

2SB1174

Silicon PNP epitaxial planar type

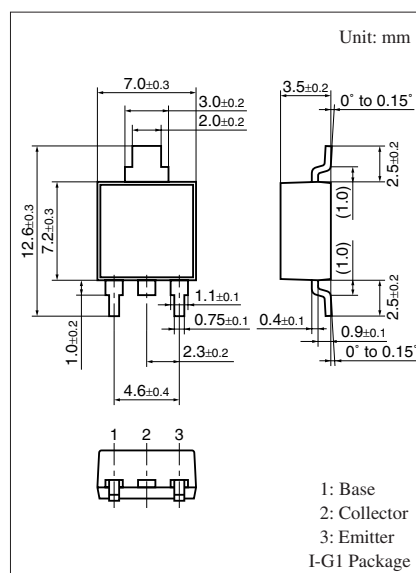
For voltage switching

■ Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-130	V
Collector-emitter voltage (Base open)	V_{CEO}	-80	V
Emitter-base voltage (Collector open)	V_{EBO}	-7	V
Collector current	I_C	-3	A
Peak collector current	I_{CP}	-6	A
Collector power dissipation	P_C	15	W
$T_a = 25^\circ\text{C}$		1.3	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Note) Self-supported type package is also prepared.

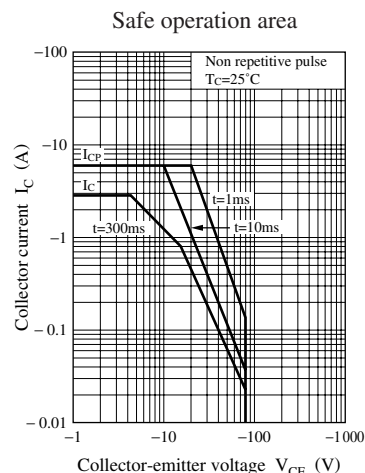
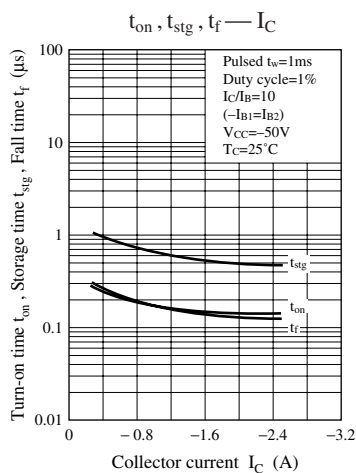
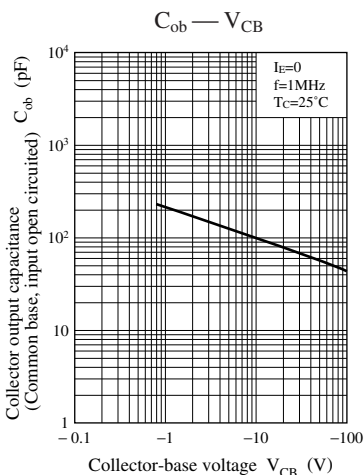
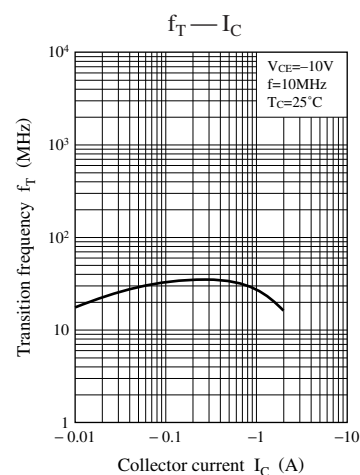
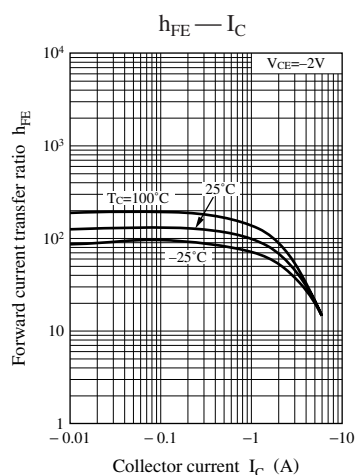
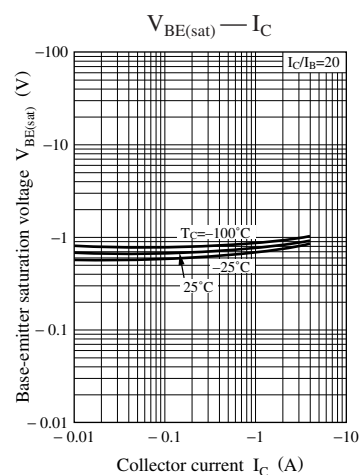
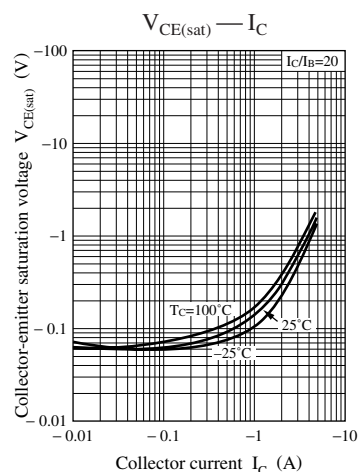
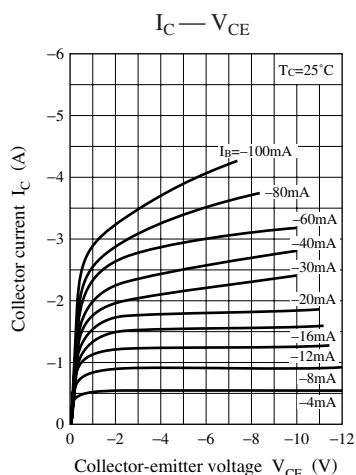
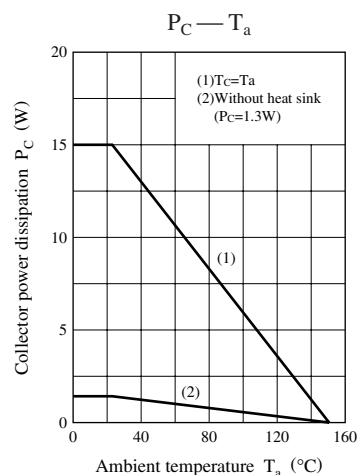
■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

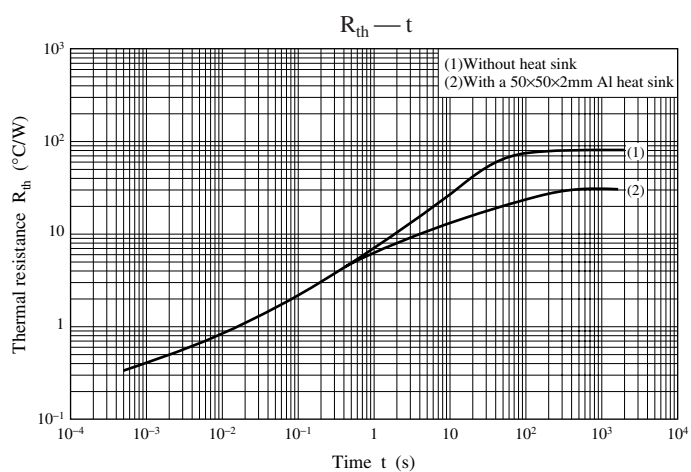
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -10\text{ mA}$, $I_B = 0$	-80			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -100\text{ V}$, $I_E = 0$			-10	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -5\text{ V}$, $I_C = 0$			-50	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = -2\text{ V}$, $I_C = -0.1\text{ A}$	45			—
	h_{FE2}^*	$V_{CE} = -2\text{ V}$, $I_C = -0.5\text{ A}$	90		260	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}$, $I_B = -0.1\text{ A}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2\text{ A}$, $I_B = -0.1\text{ A}$			-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}	$I_C = -0.5\text{ A}$, $I_{B1} = -50\text{ mA}$, $I_{B2} = 50\text{ mA}$ $V_{CC} = -50\text{ V}$		0.3		μs
Storage time	t_{stg}			1.1		μs
Fall time	t_f			0.3		μs

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

2. *: Rank classification

Rank	Q	P
h_{FE2}	90 to 180	130 to 260





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