

# 2SC1980

## Silicon NPN epitaxial planer type

For high breakdown voltage low-noise amplification

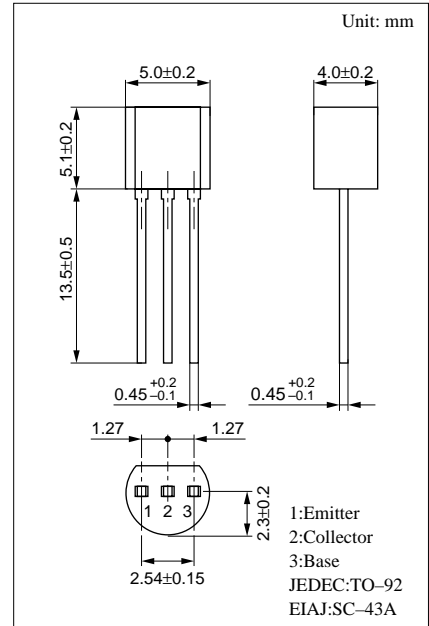
Complementary to 2SA921

### ■ Features

- High collector to emitter voltage  $V_{CEO}$ .
- Low noise voltage NV.

### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	120	V
Collector to emitter voltage	$V_{CEO}$	120	V
Emitter to base voltage	$V_{EBO}$	7	V
Peak collector current	$I_{CP}$	50	mA
Collector current	$I_C$	20	mA
Collector power dissipation	$P_C$	250	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



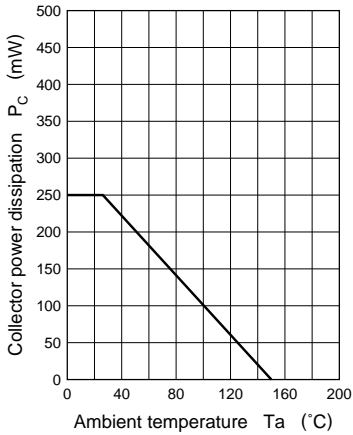
### ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50V, I_E = 0$			0.1	$\mu A$
	$I_{CEO}$	$V_{CE} = 50V, I_B = 0$			1	$\mu A$
Collector to base voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	120			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	120			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	7			V
Forward current transfer ratio	$h_{FE}^*$	$V_{CE} = 5V, I_C = 2mA$	180		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20mA, I_B = 2mA$			0.6	V
Transition frequency	$f_T$	$V_{CB} = 5V, I_E = -2mA, f = 200MHz$		200		MHz
Noise voltage	NV	$V_{CE} = 40V, I_C = 1mA, G_V = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$			150	mV

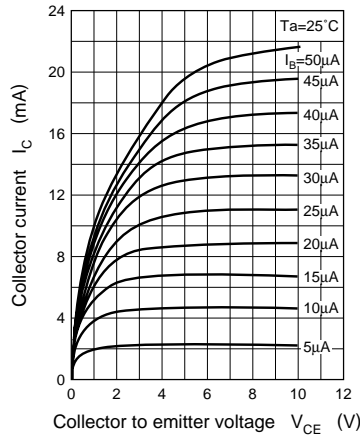
\* $h_{FE}$  Rank classification

Rank	R	S	T
$h_{FE}$	180 ~ 360	260 ~ 520	360 ~ 700

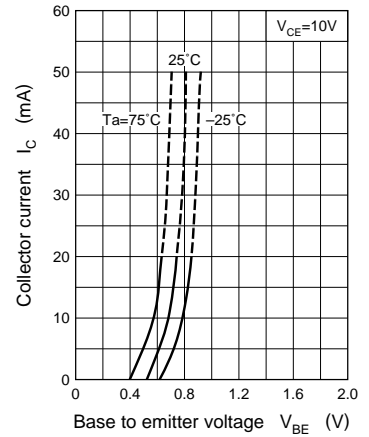
$P_C - T_a$



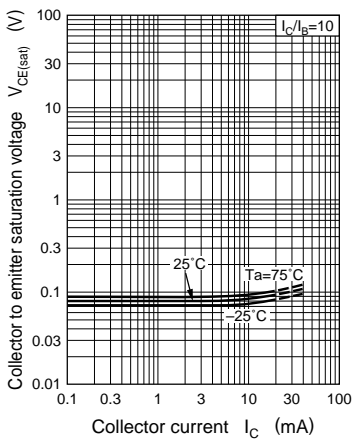
$I_C - V_{CE}$



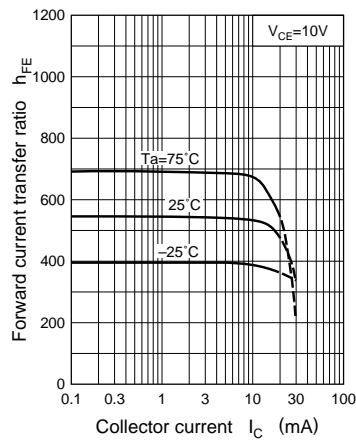
$I_C - V_{BE}$



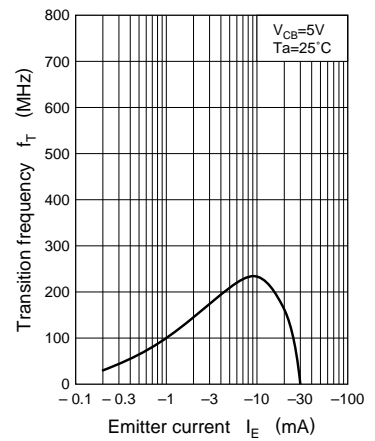
$V_{CE(sat)} - I_C$



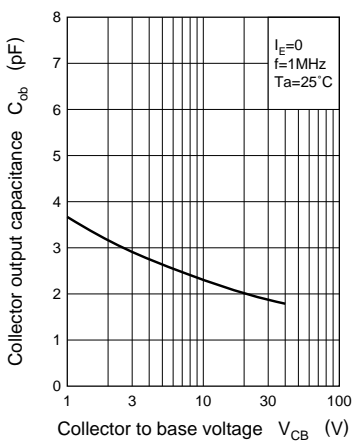
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



$NV - I_C$

