

2SB933

Silicon PNP Epitaxial Planar Type

Power Switching

Complementary Pair with 2SD1256

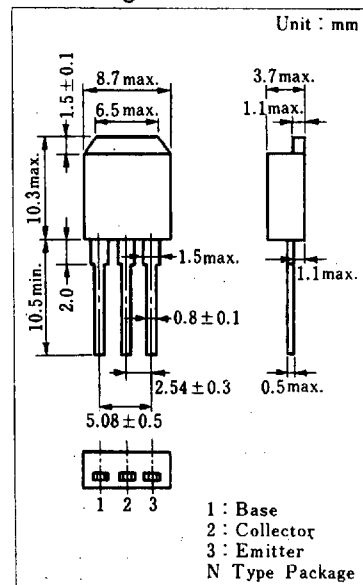
■ Features

- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Good linearity of DC current gain (h_{FE})
- High collector current (I_C)
- "N Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	-130	V
Collector-emitter voltage	V_{CEO}	-80	V
Emitter-base voltage	V_{EBO}	-7	V
Peak collector current	I_{CP}	-10	A
Collector current	I_C	-5	A
Collector power dissipation	$T_c=25^\circ\text{C}$	40	W
	$T_a=25^\circ\text{C}$	1.3	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~+150	$^\circ\text{C}$

■ Package Dimensions



*Surface-mount type is also available.
(Refer to p.82.)

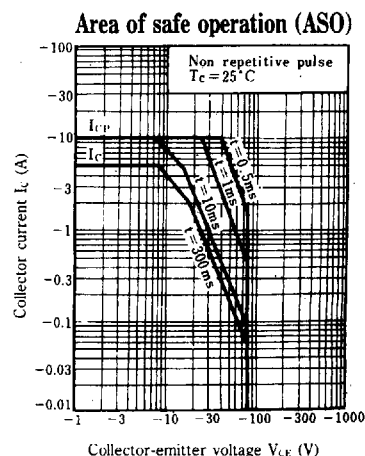
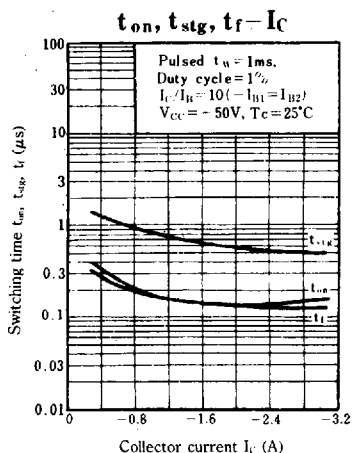
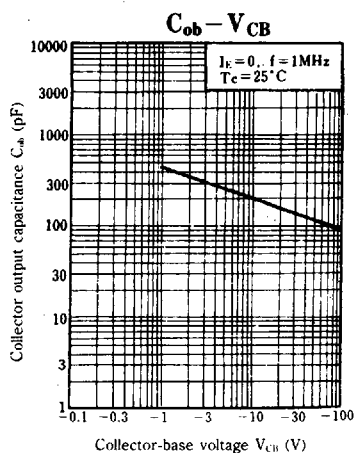
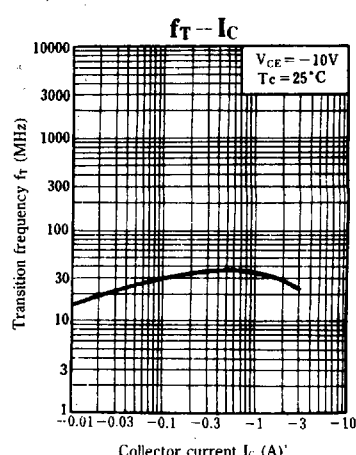
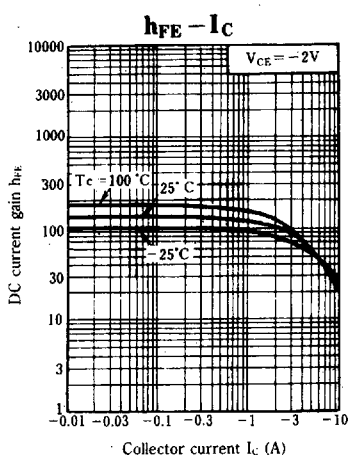
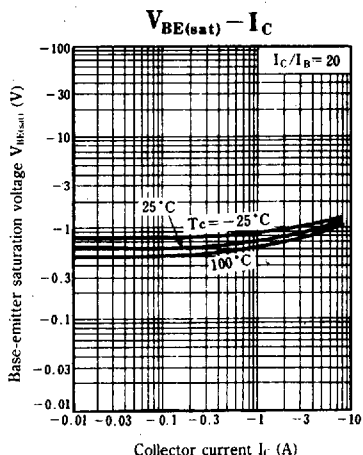
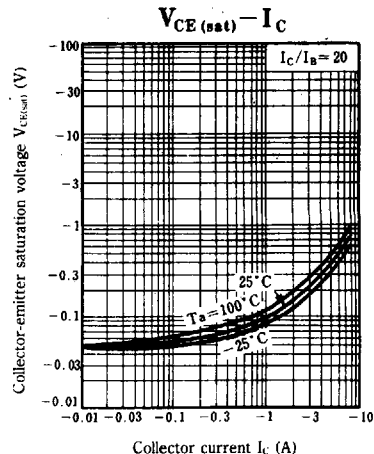
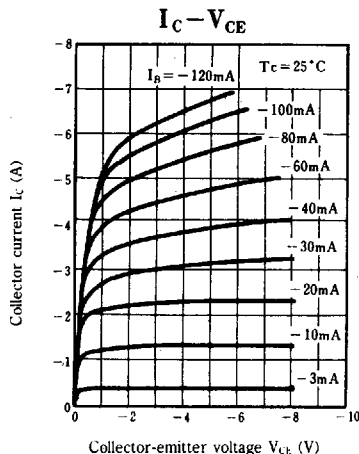
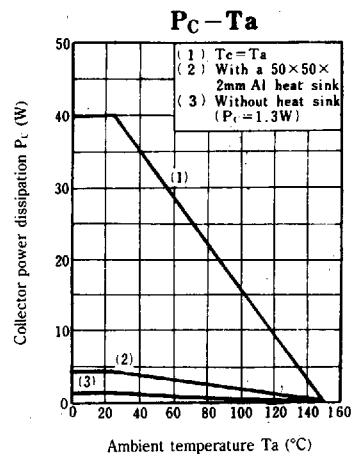
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -100\text{ V}, I_E = 0$			-10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-50	μA
Collector-emitter voltage	V_{CEO}	$I_C = -10\text{ mA}, I_B = 0$	-80			V
DC current gain	h_{FE1}	$V_{CE} = -2\text{ V}, I_C = -0.1\text{ A}$	45			
	h_{FE2}^*	$V_{CE} = -2\text{ V}, I_C = -2\text{ A}$	60		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4\text{ A}, I_B = -0.2\text{ A}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4\text{ A}, I_B = -0.2\text{ A}$			-1.5	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -0.5\text{ A}, f = 10\text{ MHz}$		30		MHz
Turn-on time	t_{on}	$I_C = -2\text{ A}, I_{B1} = -0.2\text{ A}, I_{B2} = 0.2\text{ A}$		0.13		μs
Storage time	t_{stg}			0.5		μs
Collector current fall time	t_f			0.13		μs

* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	60~120	90~180	130~260

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Note) Refer to P.173 (on 2SB939/A) for $R_{th(j-a)}$ -t characteristics.