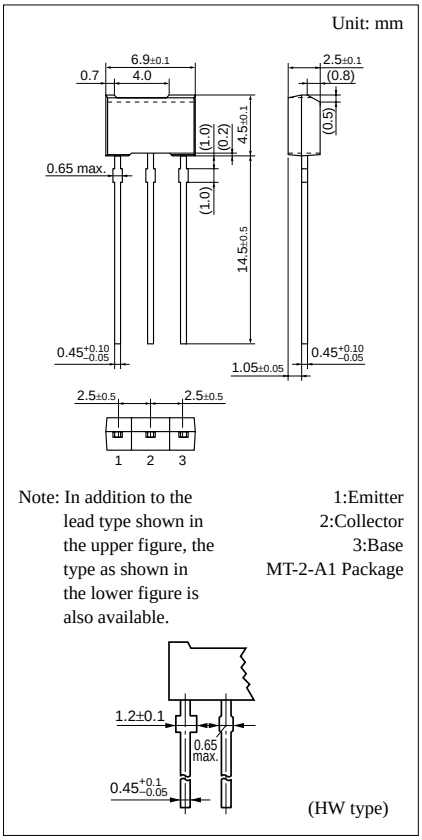
2SC4502

Silicon NPN epitaxial planer type

For mtermediate frequency amplification



Note: In addition to the lead type shown in the upper figure, the type as shown in the lower figure is also available.

1:Emitter
2:Collector
3:Base
MT-2-A1 Package

(HW type)

Features

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

Absolute Maximum Ratings (Ta=25˚C)

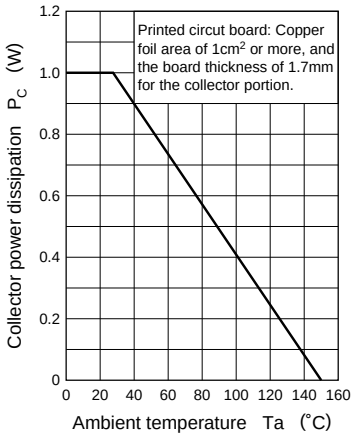
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	45	V
Emitter to base voltage	V_{EBO}	4	V
Collector current	I_C	50	mA
Collector power dissipation	P_C*	1	W
Junction temperature	T_j	150	˚C
Storage temperature	T_{stg}	–55 ~ +150	˚C

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

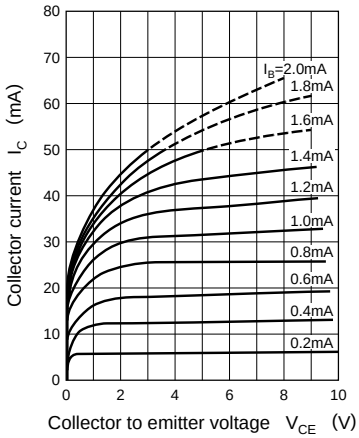
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 20V, I_E = 0			100	nA
Collector to base voltage	V_{CBO}	I_C = 100µA, I_E = 0	50			V
Collector to emitter voltage	V_{CEO}	I_C = 1mA, I_B = 0	45			V
Emitter to base voltage	V_{EBO}	I_E = 100µA, I_C = 0	4			V
Forward current transfer ratio	h_{FE}	V_{CE} = 10V, I_C = 10µA	20		100	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 20mA, I_B = 2mA			0.4	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –10mA, f = 200MHz	300			MHz
Common emitter reverse transfer capacitance	C_{re}	V_{CB} = 10V, I_E = –1mA, f = 10.7MHz			1.5	pF
Power gain	PG	V_{CB} = 10V, I_E = –10mA, f = 58MHz	22		30	dB

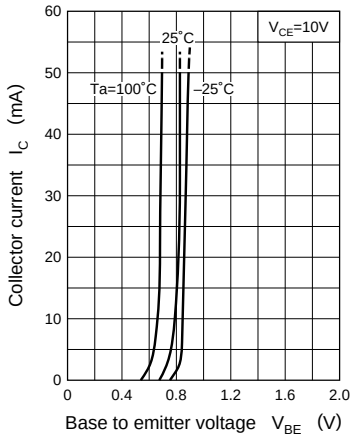
P_C — Ta



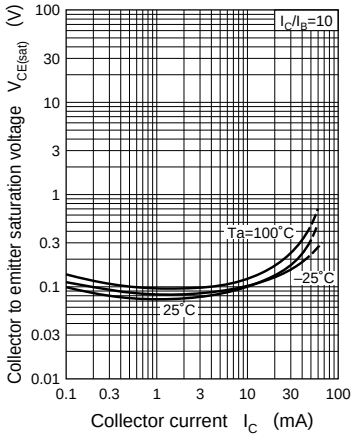
I_C — V_{CE}



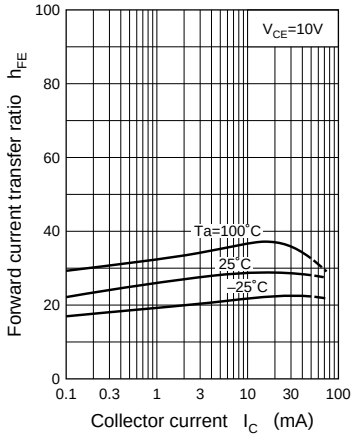
I_C — V_{BE}



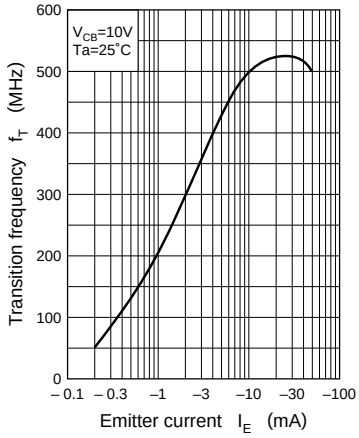
$V_{CE(sat)}$ — I_C



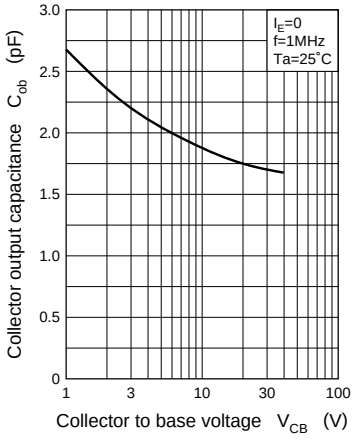
h_{FE} — I_C



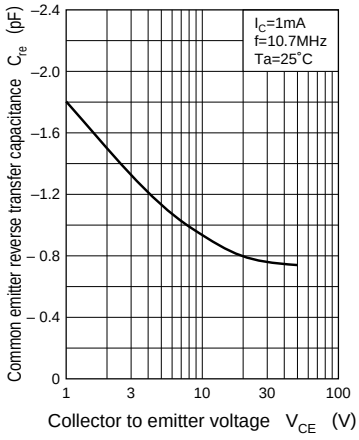
f_T — I_E



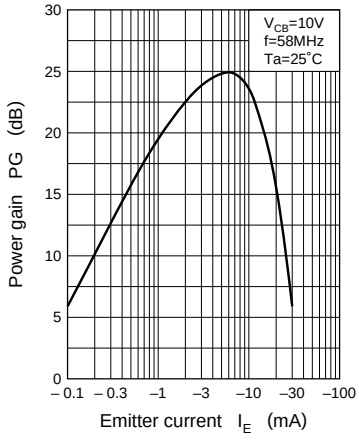
C_{ob} — V_{CB}



C_{re} — V_{CE}



PG — I_E



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