

# 2SC4502

Silicon NPN epitaxial planer type

For mtermediate frequency amplification

## Features

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

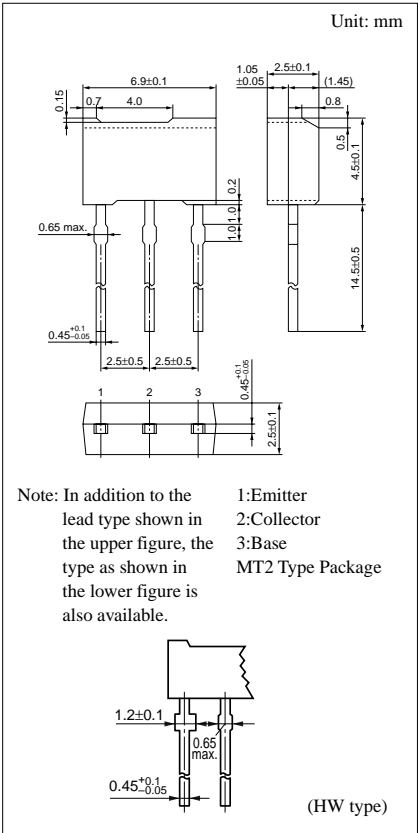
## Absolute Maximum Ratings (Ta=25°C)

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

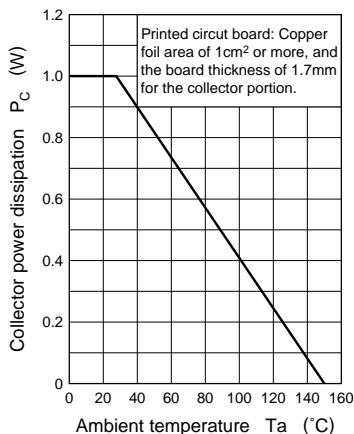
\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

## Electrical Characteristics (Ta=25°C)

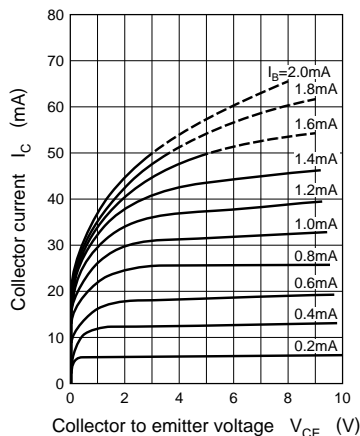
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 20V, I_E = 0$			100	nA
Collector to base voltage	$V_{CBO}$	$I_C = 100\mu A, I_E = 0$	50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	45			V
Emitter to base voltage	$V_{EBO}$	$I_E = 100\mu A, I_C = 0$	4			V
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10V, I_C = 10\mu A$	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



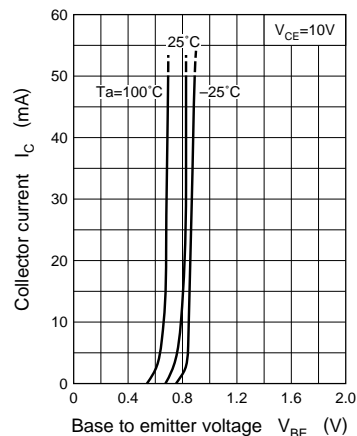
$P_C - T_a$



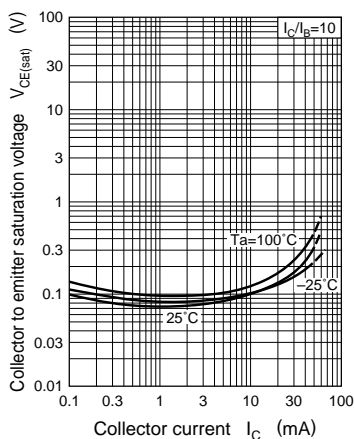
$I_C - V_{CE}$



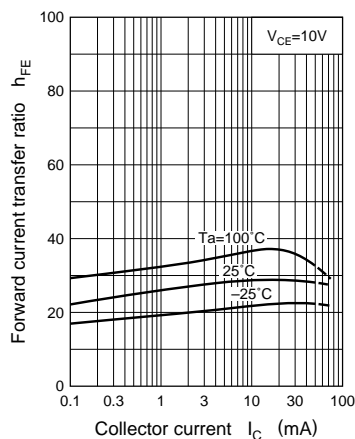
$I_C - V_{BE}$



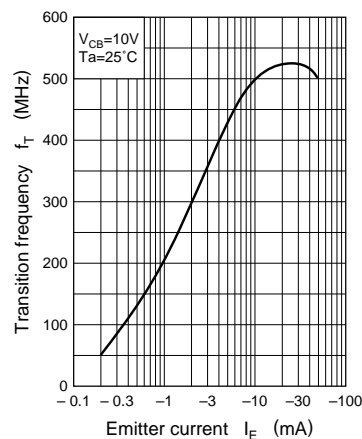
$V_{CE(sat)} - I_C$



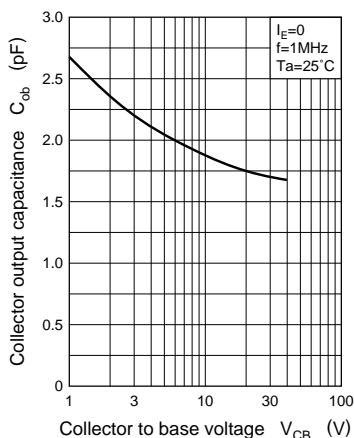
$h_{FE} - I_C$



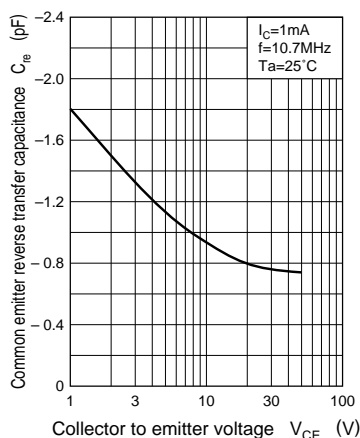
$f_T - I_E$



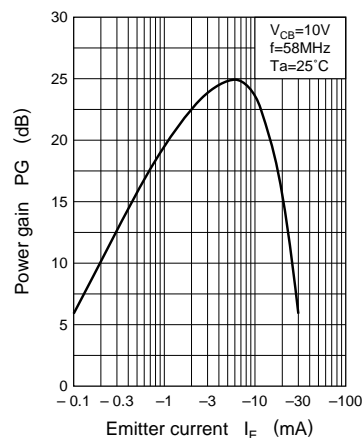
$C_{ob} - V_{CB}$



$C_{re} - V_{CE}$



$PG - I_E$



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