

2SB0954, 2SB0954A (2SB954, 2SB954A)

Silicon PNP epitaxial planar type

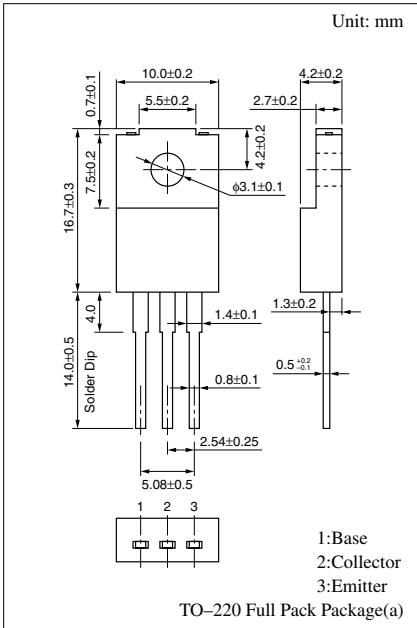
For power amplification

■ Features

- High forward current transfer ratio h_{FE} which has satisfactory linearity
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Full-pack package which can be installed to the heat sink with one screw

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

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SB0954	V_{CBO}	−60	V
	2SB0954A		−80	
Collector to emitter voltage	2SB0954	V_{CEO}	−60	V
	2SB0954A		−80	
Emitter to base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−2	A
Collector current		I_C	−1	A
Collector power dissipation	$T_C=25^{\circ}\text{C}$	P_C	30	W
	$T_a=25^{\circ}\text{C}$		2	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	−55 to +150	$^{\circ}\text{C}$



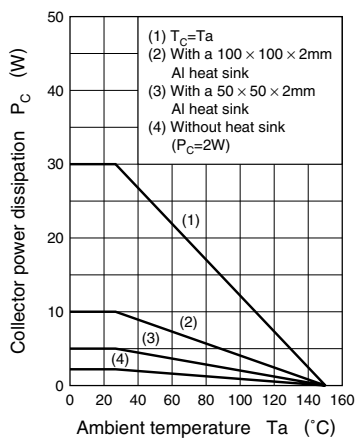
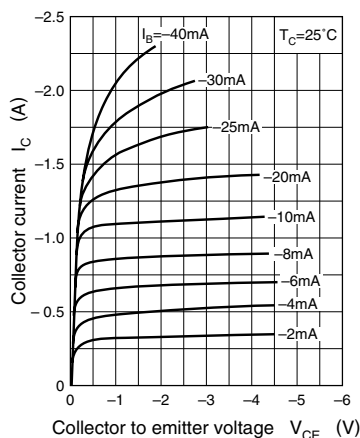
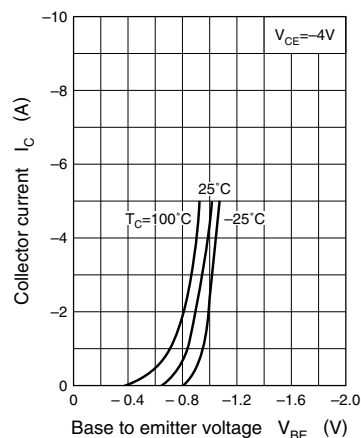
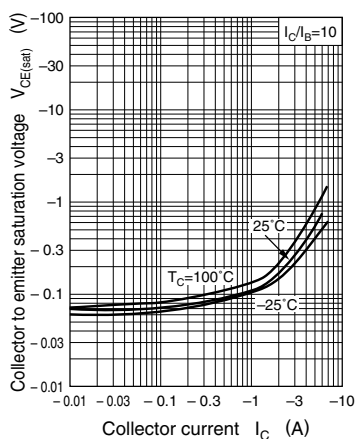
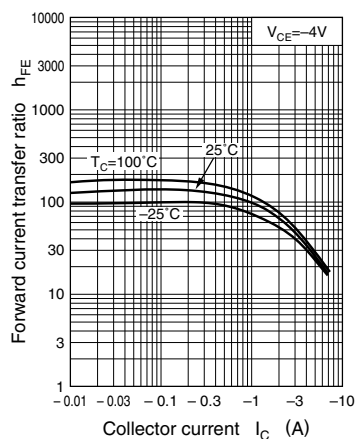
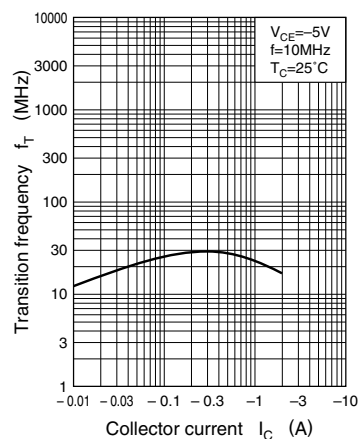
■ Electrical Characteristics ($T_C=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CEO}	2SB0954 $V_{CE} = -30\text{V}, I_B = 0$			-300	μA
2SB0954A $V_{CE} = -60\text{V}, I_B = 0$					-300	
Collector cutoff current	I_{CES}	2SB0954 $V_{CE} = -60\text{V}, V_{BE} = 0$			-200	μA
2SB0954A $V_{CE} = -80\text{V}, V_{BE} = 0$					-200	
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-1	mA
Collector to emitter voltage	V_{CEO}	2SB0954 $I_C = -30\text{mA}, I_B = 0$	-60			V
2SB0954A			-80			
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -4\text{V}, I_C = -0.2\text{A}$	70		250	
	h_{FE2}	$V_{CE} = -4\text{V}, I_C = -1\text{A}$	15			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -0.125\text{A}$			-1	V
Base to emitter voltage	V_{BE}	$V_{CE} = -4\text{V}, I_C = -1\text{A}$			-1.3	V
Transition frequency	f_T	$V_{CE} = -5\text{V}, I_C = -0.2\text{A}, f = 10\text{MHz}$		30		MHz
Turn-on time	t_{on}	$I_C = -1\text{A}, I_{B1} = -0.1\text{A}, I_{B2} = 0.1\text{A}, V_{CC} = -50\text{V}$		0.5		μs
Storage time	t_{stg}			1.2		μs
Fall time	t_f			0.3		μs

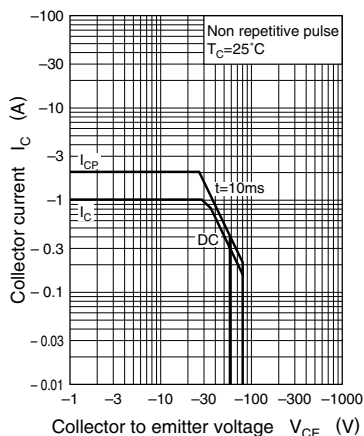
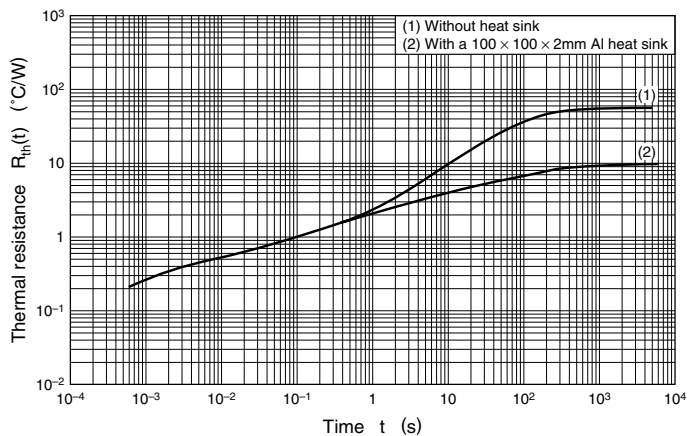
* h_{FE1} Rank classification

Rank	Q	P
h_{FE1}	70 to 150	120 to 250

Note.) The Part numbers in the Parenthesis show conventional part number.

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(\text{sat})} - I_C$  $h_{FE} - I_C$  $f_T - I_C$ 

Area of safe operation (ASO)

 $R_{th(t)} - t$ 

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