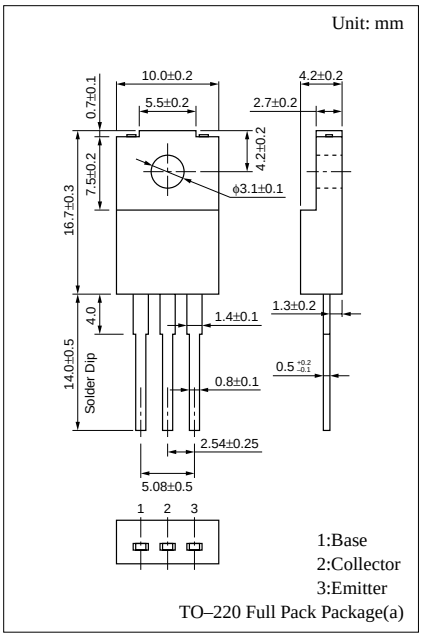
2SC3944, 2SC3944A

Silicon NPN epitaxial planar type

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



Features

- Satisfactory foward current transfer ratio h_{FE} vs. collector current I_C characteristics
- High transition frequency f_T
- Makes up a complementary pair with 2SA1535 and 2SA1535A, which is optimum for the driver-stage of a 60 to 100W output amplifier
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings (T_C=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SC3944	V_{CBO}	150	V
	2SC3944A		180	
Collector to emitter voltage	2SC3944	V_{CEO}	150	V
	2SC3944A		180	
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	1.5	A
Collector current		I_C	1	A
Collector power dissipation	T_C=25°C	P_C	15	W
	Ta=25°C		2.0	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 to +150	˚C

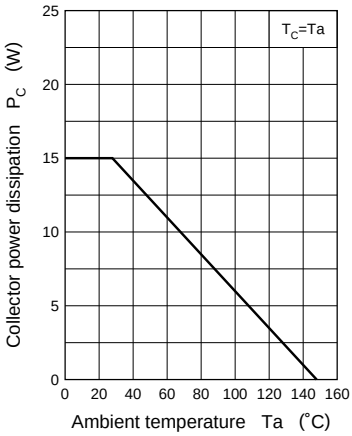
Electrical Characteristics (T_C=25˚C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SC3944	I_{CBO}	V_{CB} = 150V, I_E = 0			10	μA
	2SC3944A		V_{CB} = 180V, I_E = 0			10	
Collector to base voltage	2SC3944	V_{CEO}	I_C = 1mA, I_B = 0	150			V
	2SC3944A			180			
Emitter to base voltage		V_{EBO}	I_E = 10μA, I_C = 0	5			V
Forward current transfer ratio		h_{FE1}*	V_{CE} = 10V, I_C = 150mA	95	160	220	
		h_{FE2}	V_{CE} = 5V, I_C = 500mA	50	100		
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA		0.5	2	V
Base to emitter saturation voltage		$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA		1	2	V
Transition frequency		f_T	V_{CB} = 10V, I_E = –50mA, f = 10MHz		200		MHz
Collector output capacitance		C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		30	50	pF

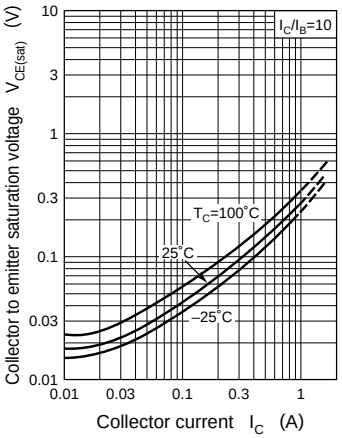
*h_{FE1} Rank classification

Rank	Q	R
h_{FE1}	95 to 155	130 to 220

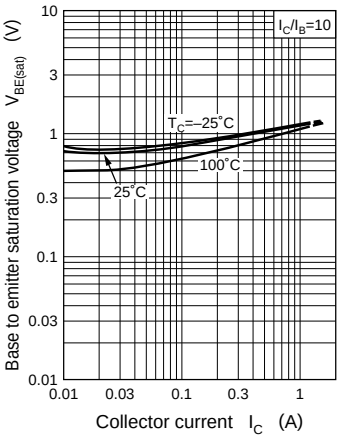
P_C — Ta



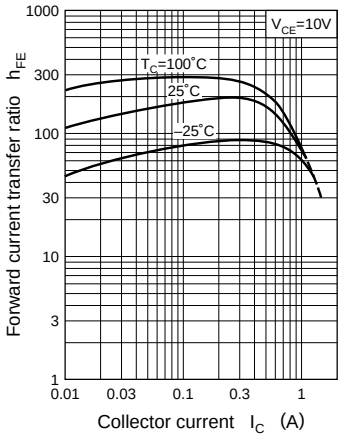
$V_{CE(sat)}$ — I_C



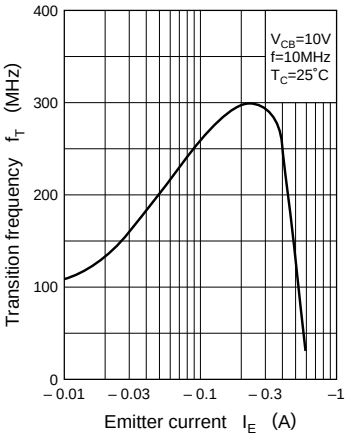
$V_{BE(sat)}$ — I_C



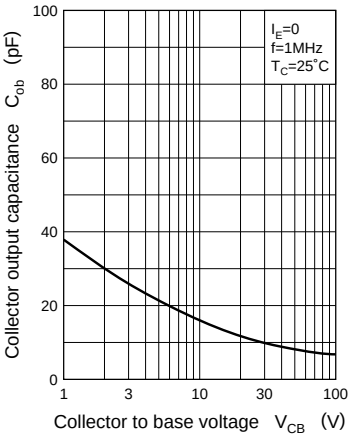
h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}



Area of safe operation (ASO)