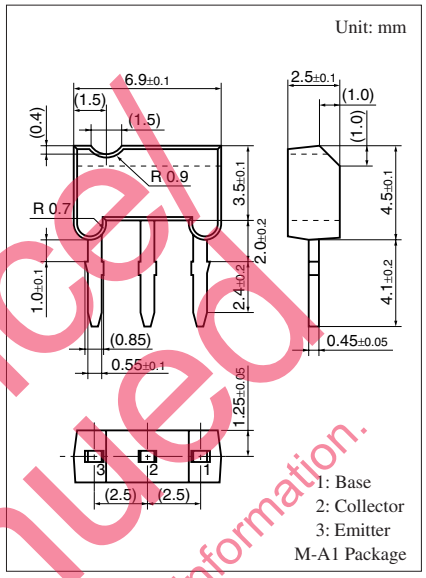
2SC2647

Silicon NPN epitaxial planar type

For high-frequency amplification



■ Features

- Optimum for RF amplification, oscillation, mixing, and IF of FM/AM radios
- M type package allowing easy automatic and manual insertion as well as stand-alone fixing to the printed circuit board

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	30	V
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-base voltage (Collector open)	V_{EBO}	5	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 to +150	°C

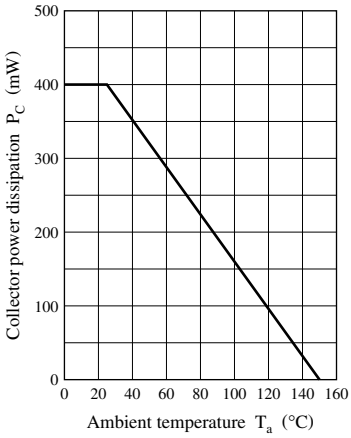
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	30			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2$ mA, $I_B = 0$	20			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	5			V
Forward current transfer ratio *	h_{FE}	$V_{CE} = 10$ V, I_C = 1 mA	70		250	—
Transition frequency	f_T	$V_{CB} = 10$ V, $I_E = -1$ mA, f = 200 MHz	150	230		MHz
Common-emitter reverse transfer capacitance	C_{re}	$V_{CB} = 10$ V, $I_E = -1$ mA, f = 10.7 MHz		1.3	1.6	pF
Reverse transfer impedance	Z_{rb}	$V_{CB} = 10$ V, $I_E = -1$ mA, f = 2 MHz			60	Ω

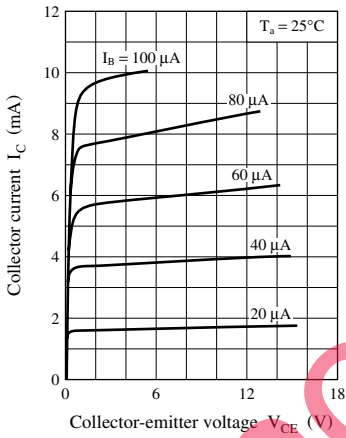
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	B	C
h_{FE}	70 to 160	110 to 250

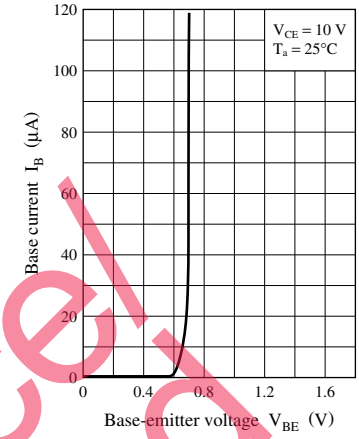
P_C — T_a



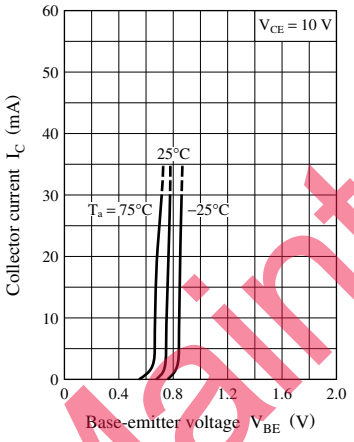
I_C — V_{CE}



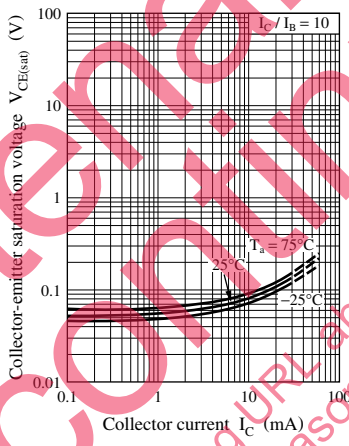
I_B — V_{BE}



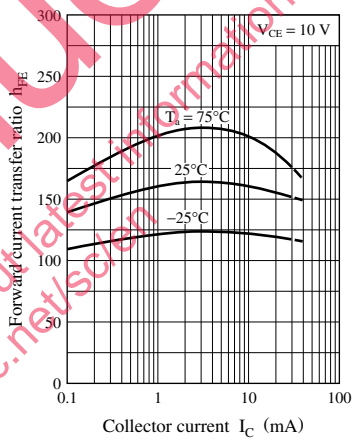
I_C — V_{BE}



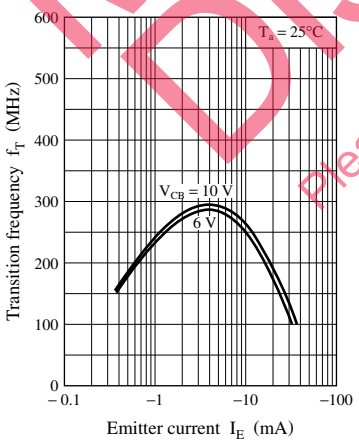
$V_{CE(sat)}$ — I_C



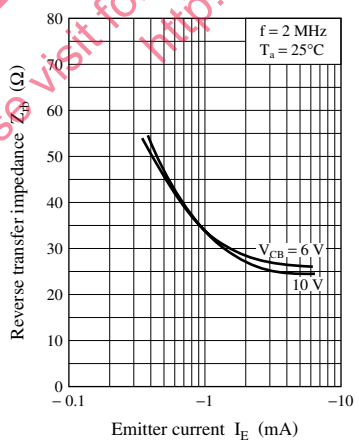
h_{FE} — I_C



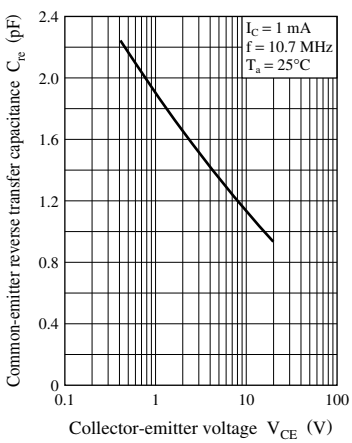
f_T — I_E



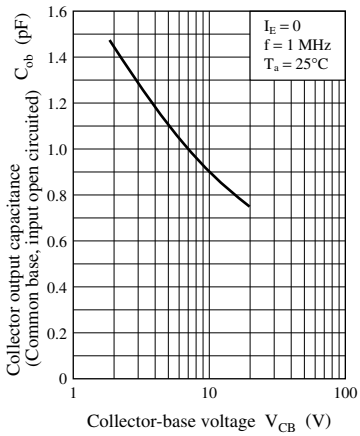
Z_{rb} — I_E



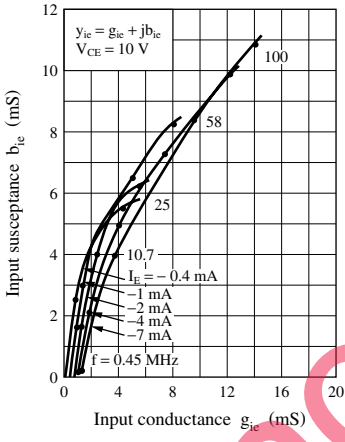
C_{re} — V_{CE}



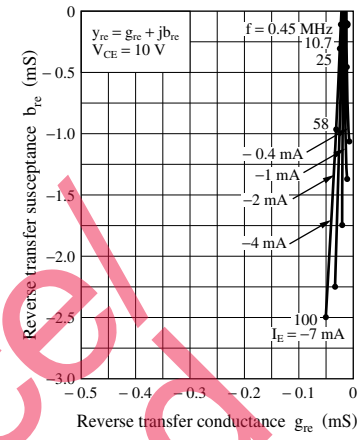
C_{ob} — V_{CB}



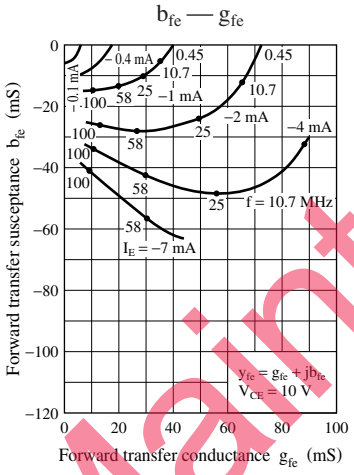
b_{ie} — g_{ie}



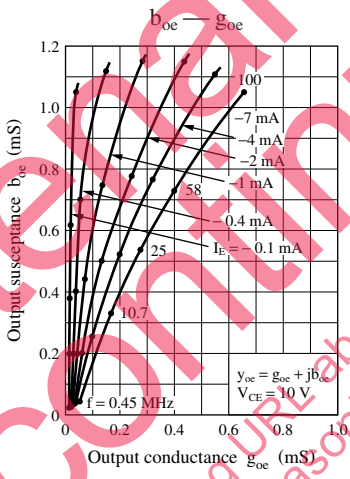
b_{re} — g_{re}



b_{fe} — g_{fe}



b_{oe} — g_{oe}



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