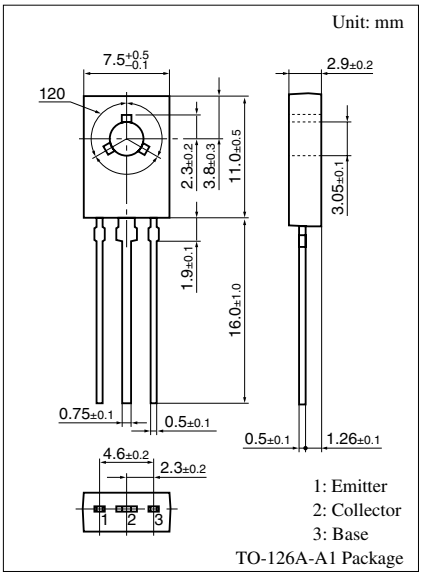
2SA0963 (2SA963)

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 $T_C = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	−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 ($T_C = 25°C$)	P_C	10	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

■ Electrical Characteristics $T_C = 25°C$

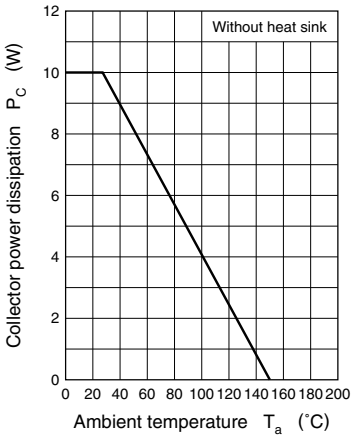
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -20$ V, $I_E = 0$			−1	μA
	I_{CEO}	$V_{CE} = -10$ V, $I_B = 0$			−100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$			−10	μA
Collector to base voltage	V_{CBO}	$I_C = -1$ mA, $I_E = 0$	−50			V
Collector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

Note) *: Rank classification

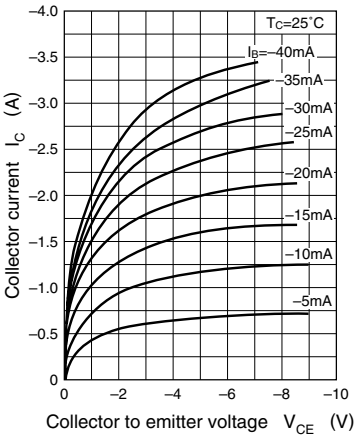
Rank	Q	R
h_{FE}	80 to 160	120 to 220

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

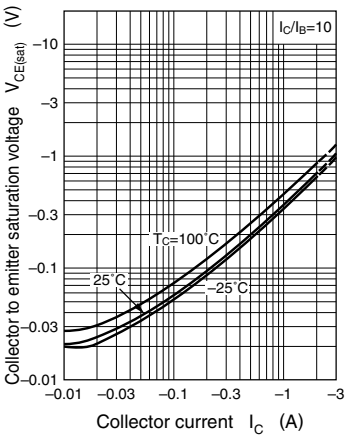
P_C — T_a



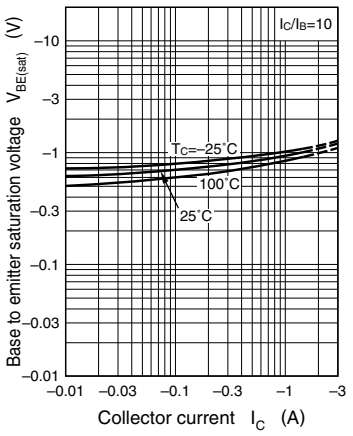
I_C — V_{CE}



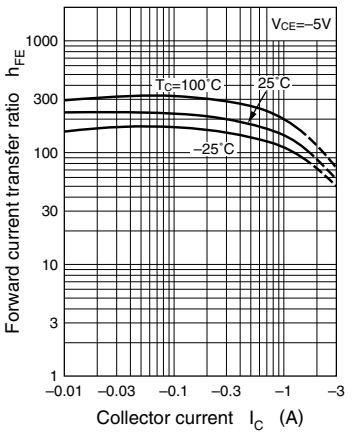
$V_{CE(sat)}$ — I_C



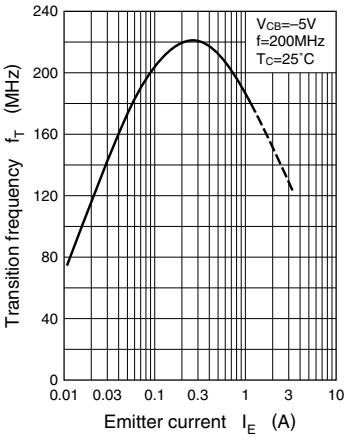
$V_{BE(sat)}$ — I_C



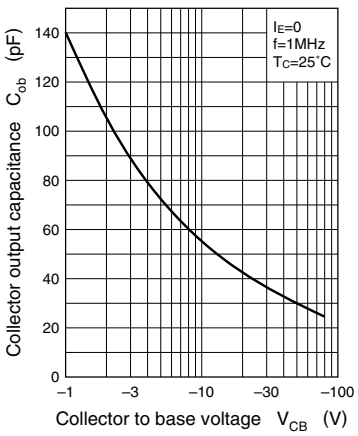
h_{FE} — I_C



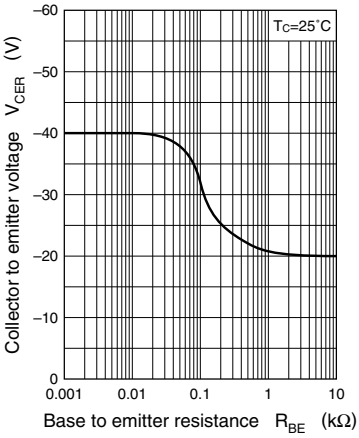
f_T — I_E



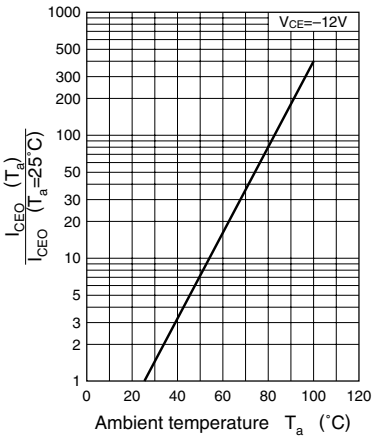
C_{ob} — V_{CB}



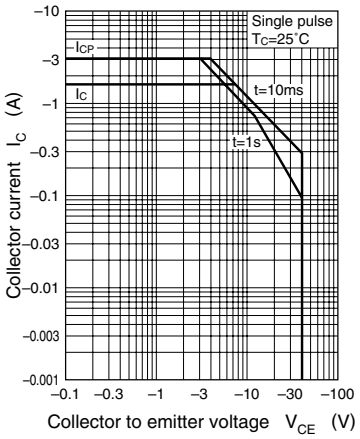
V_{CER} — R_{BE}



I_{CEO} — T_a



Area of safe operation (ASO)



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