

2SD2137, 2SD2137A

Silicon NPN Triple-Diffused Planar Type

Power Amplifier

Complementary Pair with 2SB1417, 2SB1417A

■ Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Automatic mounting by radial taping is possible.

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

Item	Symbol	Value	Unit
Collector-base voltage	2SD2137	60	V
	2SD2137A	80	
Collector-emitter voltage	2SD2137	60	V
	2SD2137A	80	
Emitter-base voltage	V_{FBO}	6	V
Peak collector current	I_{CP}	5	A
Collector current	I_C	3	A
Collector power dissipation	$T_c=25^\circ\text{C}$	15	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

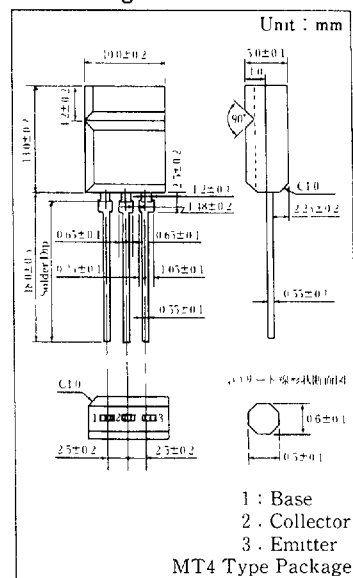
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD2137	$V_{CE}=60\text{V}, V_{BF}=0$			100	μA
	2SD2137A	$V_{CE}=80\text{V}, V_{BF}=0$			100	
Collector cutoff current	2SD2137	$V_{CE}=30\text{V}, I_B=0$			100	μA
	2SD2137A	$V_{CE}=60\text{V}, I_B=0$			100	
Emitter cutoff current	I_{LBO}	$V_{EB}=6\text{V}, I_C=0$			100	μA
Collector-emitter voltage	2SD2137	$I_C=30\text{mA}, I_B=0$	60			V
	2SD2137A		80			
DC current gain	h_{FE1}^*	$V_{CE}=4\text{V}, I_C=1\text{A}$	70		320	
	h_{FE2}	$V_{CE}=4\text{V}, I_C=3\text{A}$	10			
Base-emitter voltage	V_{BE}	$V_{CE}=4\text{V}, I_C=3\text{A}$			1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.375\text{A}$			1.2	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}	$I_C=1\text{A}, I_{B1}=0.1\text{A}, I_{B2}=-0.1\text{A}$ $V_{CC}=50\text{V}$		0.3		μs
Storage time	t_{stg}			2.5		μs
Collector current fall time	t_f			0.2		μs

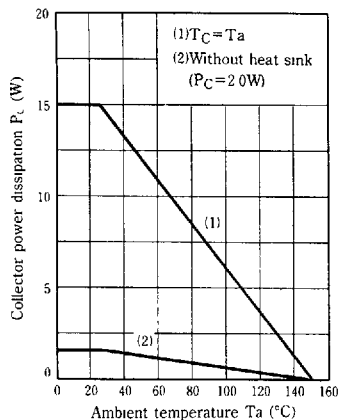
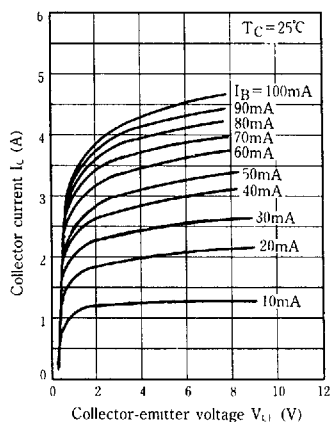
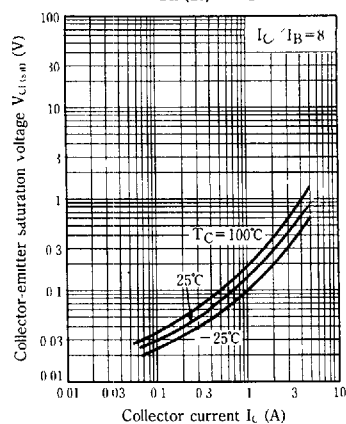
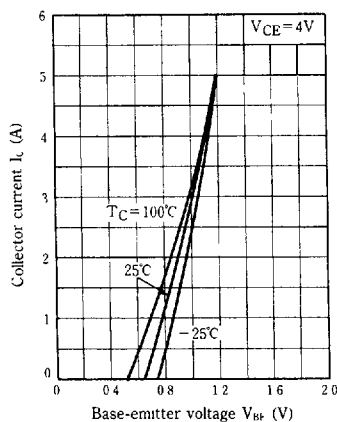
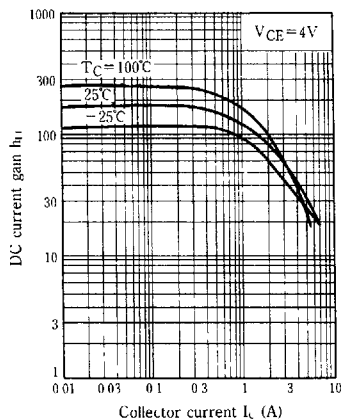
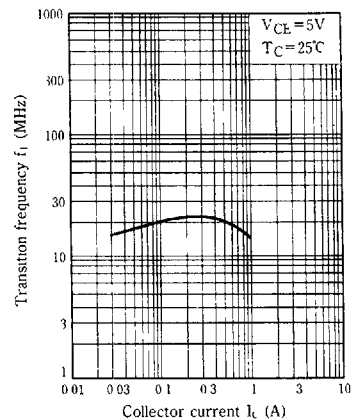
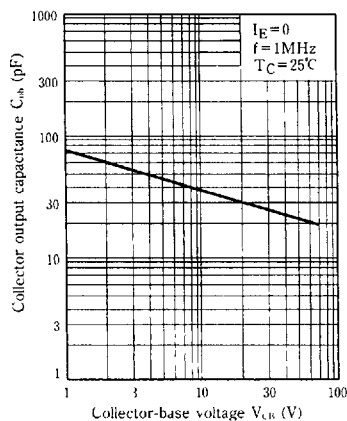
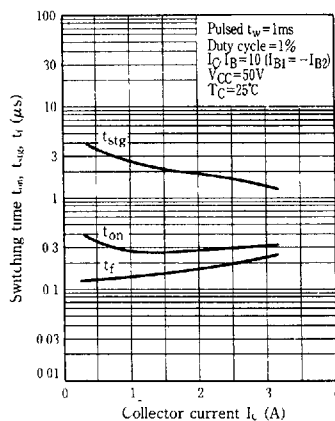
* h_{FE1} Classifications

Class	Q	P	O
h_{FE1}	70~150	120~250	160~320

■ Package Dimensions



6932852 0016960 980

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

Area of safe operation (ASO)

