

2SA0963 (2SA963)

Silicon PNP epitaxial planar type

For low-frequency power amplification

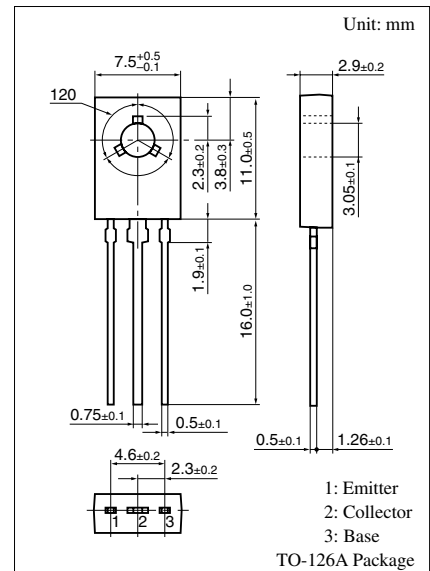
Complementary to 2SC2209

■ 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 $T_C = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CB0}	-50	V
Collector to emitter voltage	V_{CEO}	-40	V
Emitter to base voltage	V_{EBO}	-5	V
Peak collector current	I_{CP}	-3	A
Collector current	I_C	-1.5	A
Collector power dissipation ($T_C = 25^\circ\text{C}$)	P_C	10	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



■ Electrical Characteristics $T_C = 25^\circ\text{C}$

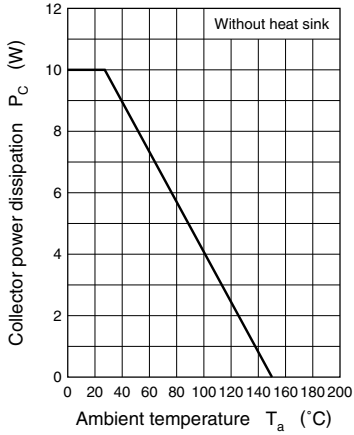
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -20\text{ V}, I_E = 0$			-1	μA
	I_{CEO}	$V_{CE} = -10\text{ V}, I_B = 0$			-100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-10	μA
Collector to base voltage	V_{CB0}	$I_C = -1\text{ mA}, I_E = 0$	-50			V
Collector to emitter voltage	V_{CEO}	$I_C = -2\text{ mA}, I_B = 0$	-40			V
Forward current transfer ratio *	h_{FE}	$V_{CE} = -5\text{ V}, I_C = -1\text{ A}$	80		220	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1.5\text{ A}, I_B = -150\text{ mA}$			-1.0	V
Base to 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	C_{ob}	$V_{CB} = -5\text{ V}, I_E = 0, f = 1\text{ MHz}$		70		pF

Note) *: Rank classification

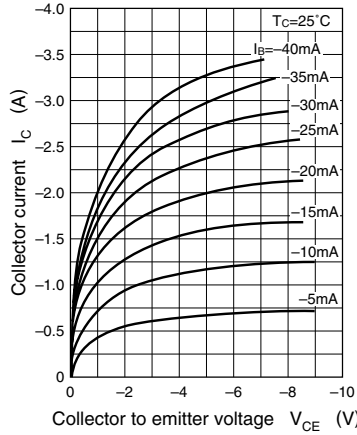
Rank	Q	R
h_{FE}	80 to 160	120 to 220

Note.) The Part number in the Parenthesis shows conventional part number.

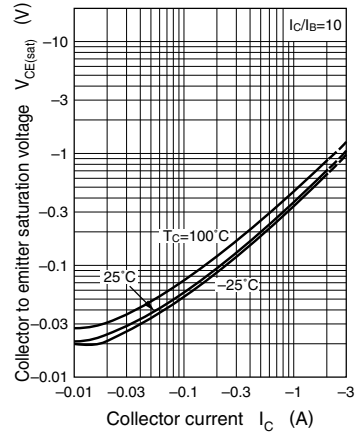
$P_C - T_a$



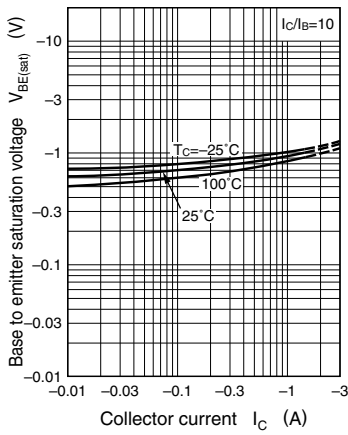
$I_C - V_{CE}$



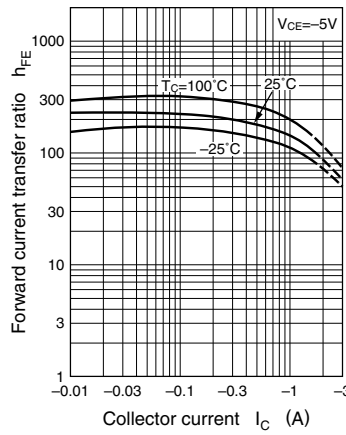
$V_{CE(sat)} - I_C$



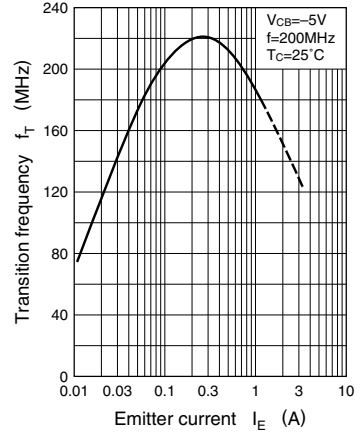
$V_{BE(sat)} - I_C$



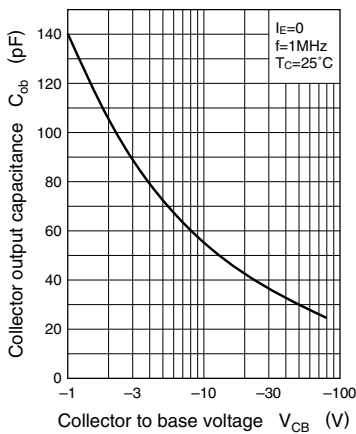
$h_{FE} - I_C$



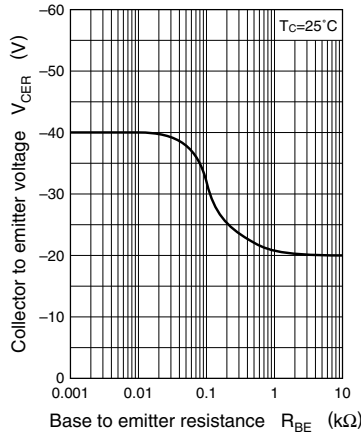
$f_T - I_E$



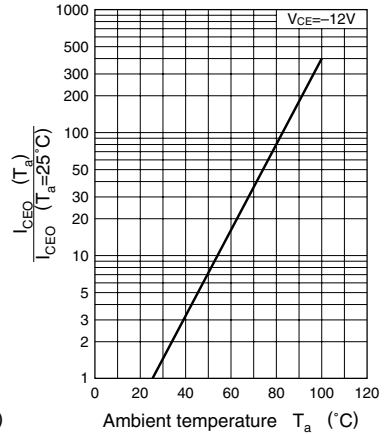
$C_{ob} - V_{CB}$



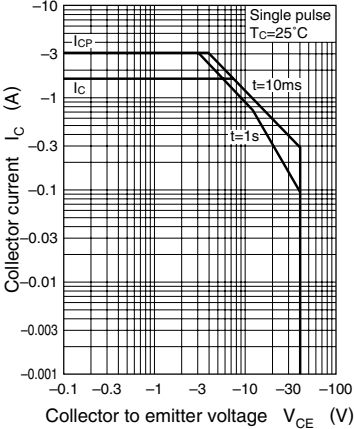
$V_{CER} - R_{BE}$



$I_{CEO} - T_a$



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