

# 2SA1535, 2SA1535A

## Silicon PNP epitaxial planar type

For low-frequency driver and high power amplification

Complementary to 2SC3944 and 2SC3944A

### Features

- Satisfactory forward current transfer ratio  $h_{FE}$  vs. collector current  $I_C$  characteristics
- High transition frequency  $f_T$
- Makes up a complementary pair with 2SC3944 and 2SC3944A, which is optimum for the driver-stage of a 60 to 100W output amplifier.

### Absolute Maximum Ratings ( $T_C=25^\circ\text{C}$ )

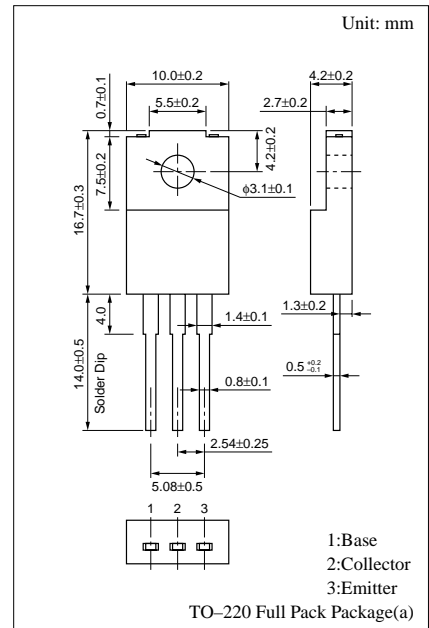
Parameter	Symbol	Ratings	Unit
Collector to base voltage	2SA1535	-150	V
	2SA1535A	-180	
Collector to emitter voltage	2SA1535	-150	V
	2SA1535A	-180	
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-1.5	A
Collector current	$I_C$	-1	A
Collector power dissipation	$P_C$	$T_C=25^\circ\text{C}$	15
		$T_a=25^\circ\text{C}$	2.0
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

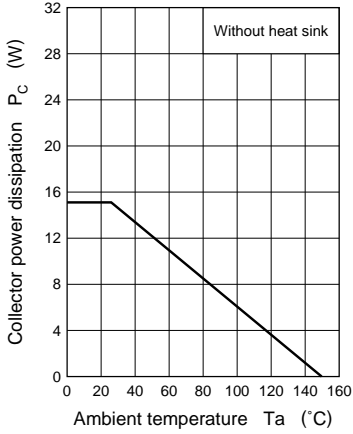
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	2SA1535	$I_{CB0}$	$V_{CB} = -150\text{V}, I_E = 0$		-10	$\mu\text{A}$
Collector to emitter voltage	2SA1535	$V_{CE0}$	$I_C = -1\text{mA}, I_B = 0$	-150		V
	2SA1535A		$I_C = -100\mu\text{A}, I_B = 0$	-180		
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -10\text{V}, I_C = -150\text{mA}$	90	160	220	
	$h_{FE2}$	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$	50	100		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$		-0.5	-2.0	V
Base to 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	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		30	50	pF

\* $h_{FE1}$  Rank classification

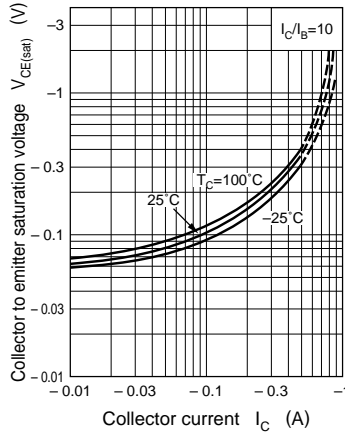
Rank	Q	R
$h_{FE1}$	90 to 155	130 to 220



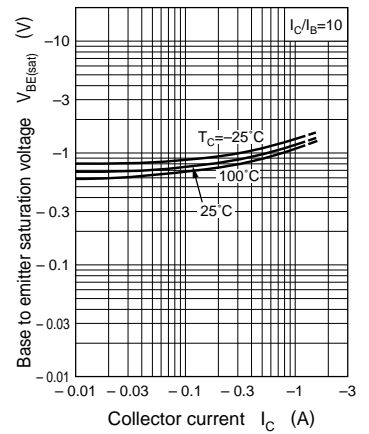
$P_C - T_a$



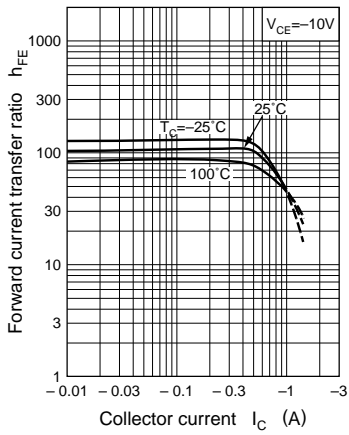
$V_{CE(sat)} - I_C$



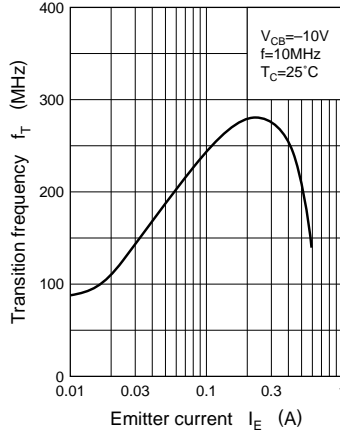
$V_{BE(sat)} - I_C$



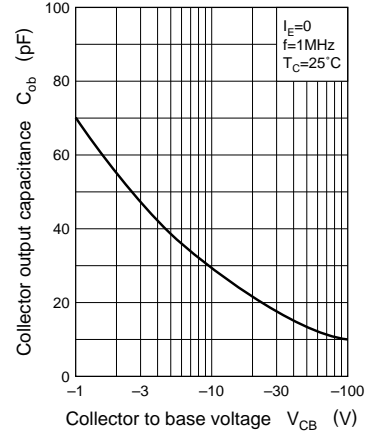
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



Area of safe operation (ASO)

