

# 2SC2636

## Silicon NPN epitaxial planar type

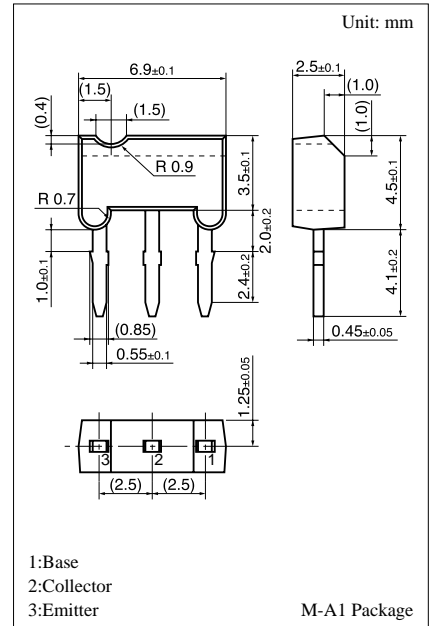
For high-frequency amplification/oscillation

### Features

- High transition frequency  $f_T$ .
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board.

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

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	30	V
Collector to emitter voltage	$V_{CEO}$	20	V
Emitter to base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	400	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



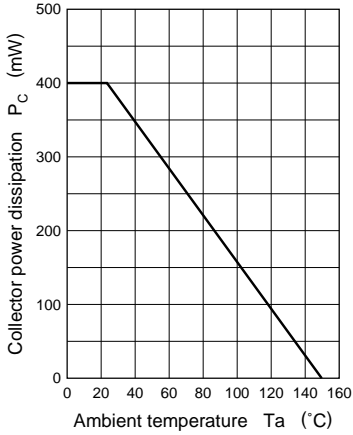
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	$V_{CBO}$	$I_C = 100\mu A, I_E = 0$	30			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	3			V
Forward current transfer ratio	$h_{FE}$	$V_{CB} = 10V, I_E = -2mA$	25			
Base to emitter voltage	$V_{BE}$	$V_{CB} = 10V, I_E = -2mA$		720		mV
Transition frequency	$f_T^*$	$V_{CB} = 10V, I_E = -15mA, f = 200MHz$	600	1200	1600	MHz
Power gain	PG	$V_{CB} = 10V, I_E = -1mA, f = 100MHz$		20		dB
Common base reverse transfer capacitance	$C_{rb}$	$V_{CB} = 6V, I_E = 0, f = 1MHz$		0.8		pF
Common emitter reverse transfer capacitance	$C_{re}$	$V_{CE} = 10V, I_C = 1mA, f = 10.7MHz$			1.5	pF
Base time constant	$\tau_{bb}' \cdot C_C$	$V_{CB} = 10V, I_E = -10mA, f = 31.9MHz$			25	ps

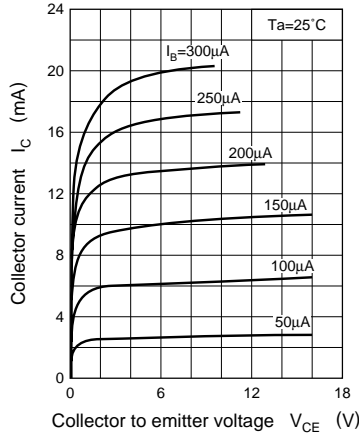
\* $f_T$  Rank classification

Rank	T	S
$f_T$	600 ~ 1300	900 ~ 1600

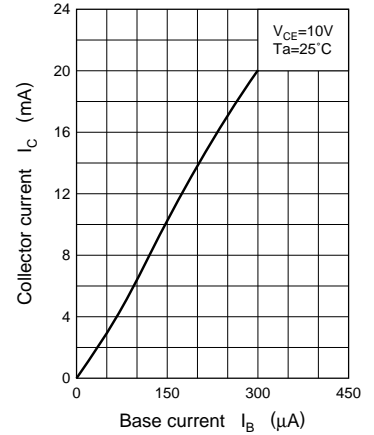
$P_C - T_a$



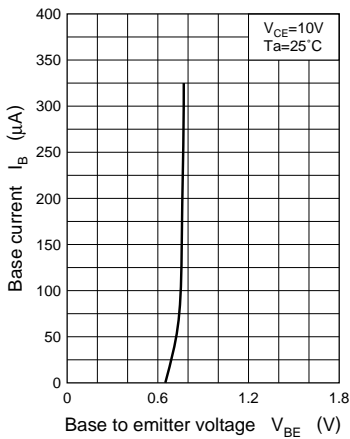
$I_C - V_{CE}$



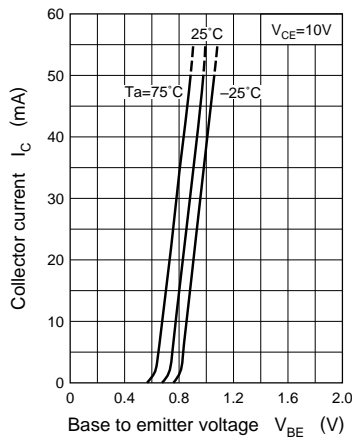
$I_C - I_B$



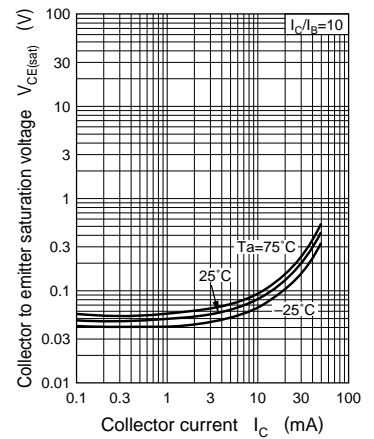
$I_B - V_{BE}$



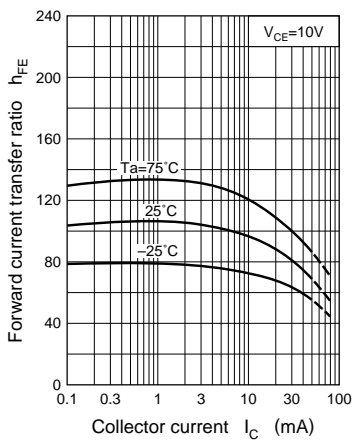
$I_C - V_{BE}$



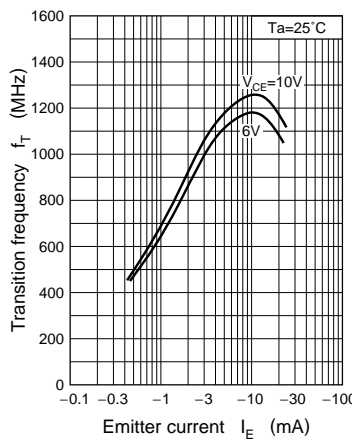
$V_{CE(sat)} - I_C$



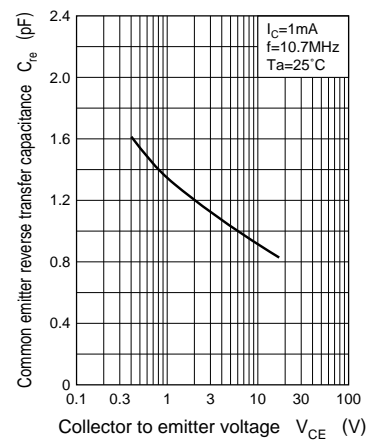
$h_{FE} - I_C$



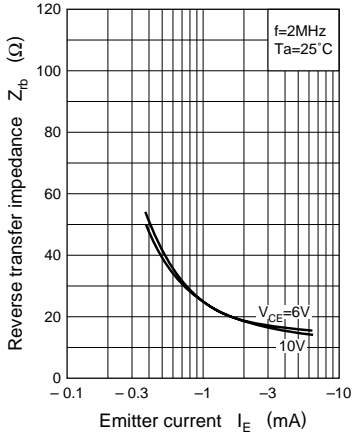
$f_T - I_E$



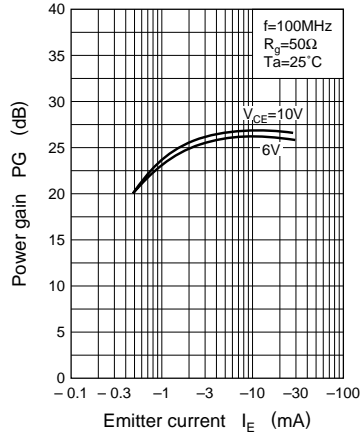
$C_{re} - V_{CE}$



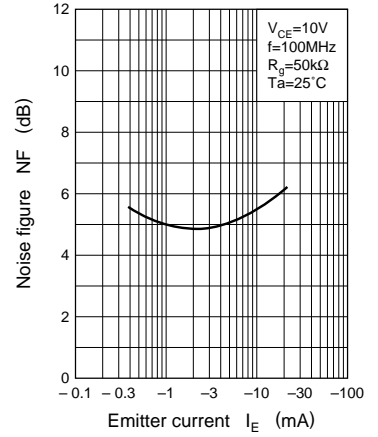
$Z_{rb} - I_E$



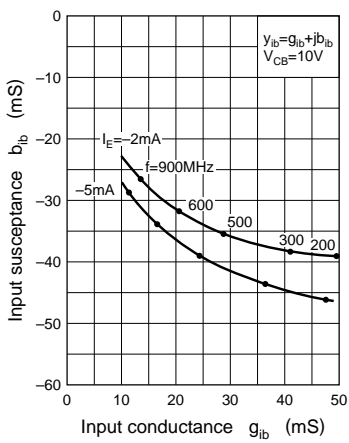
$PG - I_E$



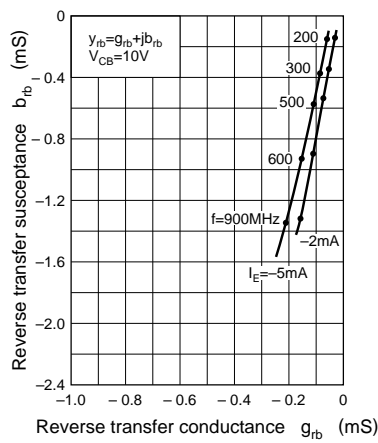
$NF - I_E$



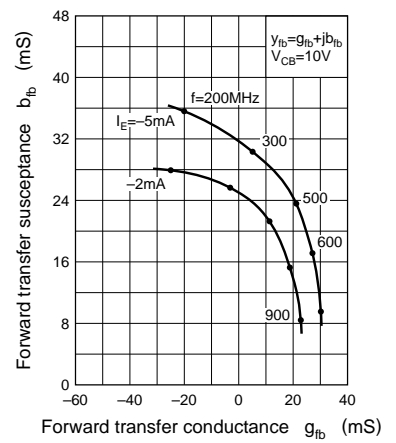
$b_{ib} - g_{ib}$



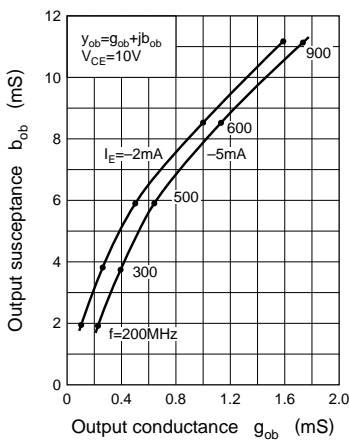
$b_{rb} - g_{rb}$



$b_{fb} - g_{fb}$



$b_{ob} - g_{ob}$



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