

# 2SA1533

## Silicon PNP epitaxial planer type

For low-frequency driver amplification

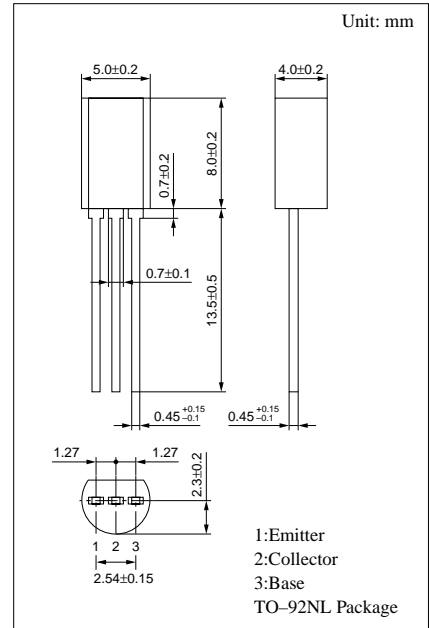
Complementary to 2SC3939

### Features

- High collector to emitter voltage  $V_{CEO}$ .
- Optimum for the driver stage of a low-frequency and 25 to 30W output amplifier.

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-80	V
Collector to emitter voltage	$V_{CEO}$	-80	V
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-1	A
Collector current	$I_C$	-0.5	A
Collector power dissipation	$P_C$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



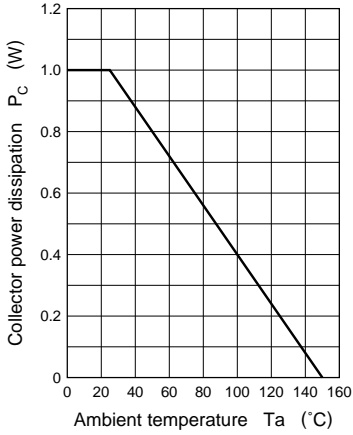
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -20V, I_E = 0$			-0.1	$\mu A$
Collector to base voltage	$V_{CBO}$	$I_C = -10\mu A, I_E = 0$	-80			V
Collector to emitter voltage	$V_{CEO}$	$I_C = -100\mu A, I_B = 0$	-80			V
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -10V, I_C = -150mA$	90		220	
	$h_{FE2}$	$V_{CE} = -5V, I_C = -500mA$	50	100		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -300mA, I_B = -30mA$		-0.2	-0.4	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -300mA, I_B = -30mA$		-0.85	-1.2	V
Transition frequency	$f_T$	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		85		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$		11	20	pF

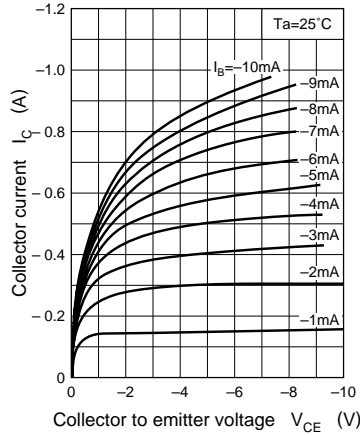
\* $h_{FE1}$  Rank classification

Rank	Q	R
$h_{FE1}$	90 ~ 155	130 ~ 220

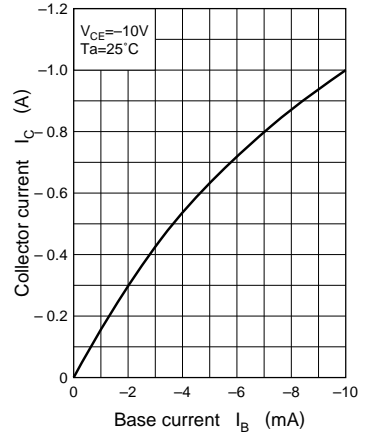
$P_C - T_a$



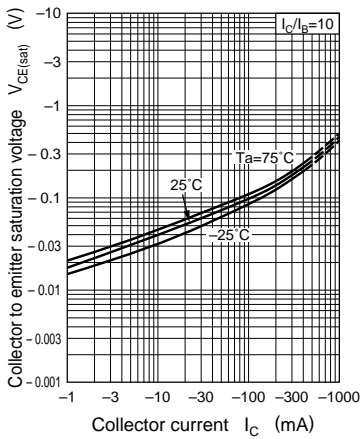
$I_C - V_{CE}$



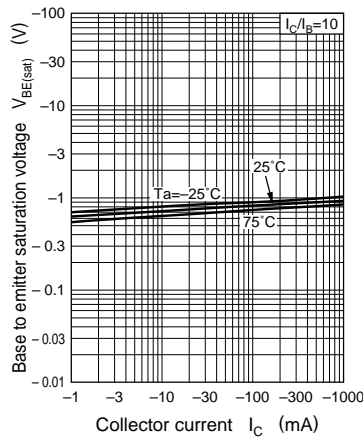
$I_C - I_B$



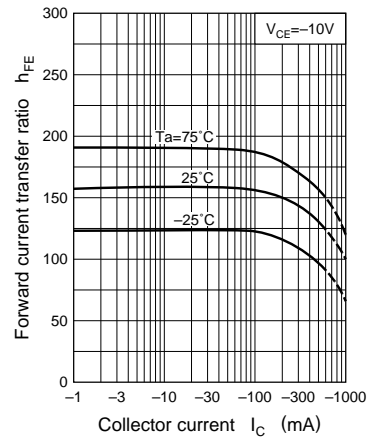
$V_{CE(sat)} - I_C$



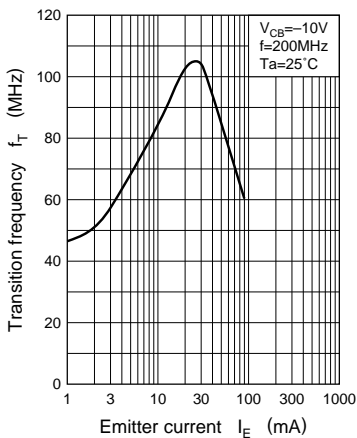
$V_{BE(sat)} - I_C$



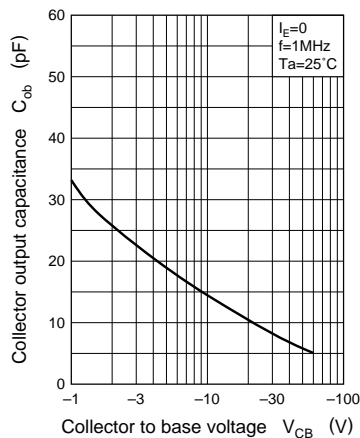
$h_{FE} - I_C$



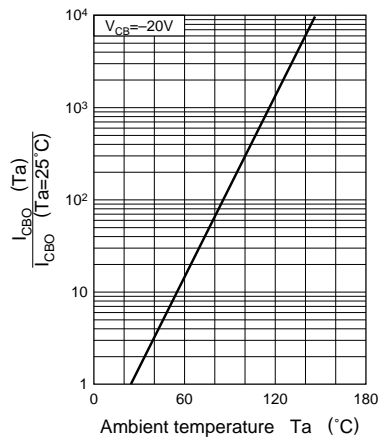
$f_T - I_E$



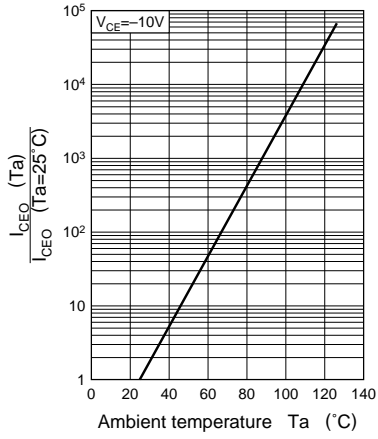
$C_{ob} - V_{CB}$



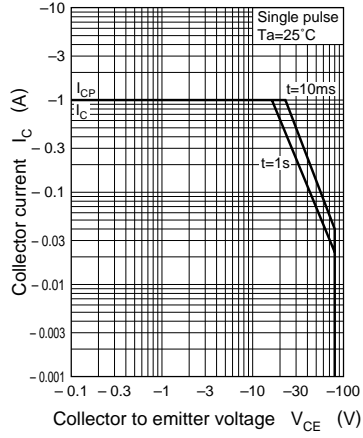
$I_{CBO} - T_a$



$I_{CEO} - T_a$



Area of safe operation (ASO)



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