

2SC4502

Silicon NPN epitaxial planar type

For intermediate frequency amplification

■ Features

- High transition frequency f_T
- Large collector power dissipation P_C
- Allowing supply with the radial taping

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

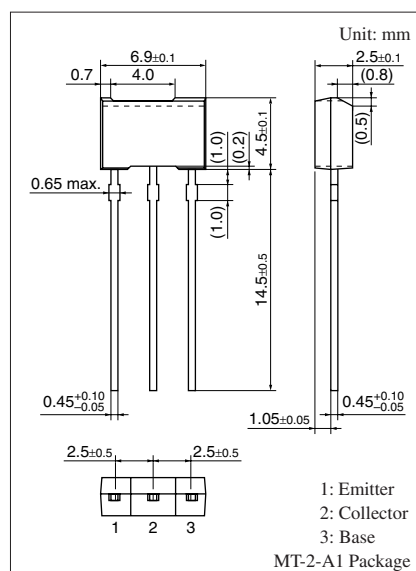
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	50	V
Collector-emitter voltage (Base open)	V_{CEO}	45	V
Emitter-base voltage (Collector open)	V_{EBO}	4	V
Collector current	I_C	50	mA
Collector power dissipation *	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

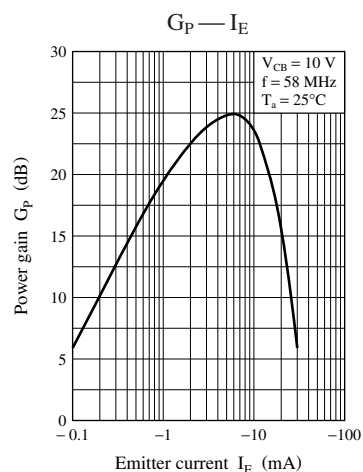
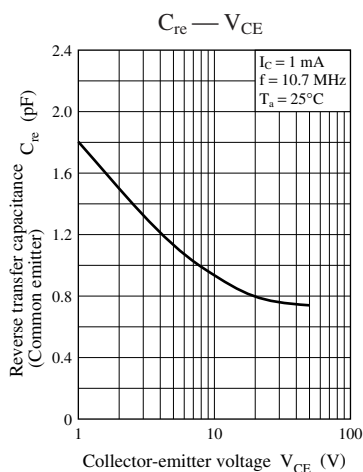
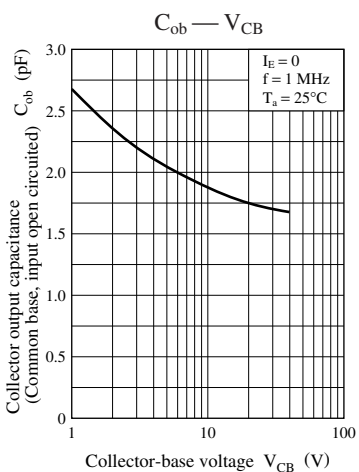
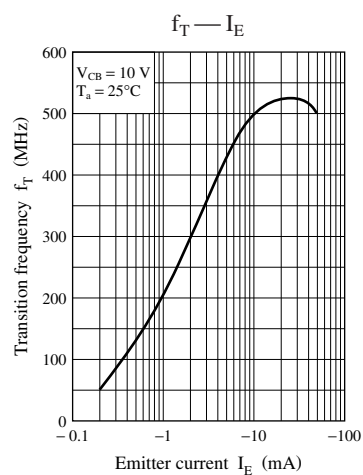
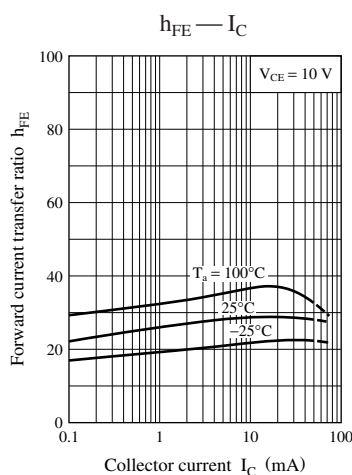
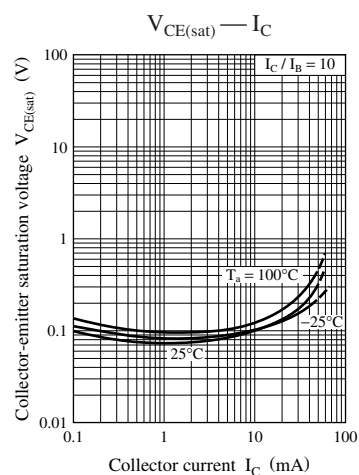
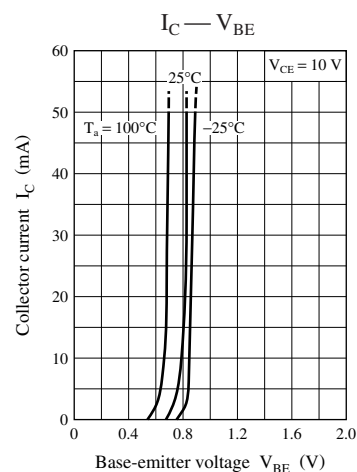
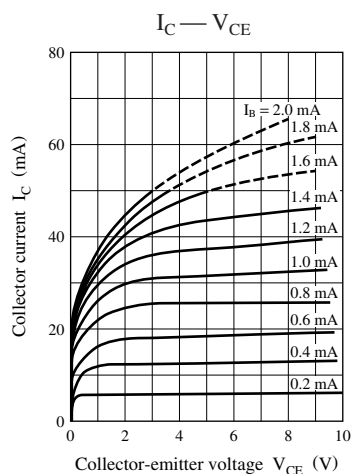
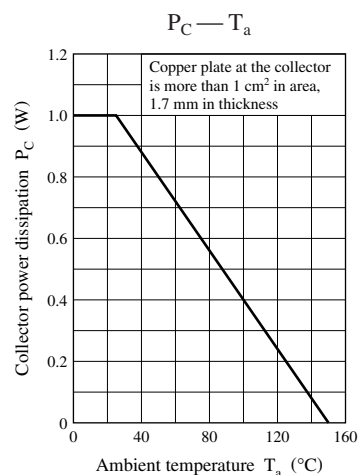
Note) *: Copper plate at the collector is more than 1 cm² in area, 1.7 mm in thickness

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 1\ \text{mA}$, $I_B = 0$	45			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	4			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 20\ \text{V}$, $I_E = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10\ \text{V}$, $I_C = 10\ \text{mA}$	20		100	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20\ \text{mA}$, $I_B = 2\ \text{mA}$			0.4	V
Transition frequency	f_T	$V_{CB} = 10\ \text{V}$, $I_E = -10\ \text{mA}$, $f = 200\ \text{MHz}$	300			MHz
Reverse transfer capacitance (Common emitter)	C_{re}	$V_{CB} = 10\ \text{V}$, $I_E = -1\ \text{mA}$, $f = 10.7\ \text{MHz}$			1.5	pF
Power gain	G_P	$V_{CB} = 10\ \text{V}$, $I_E = -10\ \text{mA}$, $f = 58\ \text{MHz}$	22		30	dB

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





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