2SD2177

Silicon NPN epitaxial planer type

For low-frequency output amplification Complementary to 2SB1434

Features

- Low collector to emitter saturation voltage V_{CE(sat)}.
- Complementary pair with 2SB1434.
- Allowing supply with the radial taping.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	$V_{\rm EBO}$	5	V
Peak collector current	I_{CP}	3	A
Collector current	I_{C}	2	A
Collector power dissipation	${P_C}^*$	1	W
Junction temperature	T _j	150	°C
Storage temperature	T_{stg}	−55 ~ +150	°C

 $^{^{\}ast}$ Printed circuit board: Copper foil area of 1cm² or more, and the board thickness of 1.7mm for the collector portion

Unit: mm 0.65 max. $0.45\substack{+0.10 \\ -0.05}$ 0.45+0.10 Note: In addition to the 1:Emitter 2:Collector lead type shown in 3:Base the upper figure, the type as shown in MT-2-A1 Package the lower figure is also available. 1.2±0.1 (HW type)

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20V, I_{E} = 0$			0.1	μА
Collector to base voltage	V _{CBO}	$I_{\rm C} = 10 \mu A, I_{\rm E} = 0$	50			V
Collector to emitter voltage	V _{CEO}	$I_C = 1 \text{mA}, I_B = 0$	50			V
Emitter to base voltage	V _{EBO}	$I_{\rm E} = 10 \mu A, I_{\rm C} = 0$	5			V
	h _{FE1} *1	$V_{CE} = 2V, I_{C} = 200mA$	120		340	
Forward current transfer ratio	h _{FE2}	$V_{CE} = 2V, I_{C} = 1A^{*2}$	80			
Collector to emitter saturation voltage	V _{CE(sat)}	$I_C = 1A, I_B = 50 \text{mA}^{*2}$		0.15	0.3	V
Base to emitter saturation voltage	V _{BE(sat)}	$I_C = 1A, I_B = 50 \text{mA}^{*2}$		0.85	1.2	V
Transition frequency	f_T	$V_{CB} = 10V, I_{E} = -50mA, f = 200MHz$		110		MHz
Collector output capacitance	C _{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		23	35	pF

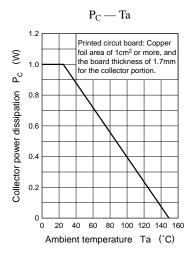
^{*2} Pulse measurement

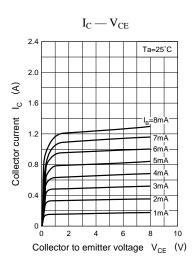
^{*1}hFE1 Rank classification

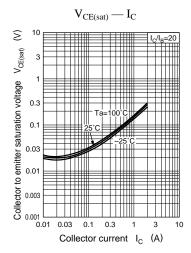
Rank	R	S
h _{FE1}	120 ~ 240	170 ~ 340

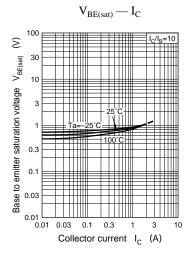
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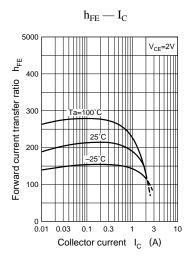
Transistor 2SD2177

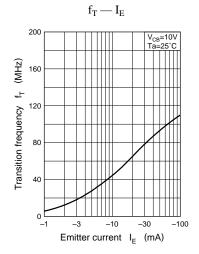


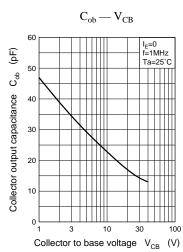












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