

2SA0963 (2SA963)

Silicon PNP epitaxial planar type

For low-frequency power amplification

Complementary to 2SC2209

■ Features

- Large collector power dissipation P_C
- Output of 4 W to 5 W can be obtained by a complementary pair with 2SC2209

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-50	V
Collector-emitter voltage (Base open)	V_{CEO}	-40	V
Emitter-base voltage (Collector open)	V_{EBO}	-5	V
Collector current	I_C	-1.5	A
Peak collector current	I_{CP}	-3	A
Collector power dissipation *	P_C	10	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *: $T_C = 25^\circ\text{C}$

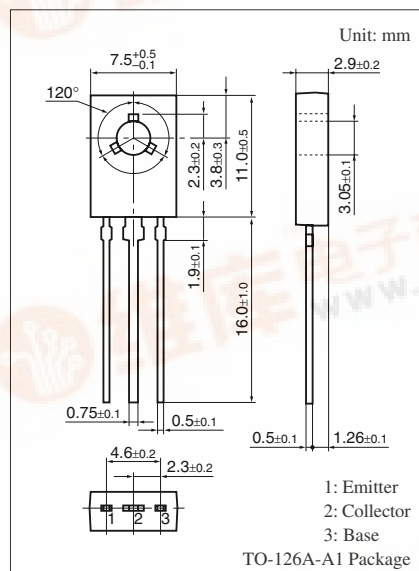
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

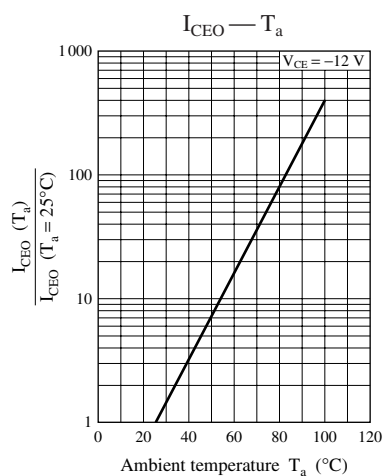
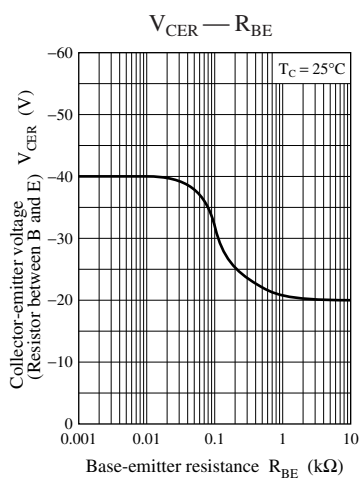
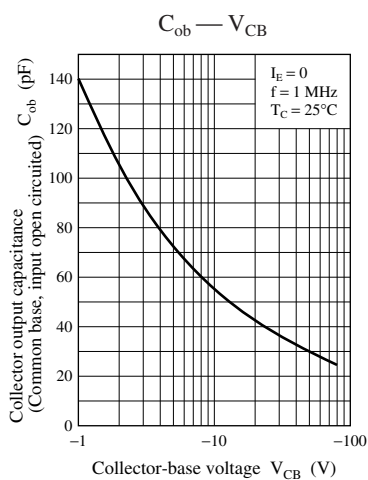
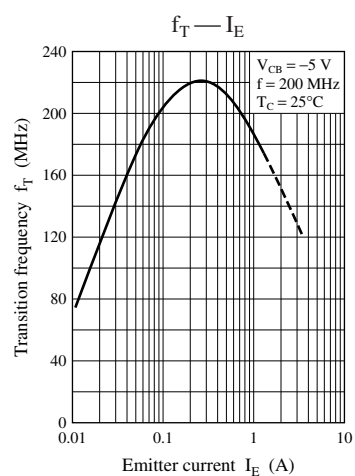
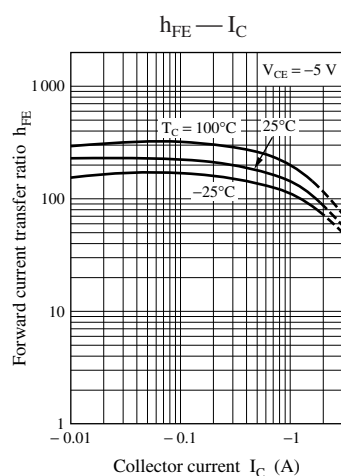
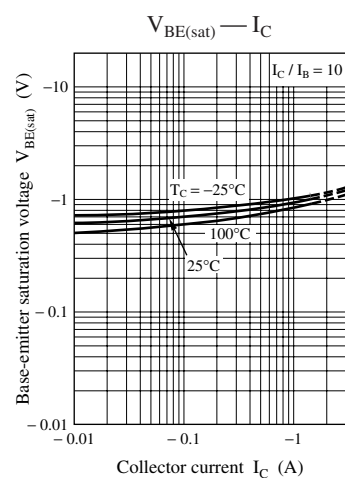
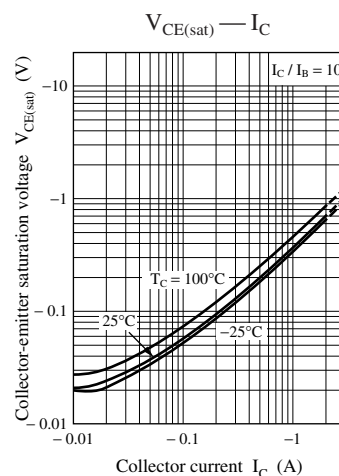
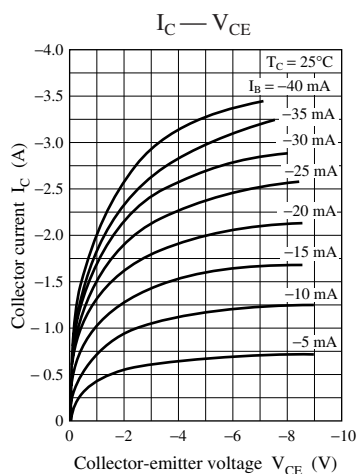
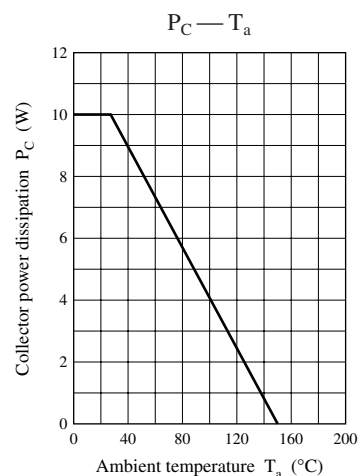
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = -1\text{ mA}$, $I_E = 0$	-50			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -2\text{ mA}$, $I_B = 0$	-40			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -20\text{ V}$, $I_E = 0$			-1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -10\text{ V}$, $I_B = 0$			-100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5\text{ V}$, $I_C = 0$			-10	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = -5\text{ V}$, $I_C = -1\text{ A}$	80		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1.5\text{ A}$, $I_B = -0.15\text{ A}$			-1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{ A}$, $I_B = -0.2\text{ A}$			-1.5	V
Transition frequency	f_T	$V_{CB} = -5\text{ V}$, $I_E = 0.5\text{ A}$, $f = 200\text{ MHz}$		150		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = -5\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$		70		pF

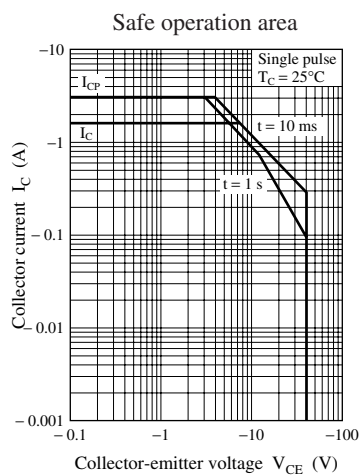
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Rank classification

Rank	Q	R
h_{FE}	80 to 160	120 to 220







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