

2SB1054

Silicon PNP Planar Type

High Power Amplifier

Complementary Pair with 2SD1485

■ Features

- Very good linearity of DC current gain (h_{FE})
- Wide area of safety operation (ASO)
- High transition frequency (f_T)
- "Full Pack" package for simplified mounting on a heat sink with one screw

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-100	V
Collector-emitter voltage	V_{CEO}	-100	V
Emitter-base voltage	V_{EBO}	-5	V
Peak collector current	I_{CP}	-8	A
Collector current	I_C	-5	A
Collector power dissipation	$T_c=25^\circ\text{C}$	60	W
	$T_a=25^\circ\text{C}$	3	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +155	$^\circ\text{C}$

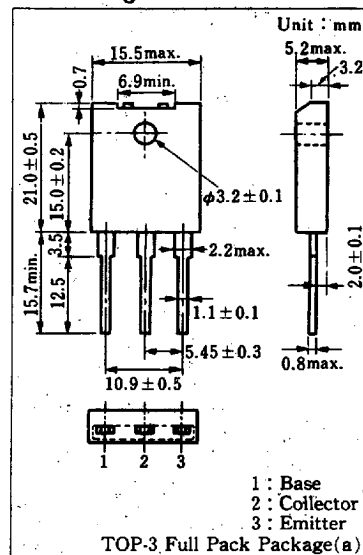
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

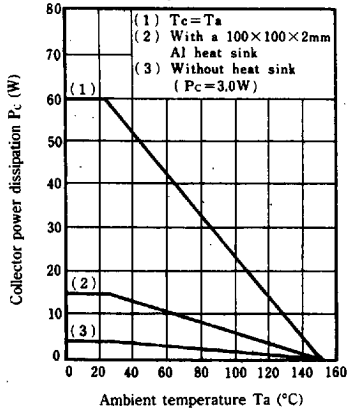
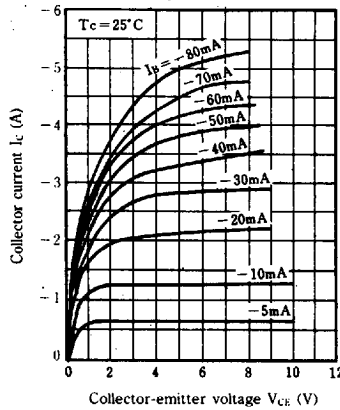
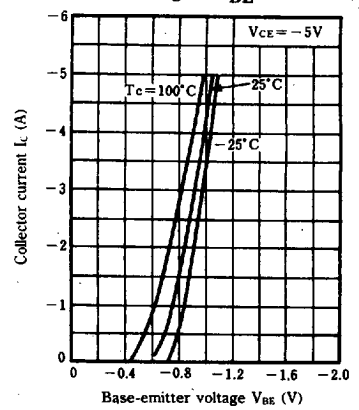
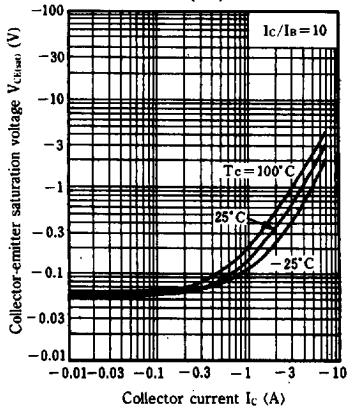
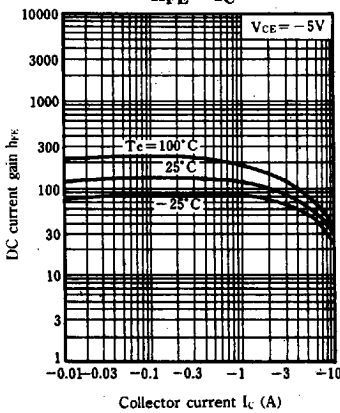
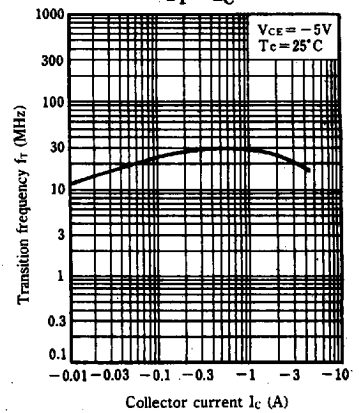
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -100\text{ V}, I_E = 0$			-50	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -3\text{ V}, I_C = 0$			-50	μA
DC current gain	h_{FE1}	$V_{CE} = -5\text{ V}, I_C = -20\text{ mA}$	20			
	h_{FE2}^*	$V_{CE} = -5\text{ V}, I_C = -1\text{ A}$	40		200	
	h_{FE3}	$V_{CE} = -5\text{ V}, I_C = -3\text{ A}$	20			
Base-emitter voltage	V_{BE}	$V_{CE} = -5\text{ V}, I_C = -3\text{ A}$			-1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.3\text{ A}$			-2.0	V
Transition frequency	f_T	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, f = 1\text{ MHz}$		170		pF

* h_{FE2} Classifications

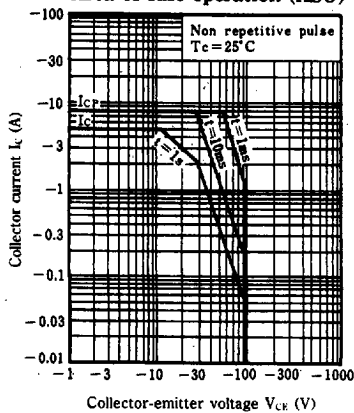
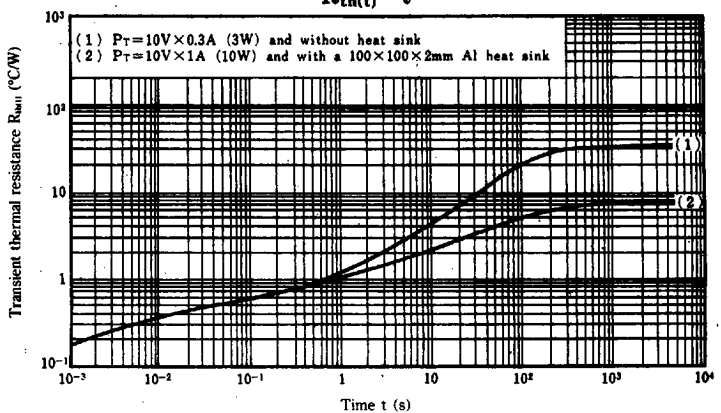
Class	R	Q	P
h_{FE2}	40 ~ 80	60 ~ 120	100 ~ 200

■ Package Dimensions



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

Area of safe operation (ASO)

 $R_{th(t)} - t$ 

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