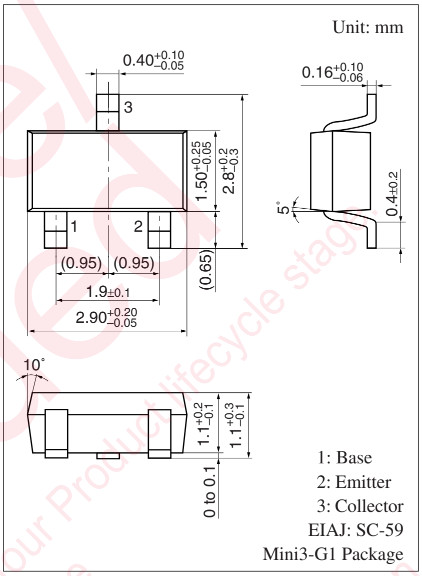
2SC2404

Silicon NPN epitaxial planar type

For high-frequency amplification



Marking Symbol: U

■ Features

- Optimum for RF amplification of FM/AM radios
- High transition frequency f_T
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing

■ 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}	3	V
Collector current	I_C	15	mA
Collector power dissipation	P_C	150	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
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	3			V
Base-emitter voltage	V_{BE}	$V_{CB} = 6$ V, $I_E = -1$ mA		0.72		V
Forward current transfer ratio *	h_{FE}	$V_{CB} = 6$ V, $I_E = -1$ mA	65		260	—
Transition frequency	f_T	$V_{CB} = 6$ V, $I_E = -1$ mA, f = 100 MHz	450	650		MHz
Reverse transfer capacitance (Common emitter)	C_{re}	$V_{CB} = 6$ V, $I_E = -1$ mA, f = 10.7 MHz		0.8	1.0	pF
Power gain	G_P	$V_{CB} = 6$ V, $I_E = -1$ mA, f = 100 MHz		24		dB
Noise figure	NF	$V_{CB} = 6$ V, $I_E = -1$ mA, f = 100 MHz		3.3		dB

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

Rank	C	D
h_{FE}	65 to 160	100 to 260

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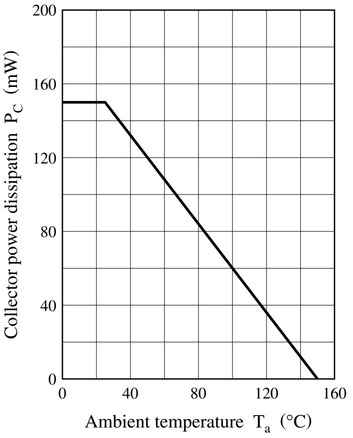
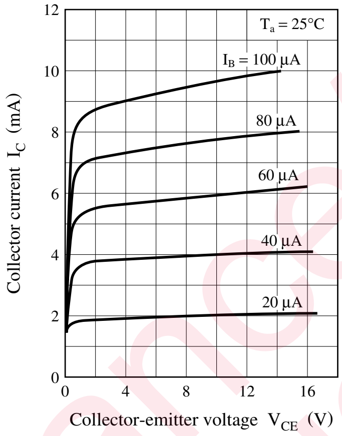
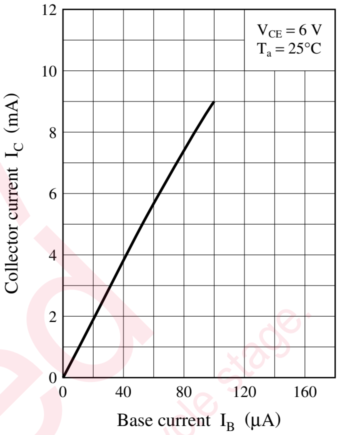
P_C — T_a



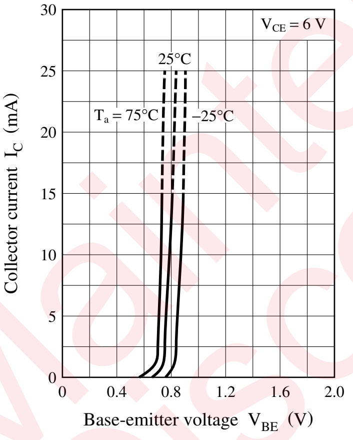
I_C — V_{CE}



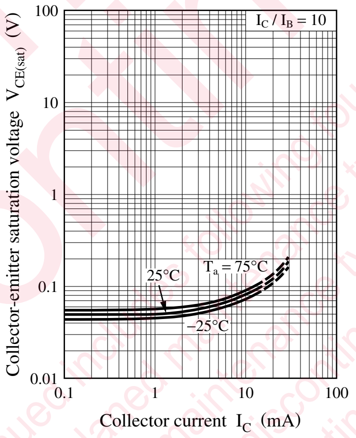
I_C — I_B



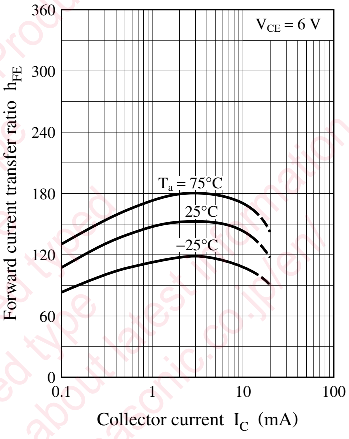
I_C — V_{BE}



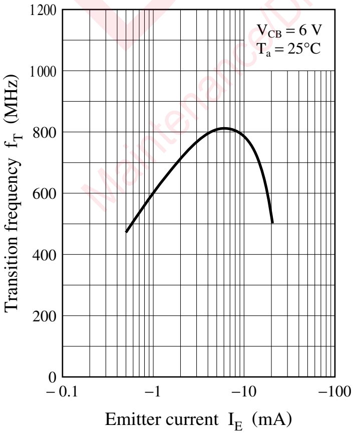
$V_{CE(sat)}$ — I_C



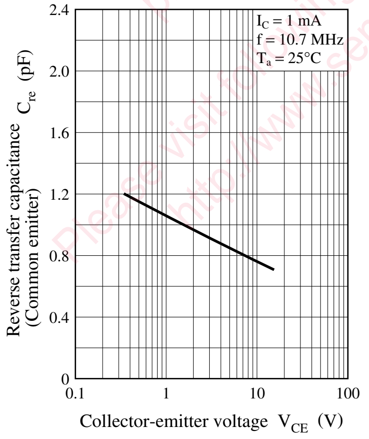
h_{FE} — I_C



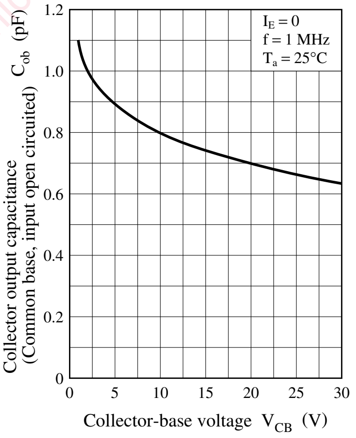
f_T — I_E



C_{re} — V_{CE}



C_{ob} — V_{CB}



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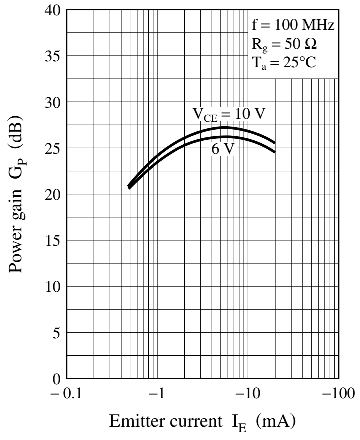
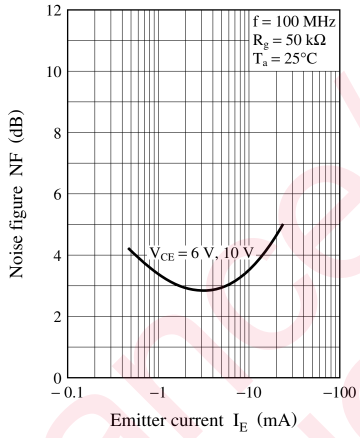
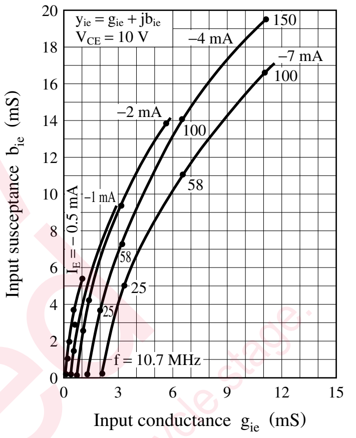
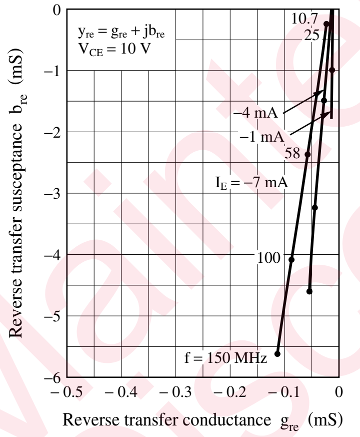
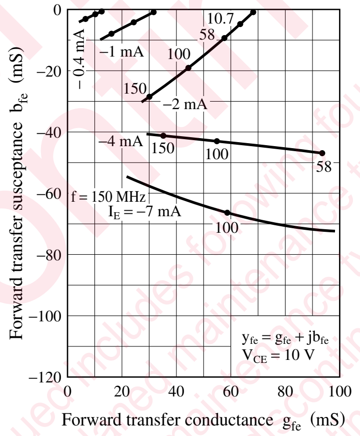
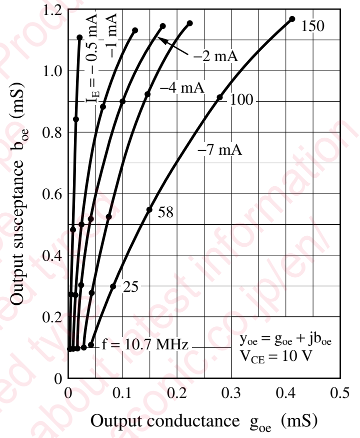

G_P — I_E


NF — I_E


b_{ie} — g_{ie}


b_{re} — g_{re}


b_{fe} — g_{fe}


b_{oe} — g_{oe}

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