

2SB1554

Silicon PNP epitaxial planar type

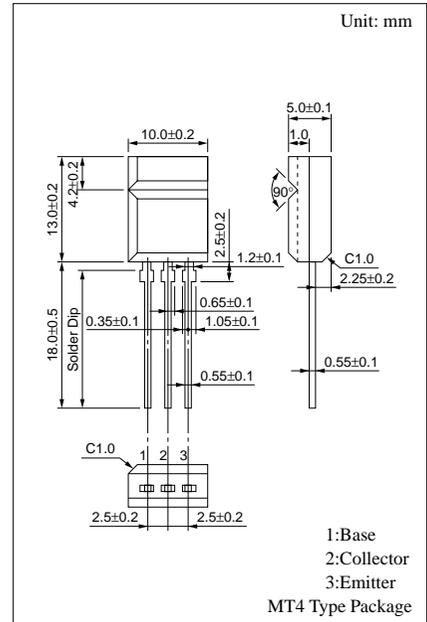
For power amplification

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	$T_C=25^\circ\text{C}$	15	W
		$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



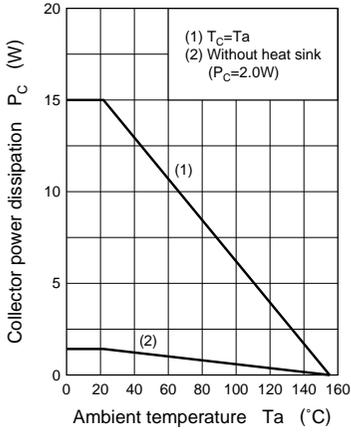
Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -60\text{V}, I_E = 0$			-10	μA
	I_{CEO}	$V_{CE} = -50\text{V}, I_B = 0$			-50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -15\text{V}, I_C = 0$			-10	μA
Collector to emitter voltage	V_{CEO}	$I_C = -10\text{mA}, I_B = 0$	-60			V
	h_{FE1}^*	$V_{CE} = -4\text{V}, I_C = -0.8\text{A}$	80		400	
Forward current transfer ratio	h_{FE2}	$V_{CE} = -4\text{V}, I_C = -2\text{A}$	30			
	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -100\text{mA}$			-1.0	V
Collector 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		μs
Storage time	t_{stg}	$I_{B1} = -100\text{mA}, I_{B2} = 100\text{mA},$		0.6		μs
Fall time	t_f	$V_{CC} = -50\text{V}$		0.25		μs

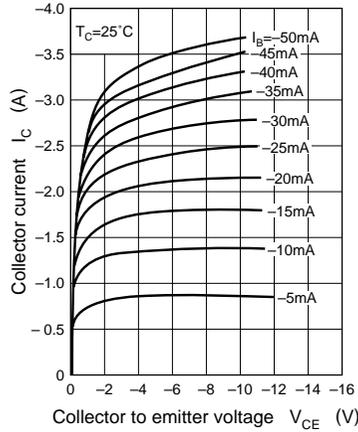
* h_{FE1} Rank classification

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

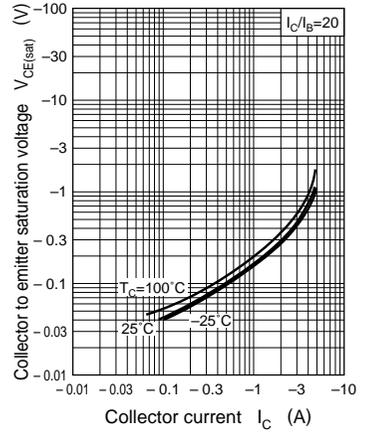
$P_C - T_a$



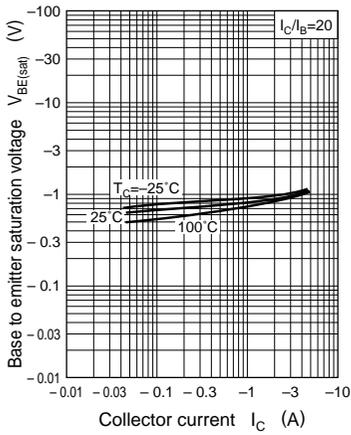
$I_C - V_{CE}$



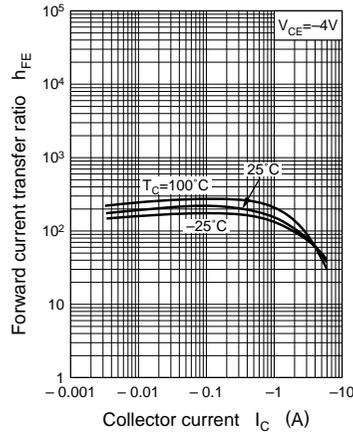
$V_{CE(sat)} - I_C$



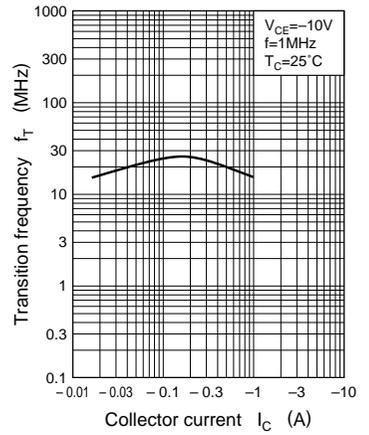
$V_{BE(sat)} - I_C$



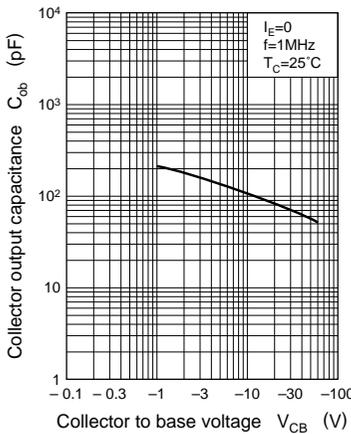
$h_{FE} - I_C$



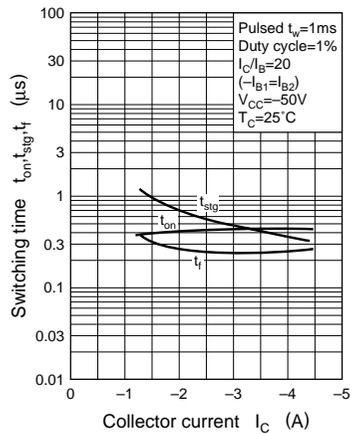
$f_T - I_C$



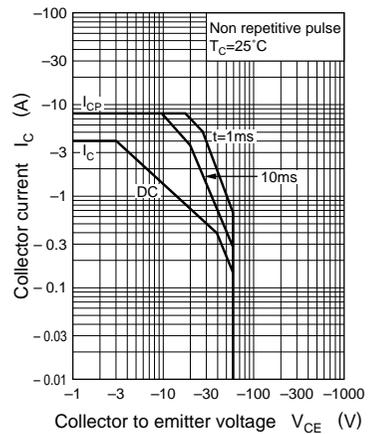
$C_{ob} - V_{CB}$



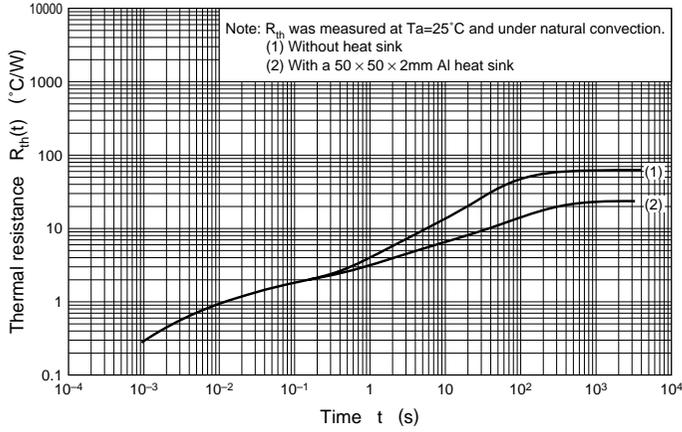
$t_{on}, t_{stg}, t_f - I_C$



Area of safe operation (ASO)



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



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