

# 2SB1554

## Silicon PNP epitaxial planar type

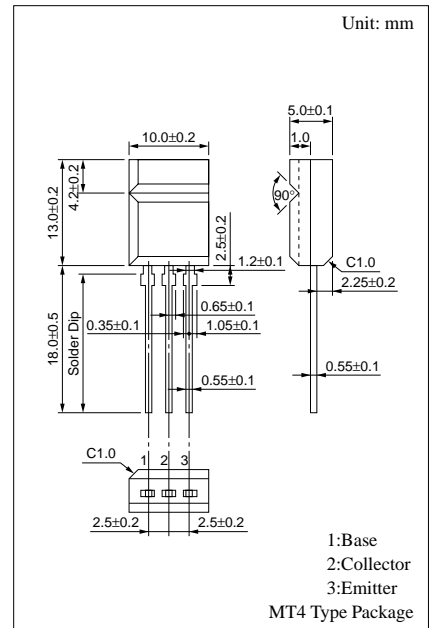
For power amplification

### Features

- High forward current transfer ratio  $h_{FE}$  which has satisfactory linearity
- Allowing automatic insertion with radial tapping

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

Parameter	Symbol	Rated	Unit
Collector to base voltage	$V_{CBO}$	-60	V
Collector to emitter voltage	$V_{CEO}$	-60	V
Emitter to base voltage	$V_{EBO}$	-20	V
Peak collector current	$I_{CP}$	-8	A
Collector current	$I_C$	-4	A
Base current	$I_B$	-2	A
Collector power dissipation	$P_C$	15	W
		2	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



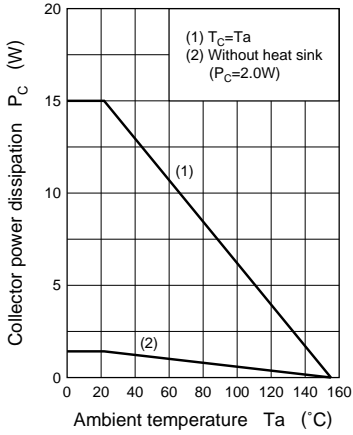
### Electrical Characteristics ( $T_C=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -60\text{V}, I_E = 0$			-10	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = -50\text{V}, I_B = 0$			-50	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -15\text{V}, I_C = 0$			-10	$\mu\text{A}$
Collector to emitter voltage	$V_{CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60			V
	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -100\text{mA}$			-1.0	V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = -4\text{V}, I_C = -0.8\text{A}$	80		400	
	$h_{FE2}$	$V_{CE} = -4\text{V}, I_C = -2\text{A}$	30			
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{A}, I_B = -100\text{mA}$			-1.5	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 1\text{MHz}$		25		MHz
Turn-on time	$t_{on}$	$I_C = -2\text{A},$		0.4		$\mu\text{s}$
Storage time	$t_{stg}$	$I_{B1} = -100\text{mA}, I_{B2} = 100\text{mA},$		0.6		$\mu\text{s}$
Fall time	$t_f$	$V_{CC} = -50\text{V}$		0.25		$\mu\text{s}$

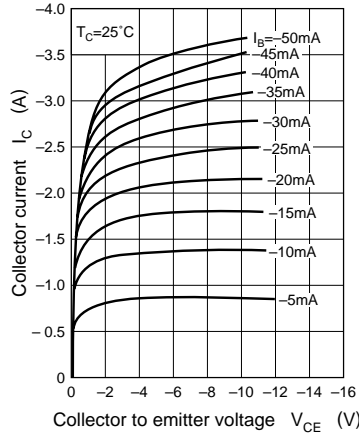
\* $h_{FE1}$  Rank classification

Rank	Q	P	O
$h_{FE1}$	80 to 160	120 to 240	200 to 400

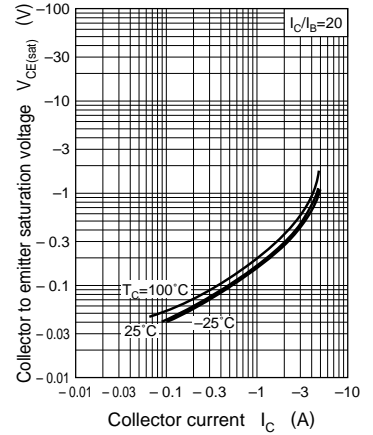
$P_C - T_a$



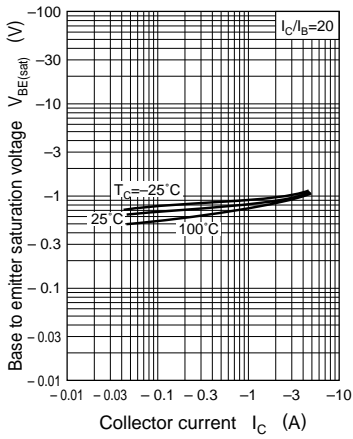
$I_C - V_{CE}$



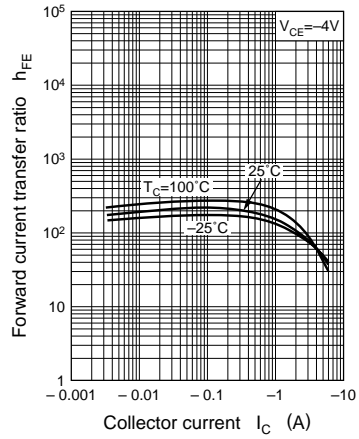
$V_{CE(sat)} - I_C$



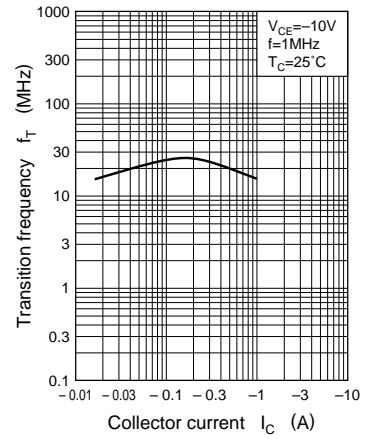
$V_{BE(sat)} - I_C$



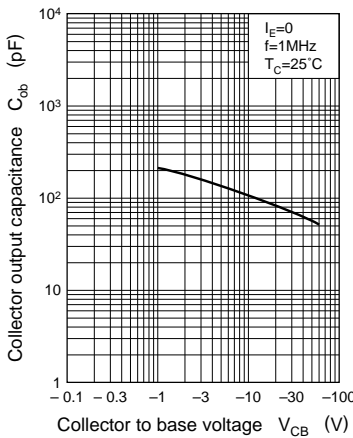
$h_{FE} - I_C$



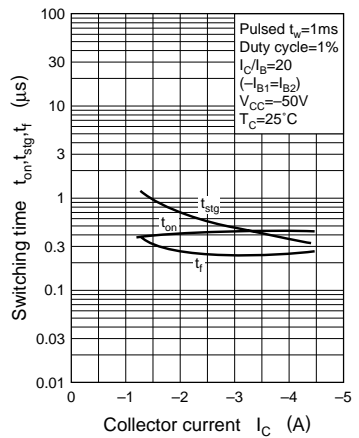
$f_T - I_C$



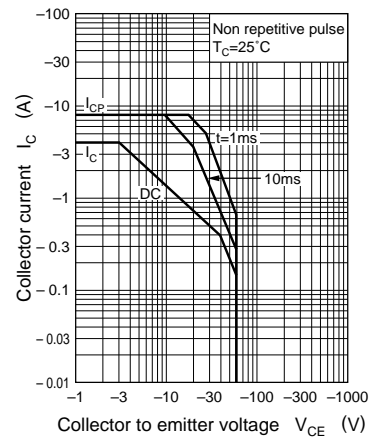
$C_{ob} - V_{CB}$



$t_{on}, t_{stg}, t_f - I_C$



Area of safe operation (ASO)



$$R_{th(t)} - t$$

