

2SB1254

Silicon PNP Epitaxial Planar Darlington Type

Power Amplifier

Complementary Pair with 2SD1894

■ Features

- Optimum for 60W hi-fi output
- High DC current gain (h_{FE})
- Low collector-emitter saturation voltage ($V_{CE(sat)} < -2.5V$)
- "Full Pack" package for simplified mounting on a heat sink with one screw

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-160	V
Collector-emitter voltage	V_{CEO}	-140	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-7	A
Peak collector current	I_{CP}	-12	A
Collector power dissipation	$T_c=25^\circ C$	P_C	W
	$T_a=25^\circ C$	3	
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ C$

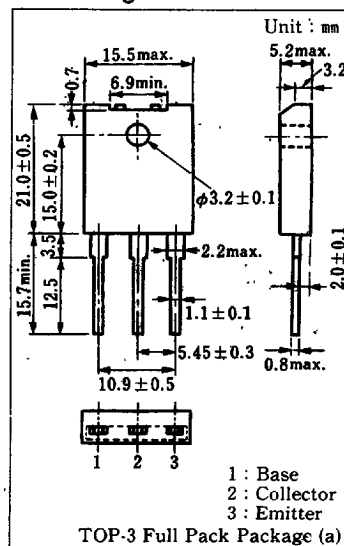
■ Electrical Characteristics ($T_c=25^\circ C$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -160V, I_E = 0$			-100	μA
Collector cutoff current	I_{CEO}	$V_{CE} = -140V, I_B = 0$			-100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-100	μA
Collector-emitter voltage	V_{CEO}	$I_C = -30mA, I_B = 0$	140			V
DC current gain	h_{FE1}	$V_{CE} = -5V, I_C = -1A$	2000			
	h_{FE2}^*	$V_{CE} = -5V, I_C = -6A$	5000		30000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -6A, I_B = -6mA$			-2.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -6A, I_B = -6mA$			-3.0	
Transition frequency	f_T	$V_{CE} = -10V, I_C = -0.5A, f = 1MHz$		20		MHz
Turn-on time	t_{on}	$I_C = -6A$		1.0		μs
Storage time	t_{stg}	$I_{B1} = -6mA, I_{B2} = 6mA$		1.5		μs
Collector current fall time	t_f	$V_{CC} = -50V$		1.2		μs

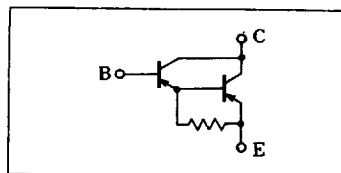
* h_{FE2} Classifications

Class	Q	P
h_{FE2}	5000 ~ 15000	8000 ~ 30000

■ Package Dimensions



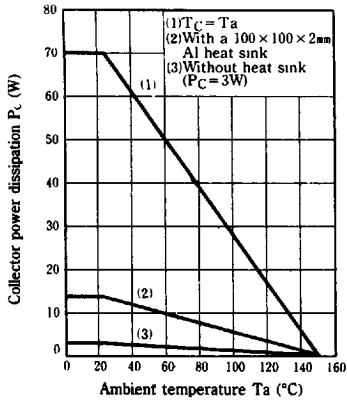
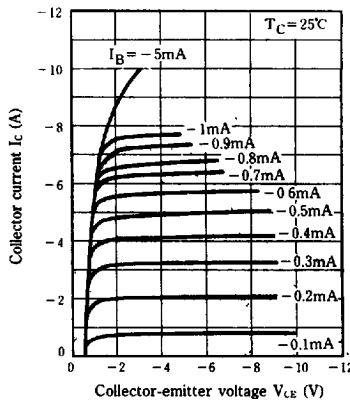
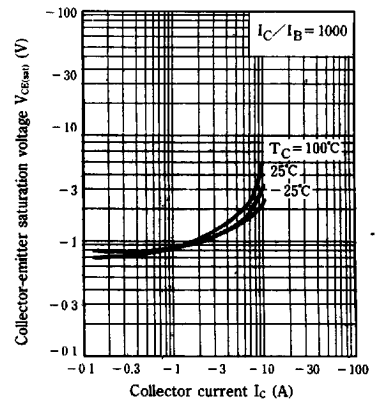
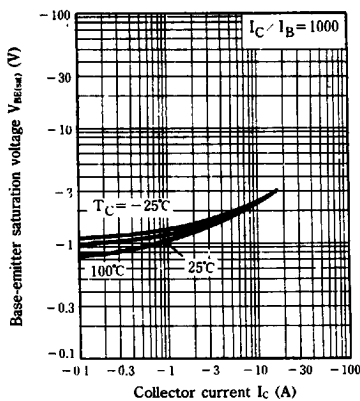
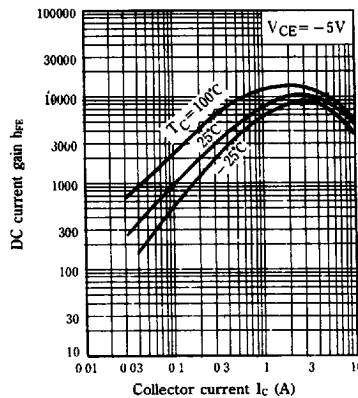
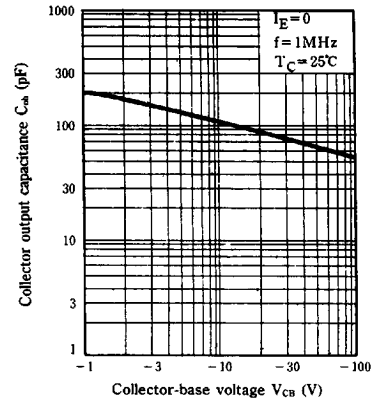
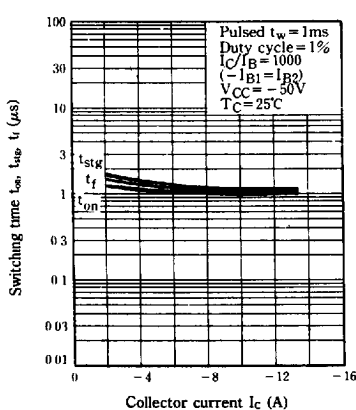
■ Inner Circuit



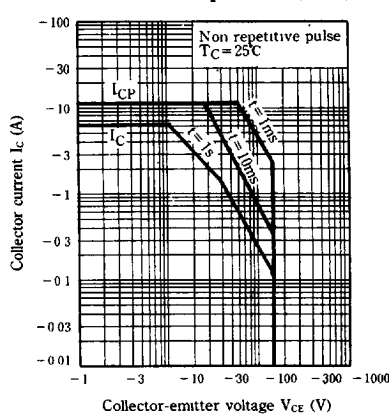
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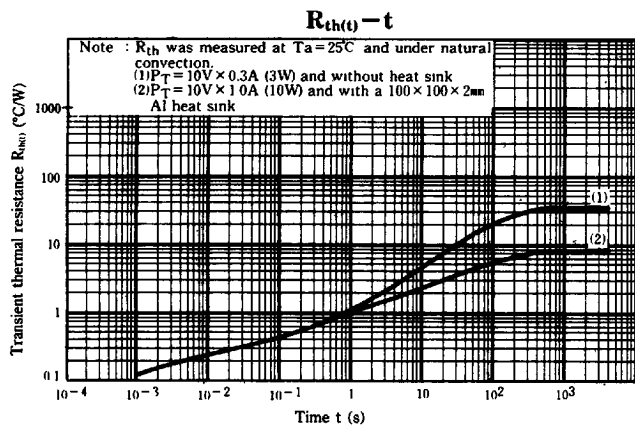
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$P_C - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $C_{ob} - V_{CB}$  $t_{on}, t_{stg}, t_f - I_C$ 

Area of safe operation (ASO)



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