

2SD2183

Silicon NPN epitaxial planar type

For low-frequency output amplification

Complementary to 2SB1439

■ Features

- High collector to emitter voltage V_{CEO}
- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Allowing supply with the radial taping
- Complementary pair with 2SB1439

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	2	A
Peak collector current	I_{CP}	3	A
Collector power dissipation	P_C	1.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

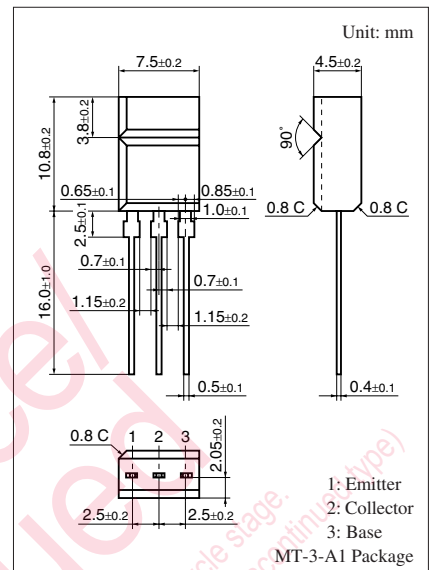
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 2^\circ\text{C}$

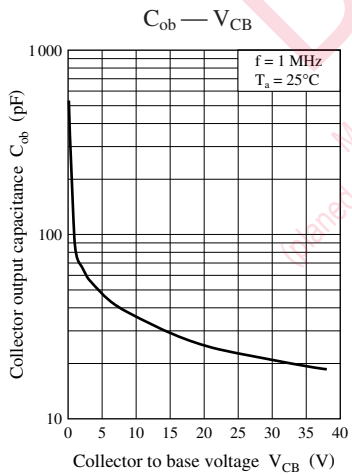
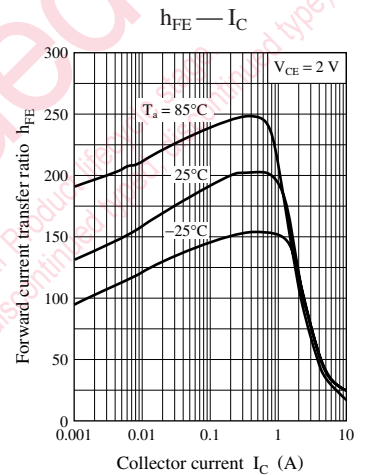
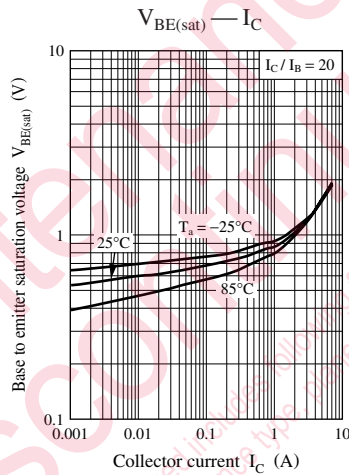
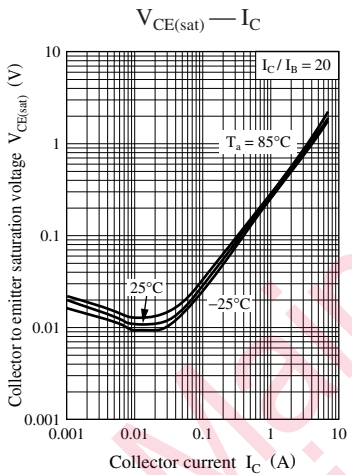
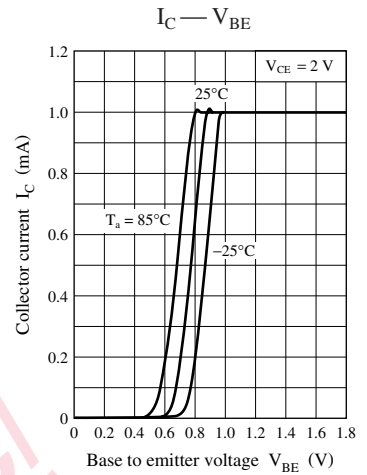
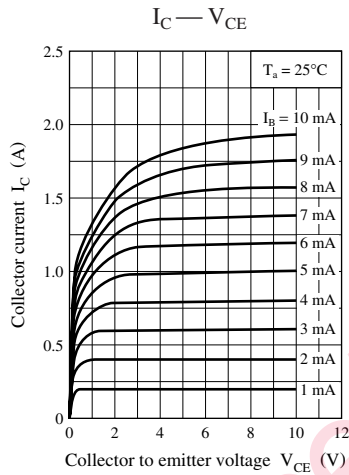
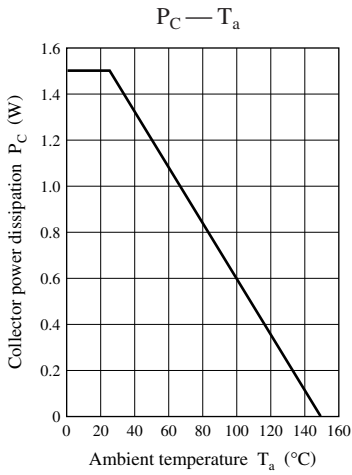
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	V_{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	100			V
Collector to emitter voltage	V_{CEO}	$I_C = 1 \text{ mA}, I_B = 0$	100			V
Emitter to base voltage	V_{EBO}	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Collector cutoff current	I_{CBO}	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	μA
Forward current transfer ratio	h_{FE1}^{*2}	$V_{CE} = 2 \text{ V}, I_C = 0.2 \text{ A}$	120		340	
	h_{FE2}^{*1}	$V_{CE} = 2 \text{ V}, I_C = 1 \text{ A}$	80			
Collector to emitter saturation voltage ^{*1}	$V_{CE(sat)}$	$I_C = 1 \text{ A}, I_B = 50 \text{ mA}$		0.1	0.3	V
Base to emitter saturation voltage ^{*1}	$V_{BE(sat)}$	$I_C = 1 \text{ A}, I_B = 50 \text{ mA}$		0.8	1.2	V
Gain bandwidth product	f_T	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		80		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		42	60	pF

Note) *1: Pulse measurement

*2: h_{FE1} rank classification

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





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