

2SD2181

Silicon NPN Epitaxial Planar Type

For low-frequency output amplification
Complementary pair with 2SB1437

■ Features

- High collector-emitter voltage V_{CE0}
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Automatic insertion by radial taping possible

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

Item	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Peak Collector Voltage	I_{CP}	1.5	A
Collector Current	I_C	1	A
Collector Power Dissipation	P_{c^*}	1	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

* Copper foil on PCB against Collector: 1.7mm thick, 1cm² in area

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

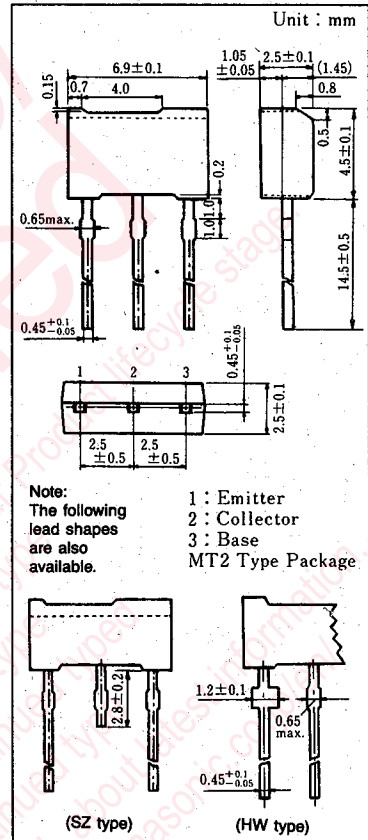
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$			0.1	μA
Collector-Base Voltage	V_{CBO}	$I_C=10\mu\text{A}, I_E=0$	100			V
Collector-Emitter Voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	100			V
Emitter-Base Voltage	V_{EBO}	$I_E=10\mu\text{A}, I_C=0$	5			V
DC Current Gain	h_{FE1}^{*1}	$V_{CE}=2\text{V}, I_C=100\text{mA}$	120		340	
	h_{FE2}	$V_{CE}=2\text{V}, I_C=500\text{mA}$	80			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=25\text{mA}^{*2}$		0.1	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=25\text{mA}^{*2}$		0.8	1.2	V
Transition Frequency	f_T	$V_{CB}=10\text{V}, I_E=-50\text{mA}, f=200\text{MHz}$		100		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		15	30	pF

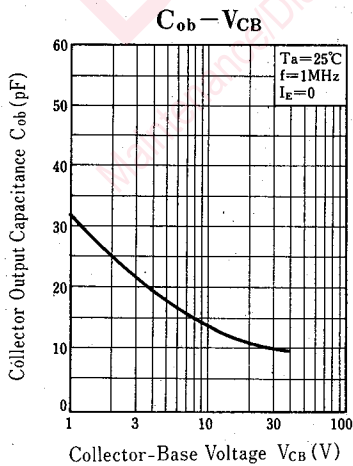
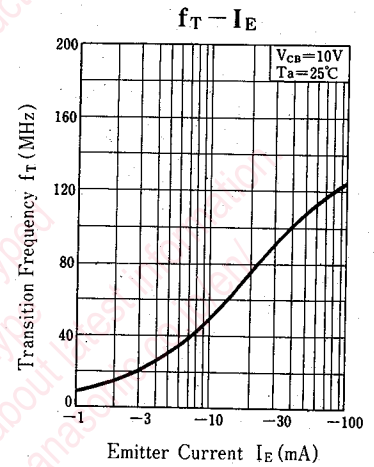
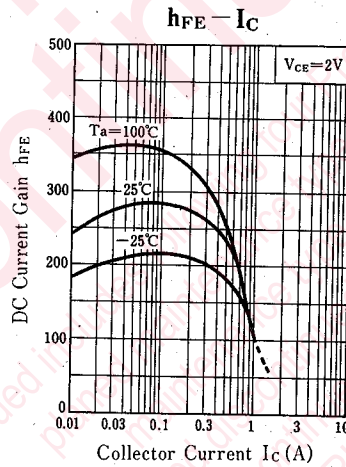
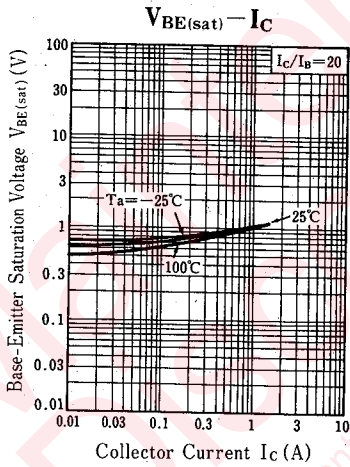
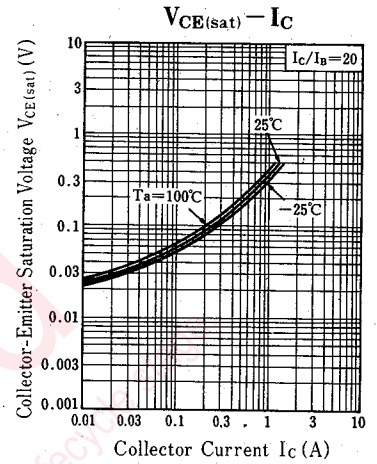
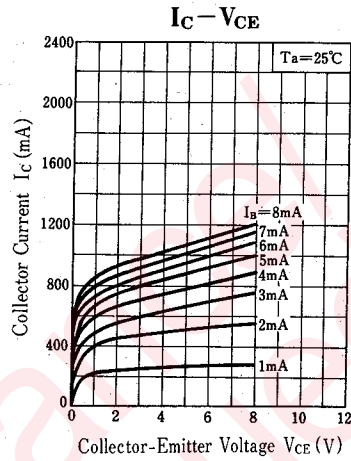
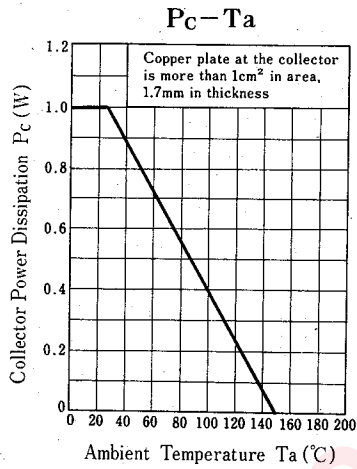
* h_{FE} Ranking

Rank	R	S
h_{FE1}	120~240	170~340

*2 Pulse Measurement

■ Package Dimensions





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