	130 to 220	185 to 330





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