

2SD812

Silicon NPN Triple-Diffused Planar Type

High Power Amplifier

Complementary Pair with 2SB747

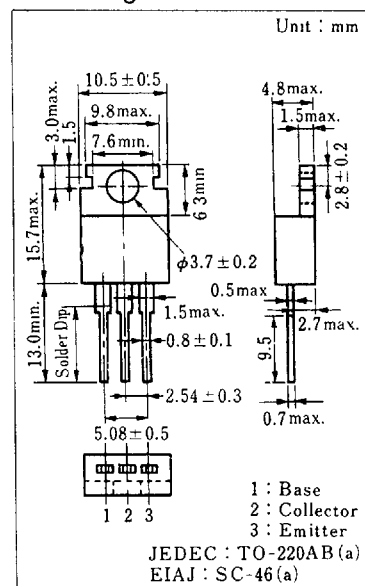
■ Features

- Wide area of safety operation (ASO)
- Good linearity of DC current gain (h_{FE})
- Optimum for 15~20W home stereo output and stabilized power source

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

Item	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	80	V
Collector-emitter voltage	V_{CE0}	80	V
Emitter-base voltage	V_{EB0}	5	V
Peak collector current	I_{CP}	8	A
Collector current	I_C	5	A
Collector power dissipation	P_C	40	W
		1.4	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~+150	$^\circ\text{C}$

■ Package Dimensions

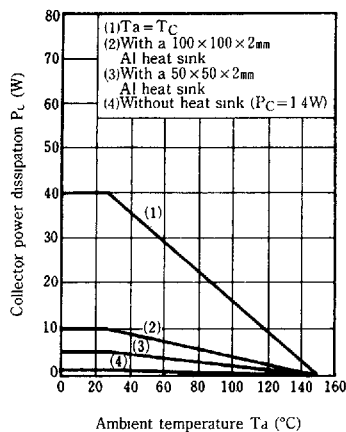
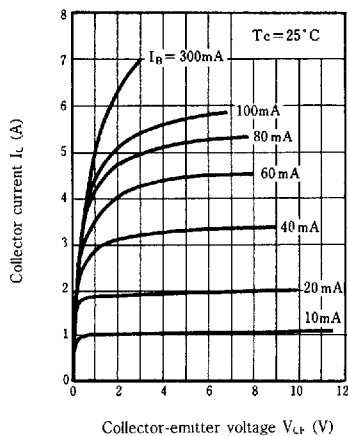
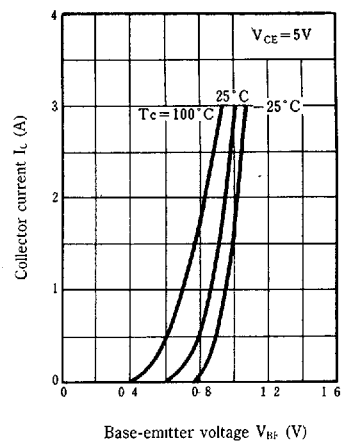
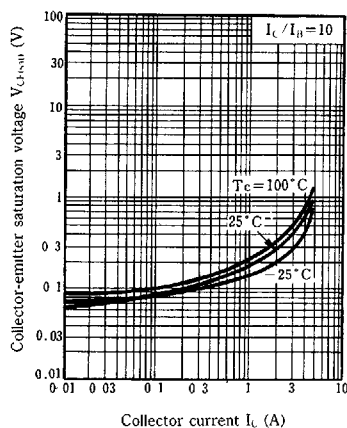
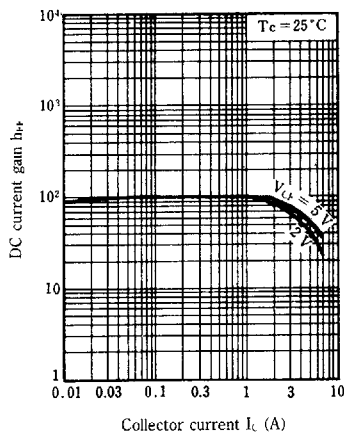
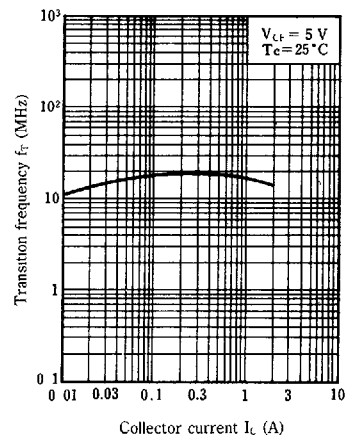


■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

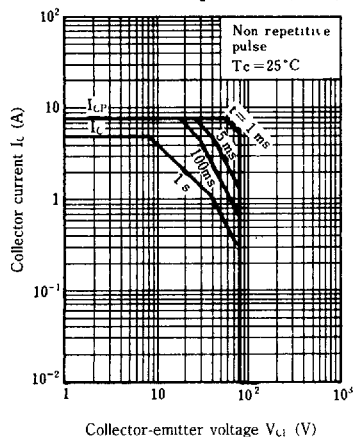
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=80\text{ V}, I_E=0$			50	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=3\text{ V}, I_C=0$			50	μA
DC current gain	h_{FE1}	$V_{CE}=5\text{ V}, I_C=0.02\text{ A}$	20			
	h_{FE2}^*	$V_{CE}=5\text{ V}, I_C=1\text{ A}$	40		200	
	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	V
Transition frequency	f_T	$V_{CE}=5\text{ V}, I_C=0.5\text{ A}, f=1\text{ MHz}$		15		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{ V}, I_E=0, f=1\text{ MHz}$		90		pF

* h_{FE2} Classifications

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

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

Area of safe operation (ASO)

 $R_{th(t)} - t$ 