

2SC1688

Silicon NPN epitaxial planer type

For high-frequency amplification

Features

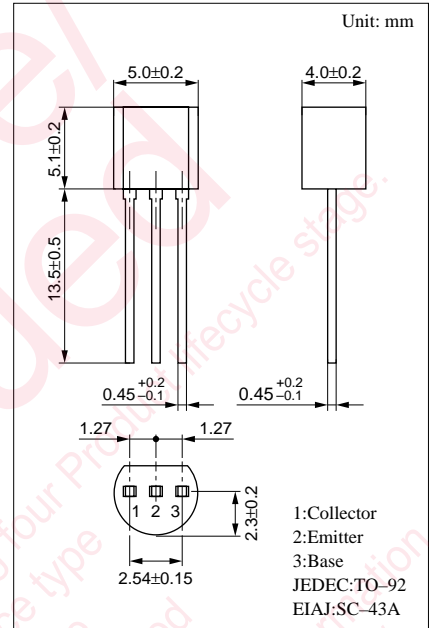
- Small common emitter reverse transfer capacitance C_{re} .
- High transition frequency f_T .
- Center at the emitter pin.

Absolute Maximum Ratings (Ta=25°C)

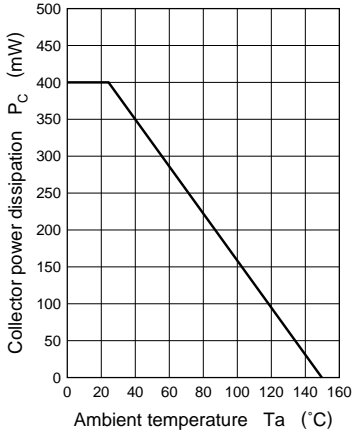
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	50	V
Collector to emitter voltage	V_{CEO}	40	V
Emitter to base voltage	V_{EBO}	4	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

Electrical Characteristics (Ta=25°C)

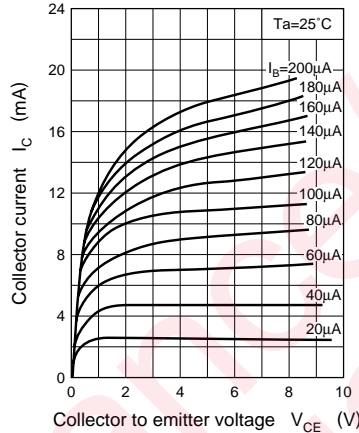
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 40V, I_E = 0$			10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			10	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10V, I_C = 7mA$	38			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$			0.8	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -5mA, f = 100MHz$	360	550	820	MHz
Common emitter reverse transfer capacitance	C_{re}	$V_{CE} = 10V, I_C = 1mA, f = 10.7MHz$		0.37	0.50	pF
Forward transfer admittance	y_{fe}	$V_{CB} = 5V, I_E = -7mA, f = 35MHz$	110	140		mS
Power gain	PG	$V_{CC} = 6V, I_C = 7mA, f = 58MHz$	21	25		dB



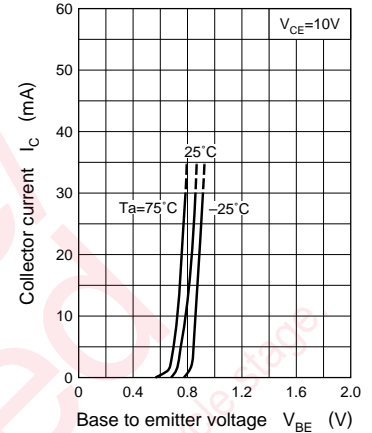
$P_C - T_a$



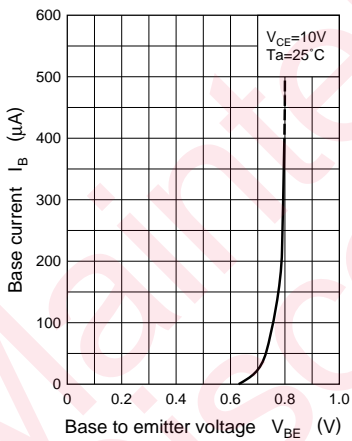
$I_C - V_{CE}$



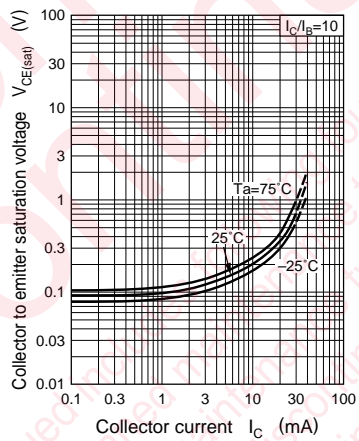
$I_C - V_{BE}$



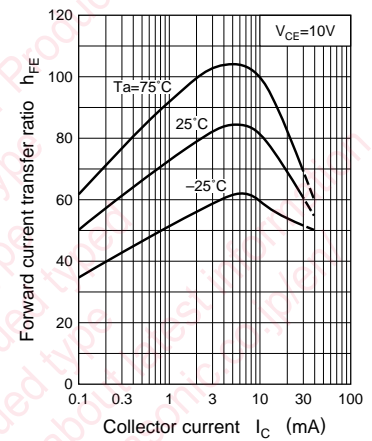
$I_B - V_{BE}$



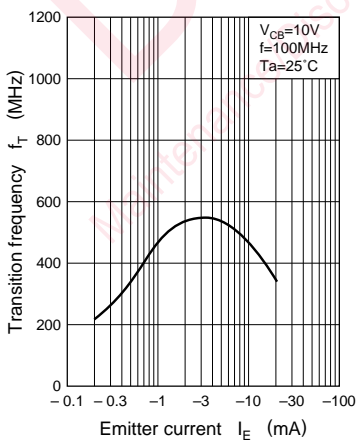
$V_{CE(sat)} - I_C$



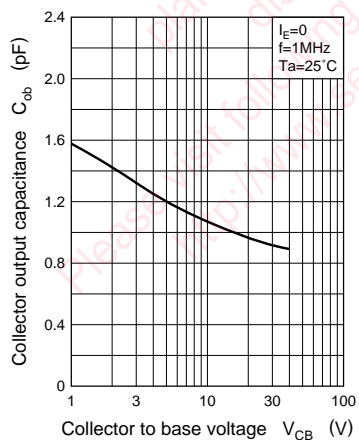
$h_{FE} - I_C$



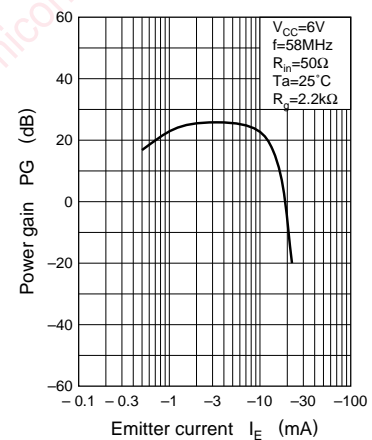
$f_T - I_E$

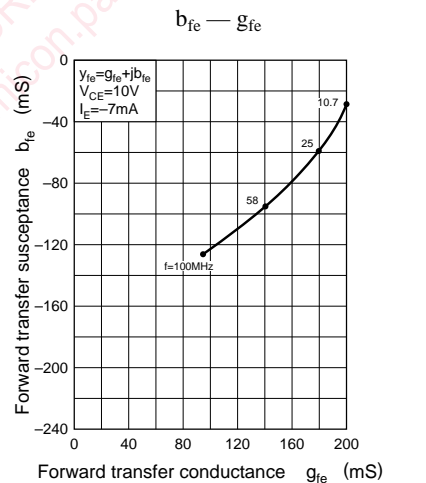
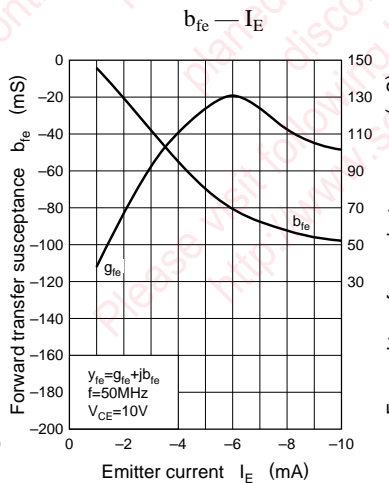
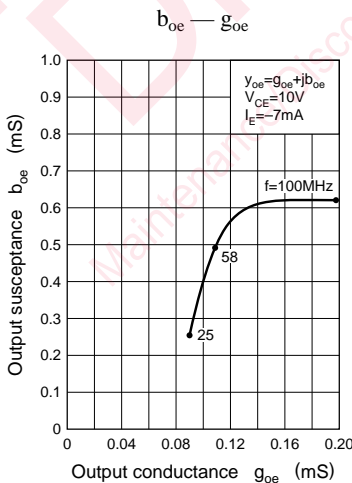
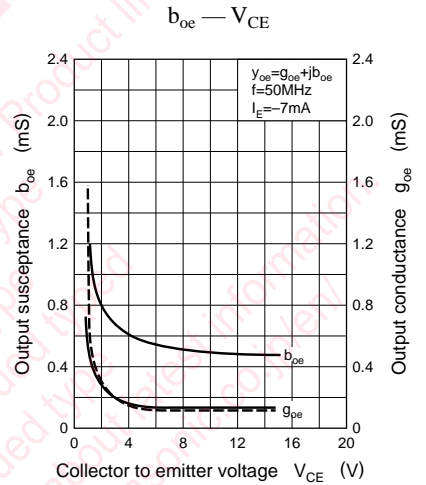
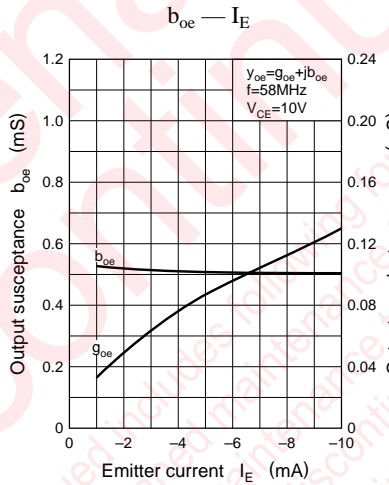
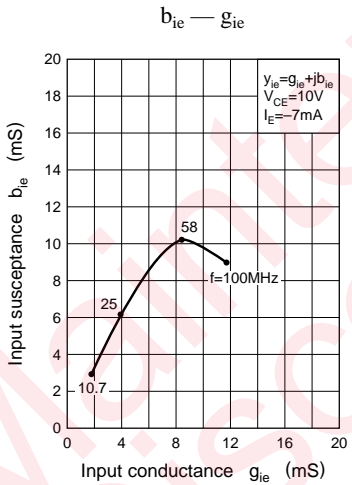
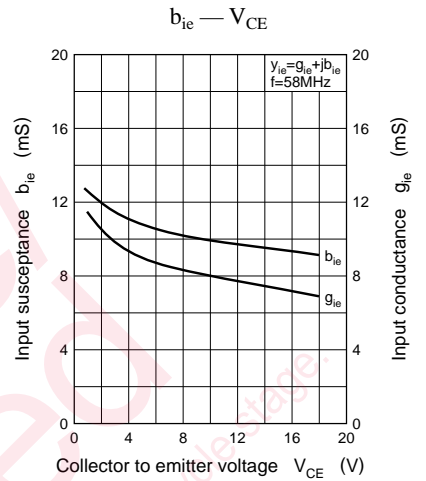
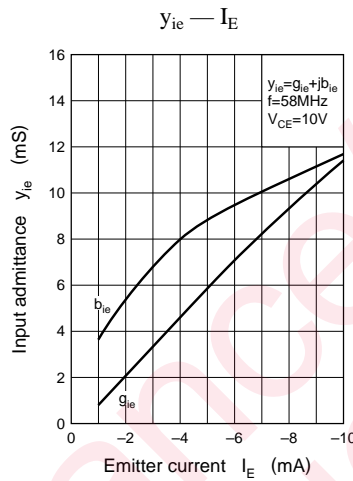
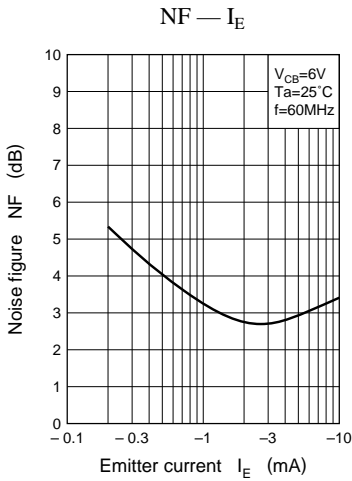


$C_{ob} - V_{CB}$



$PG - I_E$





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