

2SA0838 (2SA838)

Silicon PNP epitaxial planar type

For low-frequency amplification

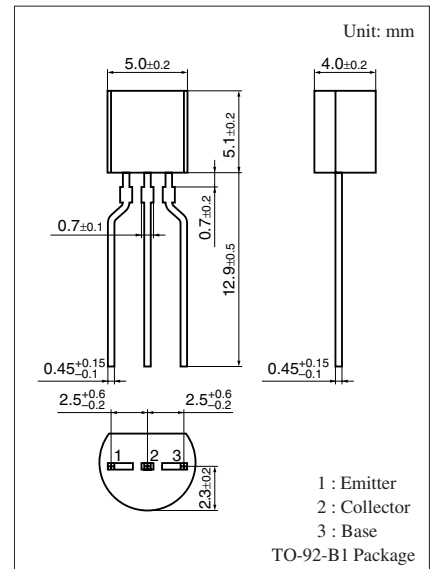
Complementary to 2SC1359

■ Features

- High transfer ratio f_T

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

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}	-5	V
Collector current	I_C	-30	mA
Collector power dissipation	P_C	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



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

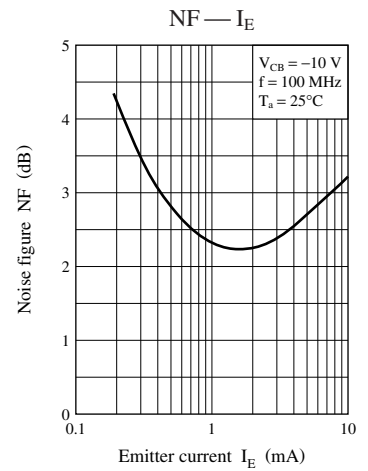
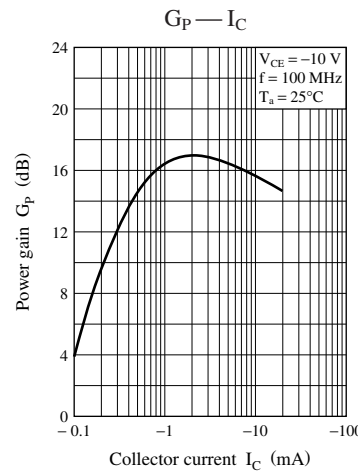
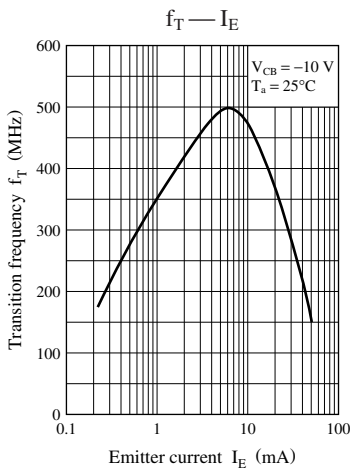
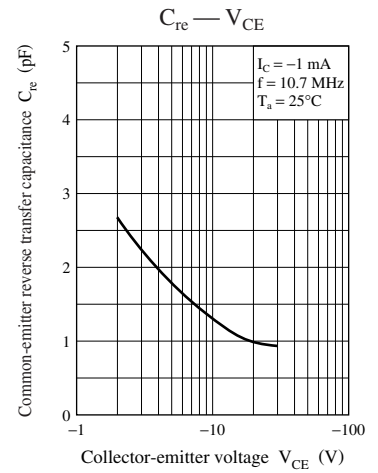
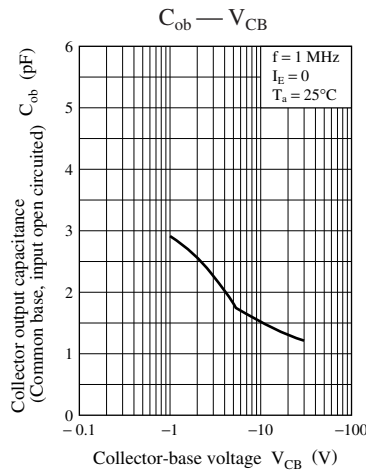
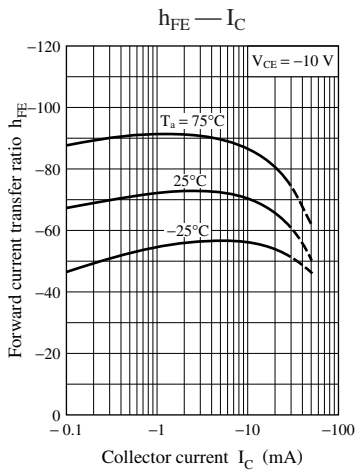
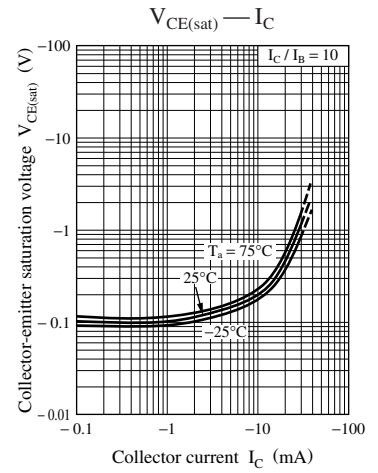
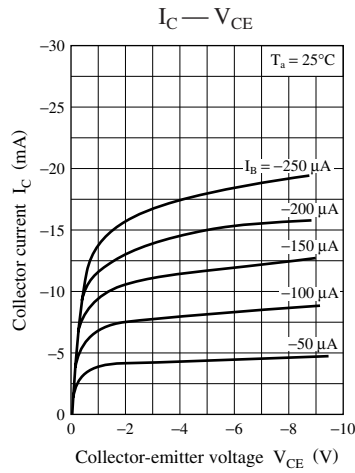
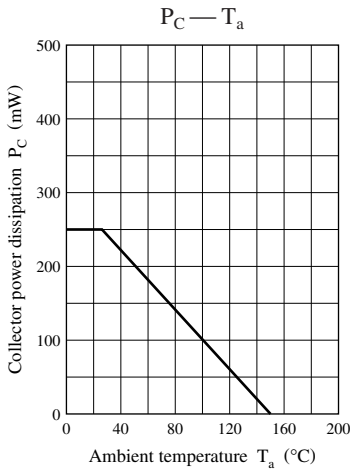
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Base-emitter saturation voltage	V_{BE}	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$		-0.7		V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -10\text{ V}, I_E = 0$			-0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -20\text{ V}, I_B = 0$			-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}	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$	70		220	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10\text{ mA}, I_B = -1\text{ mA}$		-0.1		V
Transition frequency	f_T	$V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 200\text{ MHz}$	150	300		MHz
Noise figure	NF	$V_{CB} = -10\text{ V}, I_E = 1\text{ mA}, f = 5\text{ MHz}$		2.8	4.0	dB
Reverse transfer impedance	Z_{rb}	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}, f = 2\text{ MHz}$		22	50	Ω
Reverse transfer capacitance (Common-emitter)	C_{re}	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}, f = 10.7\text{ MHz}$		1.2	2.0	pF

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

2. *: Rank classification

Rank	B	C
h_{FE}	70 to 140	110 to 220

Note) The part number in the parenthesis shows conventional part number.



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