

2SB1252

Silicon PNP Epitaxial Planar Darlington Type

Power Amplifier

Complementary Pair with 2SD1872

■ Features

- Optimum for 35W hi-fi output
- High DC current gain (h_{FE}): 5000~30000
- 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 ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-120	V
Collector-emitter voltage	V_{CEO}	-100	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-5	A
Peak collector current	I_{CP}	-8	A
Collector power dissipation	$T_C=25^\circ\text{C}$	45	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~+150	$^\circ\text{C}$

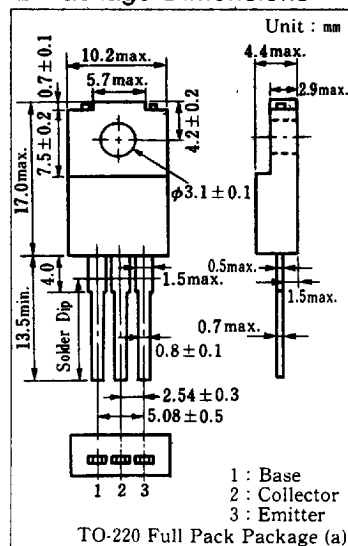
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CBO} = -120\text{V}, I_E = 0$			-100	μA
Collector cutoff current	I_{CEO}	$V_{CE} = -100\text{V}, I_B = 0$			-100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$			-100	μA
Collector-emitter voltage	V_{CEO}	$I_C = -30\text{mA}, I_B = 0$	-100			V
DC current gain	h_{FE1}	$V_{CE} = -5\text{V}, I_C = -1\text{A}$	2000			
	h_{FE2}^*	$V_{CE} = -5\text{V}, I_C = -4\text{A}$	5000		30000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{A}, I_B = -4\text{mA}$			-2.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4\text{A}, I_B = -4\text{mA}$			-3.0	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -0.5\text{A}, f = 1\text{MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -4\text{A}$		1.0		μs
Storage time	t_{stg}	$I_{B1} = -4\text{mA}, I_{B2} = 4\text{mA}$		0.8		μs
Collector current fall time	t_f	$V_{CC} = -50\text{V}$		1.0		μs

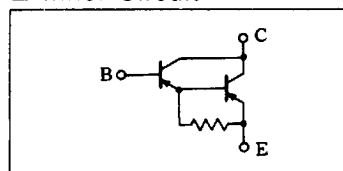
* h_{FE2} Classifications

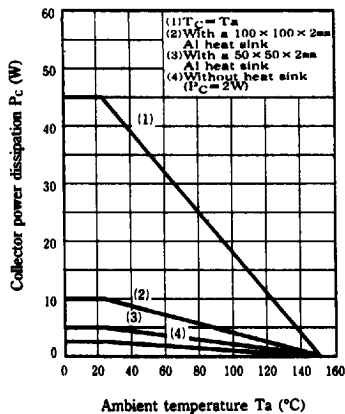
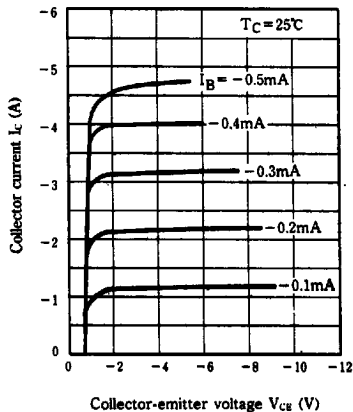
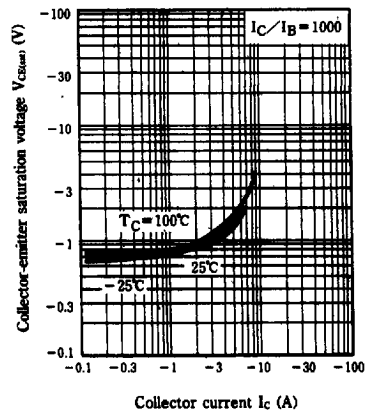
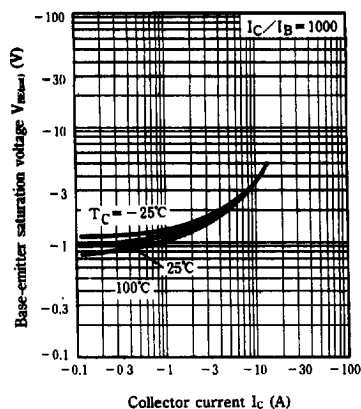
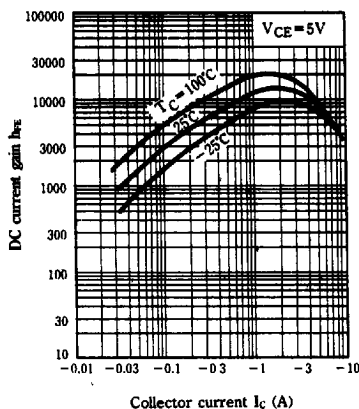
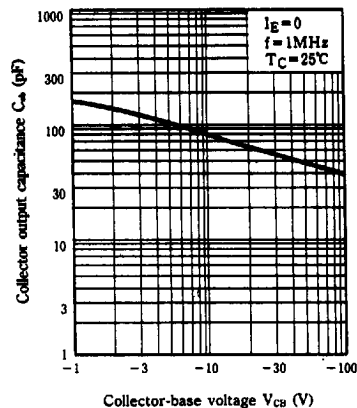
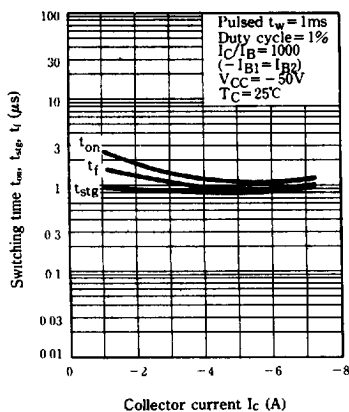
Class	Q	P
h_{FE2}	5000~15000	8000~30000

■ Package Dimensions

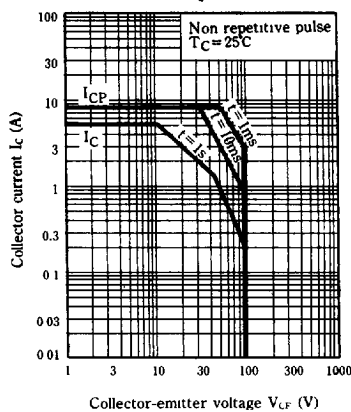


■ Inner Circuit



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

Area of safe operation (ASO)



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Panasonic

