

2SA2164

Silicon PNP epitaxial planar type

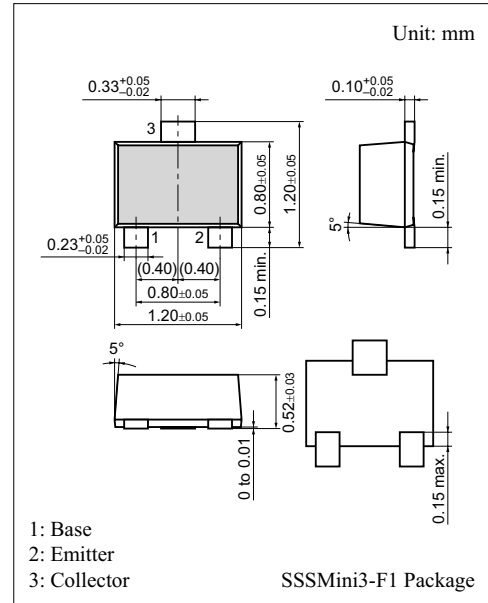
For high-frequency amplification

■ Features

- High transfer ratio f_T
- SSS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-30	V
Collector-emitter voltage (Base open)	V_{CEO}	-20	V
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_{C}	-30	mA
Collector power dissipation	P_{C}	100	mW
Junction temperature	T_{j}	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

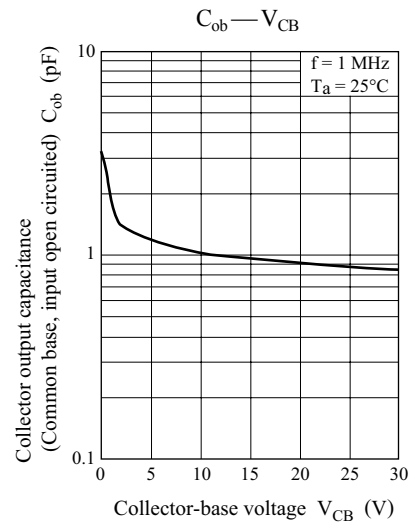
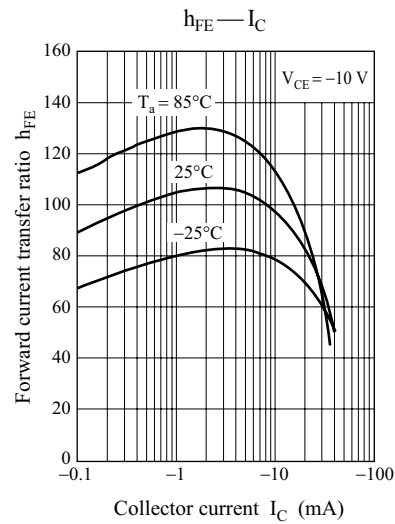
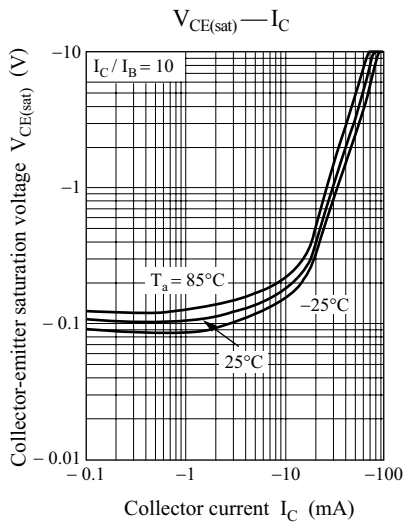
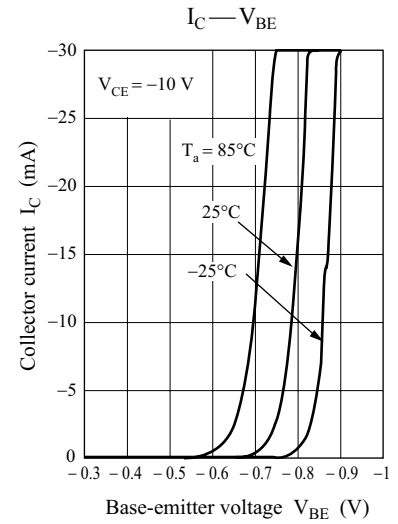
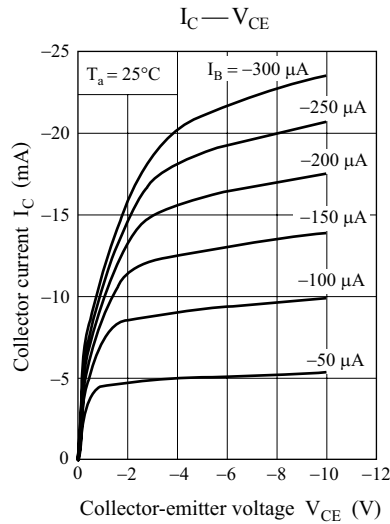
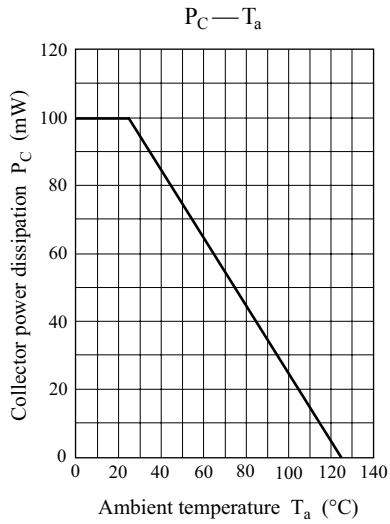


Marking Symbol : E

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter voltage	V_{BE}	$V_{\text{CE}} = -10\text{ V}, I_{\text{C}} = -1\text{ mA}$		-0.7		V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 0$			-0.1	μA
Collector-emitter cut-off current (Base open)	I_{CEO}	$V_{\text{CE}} = -20\text{ V}, I_{\text{B}} = 0$			-100	μA
Emitter-base cut-off current (Collector open)	I_{EBO}	$V_{\text{EB}} = -5\text{ V}, I_{\text{C}} = 0$			-10	μA
Forward current transfer ratio	h_{FE}	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 1\text{ mA}$	70		220	—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -10\text{ mA}, I_{\text{B}} = -1\text{ mA}$		-0.1		V
Transition frequency	f_{T}	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 1\text{ mA}, f = 200\text{ MHz}$	150	300		MHz
Noise figure	NF	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 1\text{ mA}, f = 5\text{ MHz}$		2.8		dB
Reverse transfer impedance	Z_{rb}	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 1\text{ mA}, f = 2\text{ MHz}$		22		Ω
Common-emitter reverse transfer capacitance	C_{re}	$V_{\text{CB}} = -10\text{ V}, I_{\text{E}} = 1\text{ mA}, f = 10.7\text{ MHz}$		1.2		pF

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



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