

2SB1180, 2SB1180A

Silicon PNP epitaxial planar type darlington

For medium-speed voltage switching
Complementary to 2SD1750, 2SD1750A

■ Features

- High forward current transfer ratio h_{FE}
- I type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment

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

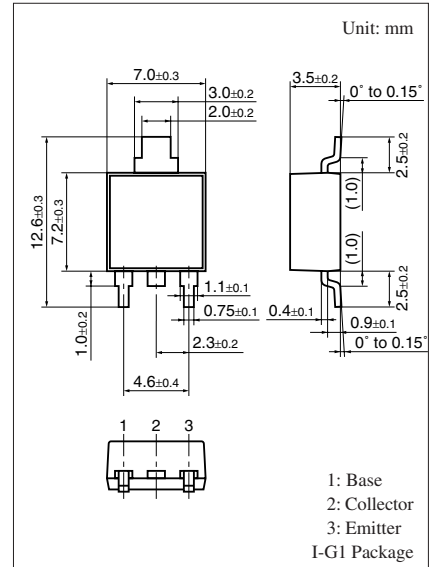
Parameter	Symbol	Rating	Unit	
Collector-base voltage (Emitter open)	2SB1180	V_{CBO}	-60	V
	2SB1180A		-80	
Collector-emitter voltage (Base open)	2SB1180	V_{CEO}	-60	V
	2SB1180A		-80	
Emitter-base voltage (Collector open)	V_{EBO}	-7	V	
Collector current	I_C	-8	A	
Peak collector current	I_{CP}	-12	A	
Collector 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	$^\circ\text{C}$	

■ 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)	2SB1180	$I_C = -30 \text{ mA}, I_B = 0$	-60			V
	2SB1180A		-80			
Collector-base cutoff current (Emitter open)	2SB1180	$V_{CB} = -60 \text{ V}, I_E = 0$			-100	μA
	2SB1180A	$V_{CB} = -80 \text{ V}, I_E = 0$			-100	
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -7 \text{ V}, I_C = 0$			-2	mA
Forward current transfer ratio	h_{FE1}^*	$V_{CE} = -3 \text{ V}, I_C = -4 \text{ A}$	2000		10000	—
	h_{FE2}	$V_{CE} = -3 \text{ V}, I_C = -8 \text{ A}$	500			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-2	V
Transition frequency	f_T	$V_{CE} = -3 \text{ V}, I_C = -1 \text{ A}, f = 1 \text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = -4 \text{ A}, I_{B1} = -8 \text{ mA}, I_{B2} = 8 \text{ mA}$		0.5		μs
Storage time	t_{stg}	$V_{CC} = -50 \text{ V}$		2.0		μs
Fall time	t_f			1.0		μs

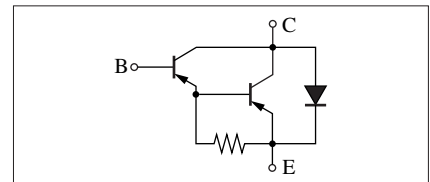
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

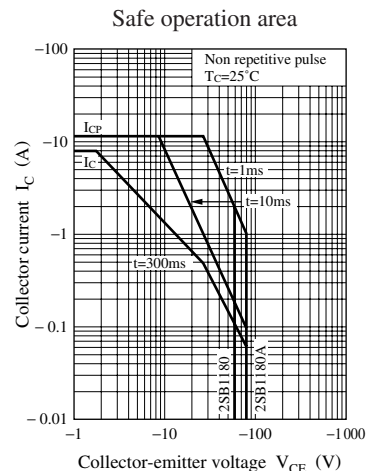
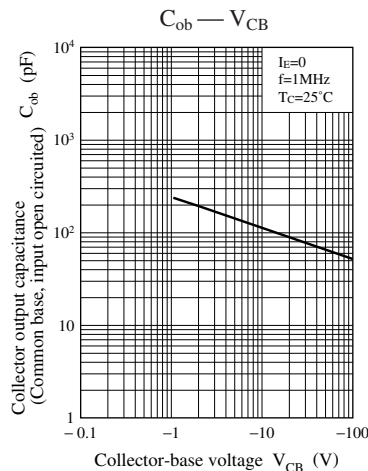
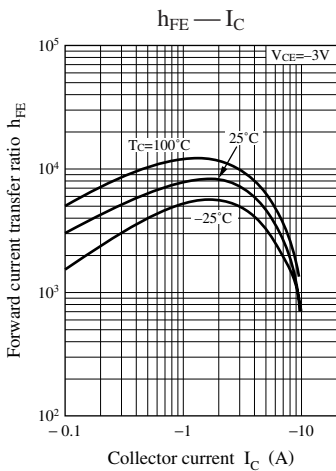
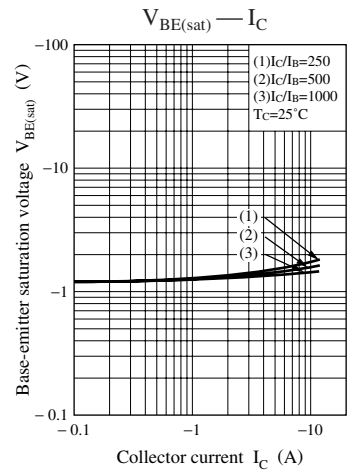
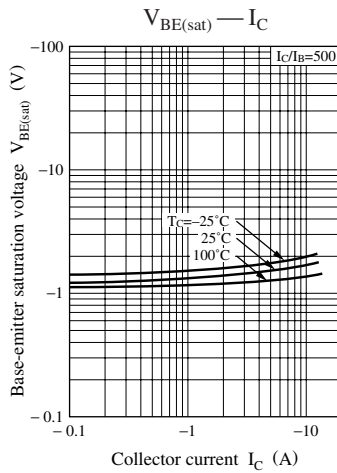
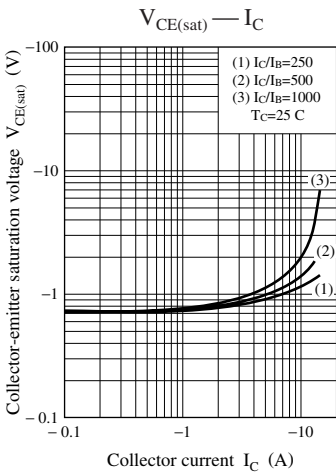
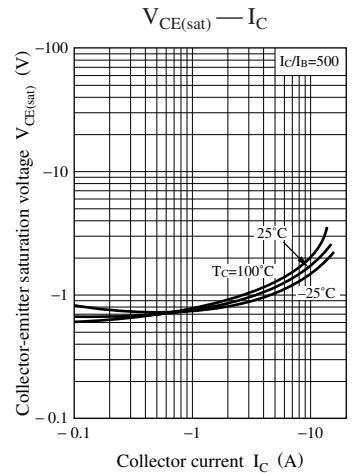
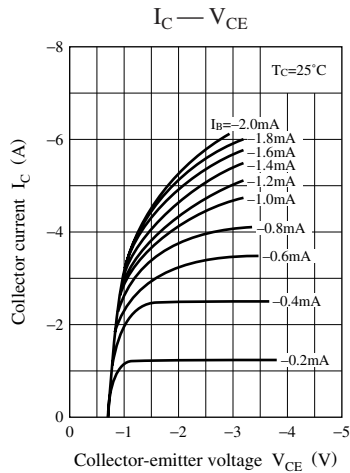
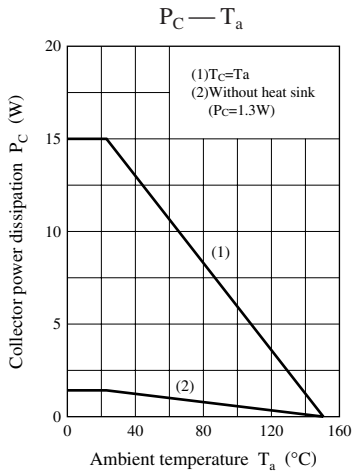
Rank	Q	P
h_{FE1}	2000 to 5000	4000 to 10000

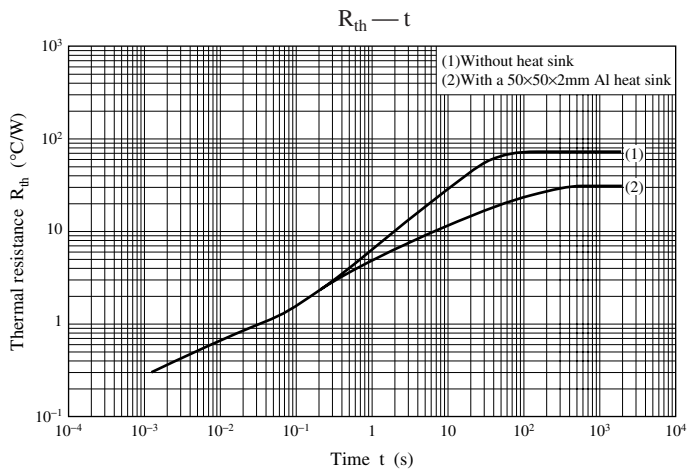


Note) Self-supported type package is also prepared.

Internal Connection







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