

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	$^\circ\text{C}$	

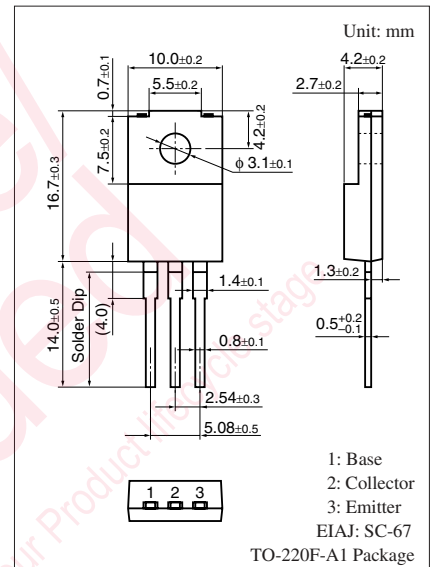
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

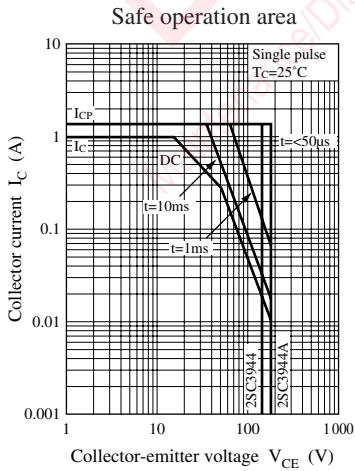
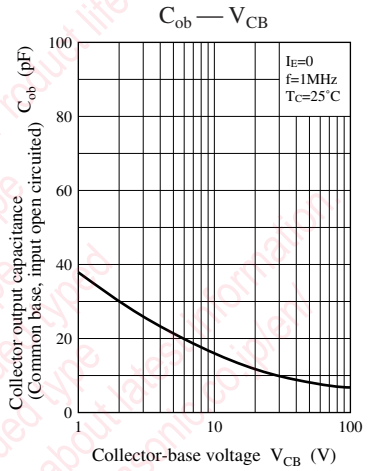
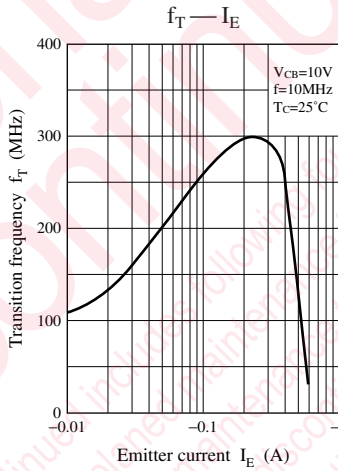
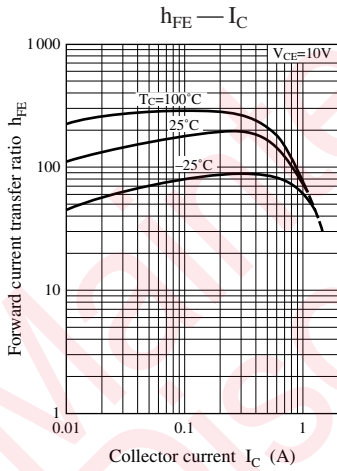
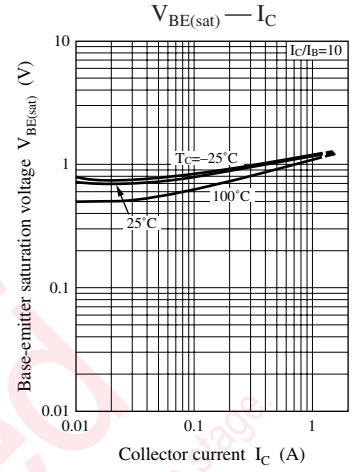
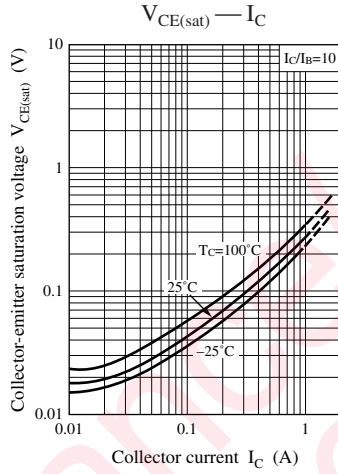
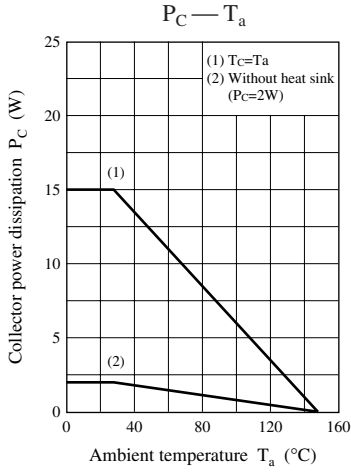
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	2SC3944	$I_C = 1\text{ mA}, I_B = 0$	150			V
	2SC3944A		180			
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Collector-base cutoff current (Emitter open)	2SC3944	$V_{CB} = 150\text{ V}, I_E = 0$			10	μA
	2SC3944A		$V_{CB} = 180\text{ V}, I_E = 0$		10	
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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