

XP06543

Silicon NPN epitaxial planar type

For low noise amplification

■ Features

- High transition frequency f_T
- Two elements incorporated into one package (Each transistor is separated)

■ Basic Part Number

- 2SC3904 \times 2

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

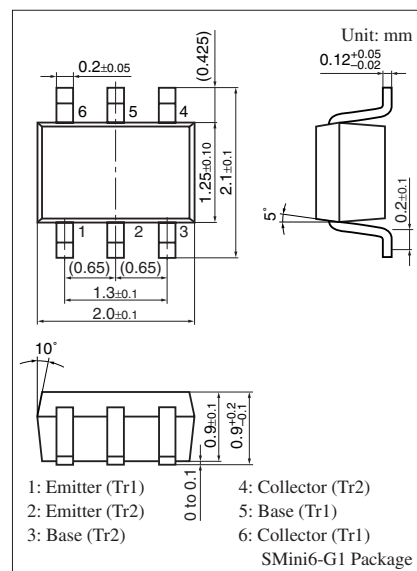
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	15	V
Collector-emitter voltage (Base open)	V_{CEO}	10	V
Emitter-base voltage (Collector open)	V_{EBO}	2	V
Collector current	I_C	65	mA
Total power dissipation	P_T	150	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10\text{ V}, I_E = 0$			1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 1\text{ V}, I_C = 0$			1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}$	50	120	300	—
Transition frequency *	f_T	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}, f = 1.5\text{ GHz}$	7.0	8.5		GHz
Noise figure	NF	$V_{CE} = 8\text{ V}, I_C = 7\text{ mA}, f = 1.5\text{ GHz}$		2.2	3.0	dB
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.6	1.0	pF
Forward transfer gain *	$ S_{21e} ^2$	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}, f = 1.5\text{ GHz}$	7	9		dB
Maximum unilateral power gain *	G_{UM}	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}, f = 1.5\text{ GHz}$		10		dB

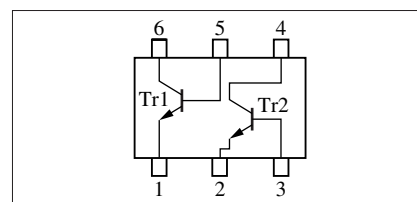
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

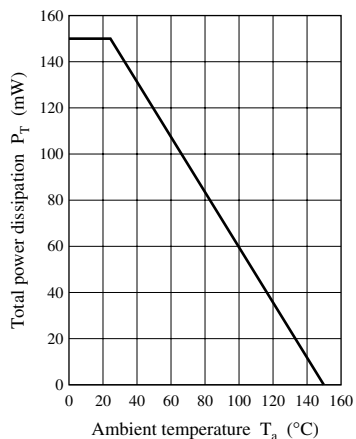
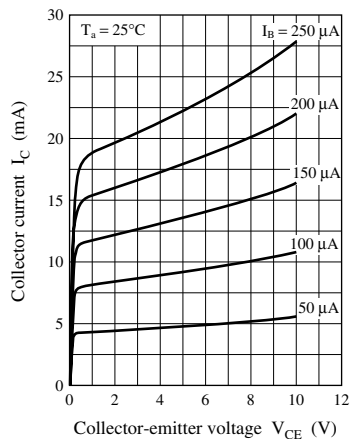
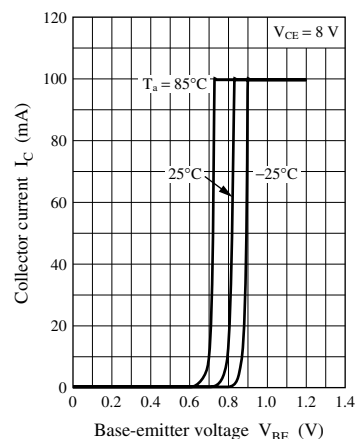
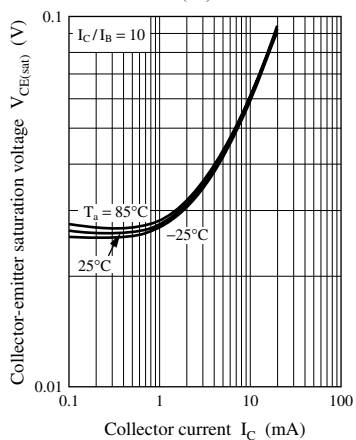
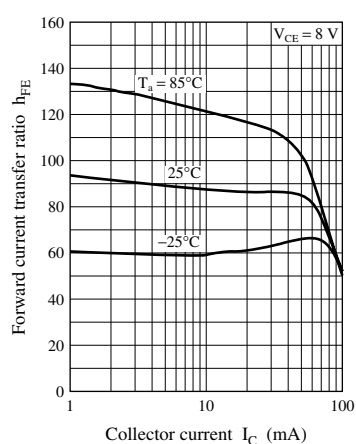
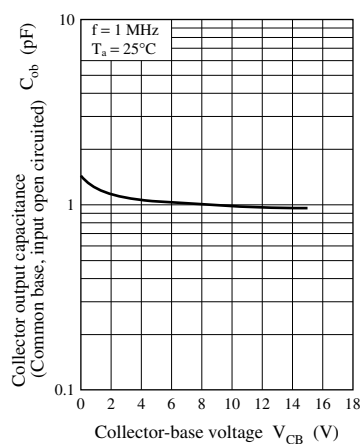
2. *: Pulse measurement



Marking Symbol: 9Y

Internal Connection



$P_T - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $C_{ob} - V_{CB}$ 

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