

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 ($T_c=25^\circ C$)

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

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current 2SD2137	I_{CES}	$V_{CE}=60V, V_{BF}=0$			100	μA
2SD2137A	I_{CES}	$V_{CE}=80V, V_{BF}=0$			100	μA
Collector cutoff current 2SD2137	I_{CFO}	$V_{CE}=30V, I_B=0$			100	μA
2SD2137A	I_{CFO}	$V_{CE}=60V, I_B=0$			100	μA
Emitter cutoff current	I_{LBO}	$V_{EB}=6V, I_C=0$			100	μA
Collector-emitter voltage 2SD2137	V_{CEO}	$I_C=30mA, I_B=0$	60			V
2SD2137A	V_{CEO}	$I_C=30mA, I_B=0$	80			
DC current gain h_{FE1}^*	h_{FE1}^*	$V_{CE}=4V, I_C=1A$	70		320	
	h_{FE2}	$V_{CE}=4V, I_C=3A$	10			
Base-emitter voltage	V_{BE}	$V_{CE}=4V, I_C=3A$			1.8	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.375A$			1.2	V
Transition frequency	f_T	$V_{CE}=5V, I_C=0.2A, f=10MHz$		30		MHz
Turn-on time	t_{on}	$I_C=1A, I_{B1}=0.1A, I_{B2}=-0.1A$ $V_{CC}=50V$		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
70 ~ 150	120 ~ 250	160 ~ 320	

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■ Package Dimensions





