2SB1180, 2SB1180A

Silicon PNP epitaxial planar type darlington

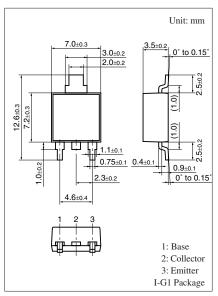
For medium-speed voltage switching Complementary to 2SD1750, 2SD1750A

■ 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

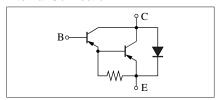
■ Absolute Maximum Ratings $T_C = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage	2SB1180	V_{CBO}	-60	V
(Emitter open)	2SB1180A		-80	
Collector-emitter voltage	2SB1180	V _{CEO}	-60	V
(Base open)	2SB1180A		-80	
Emitter-base voltage (Col	V_{EBO}	-7	V	
Collector current	I_C	-8	A	
Peak collector current	I_{CP}	-12	A	
Collector power dissipation	P _C	15	W	
	$T_a = 25^{\circ}C$		1.3	
Junction temperature	T_{j}	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	



Note) Self-supported type package is also prepared.

Internal Connection



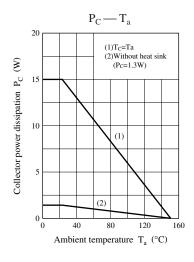
■ Electrical Characteristics $T_C = 25$ °C ± 3 °C

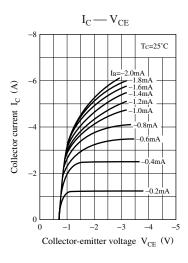
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage	2SB1180	V _{CEO}	$I_C = -30 \text{ mA}, I_B = 0$	-60			V
(Base open)	2SB1180A			-80			
Collector-base cutoff	2SB1180	I_{CBO}	$V_{CB} = -60 \text{ V}, I_E = 0$			-100	μΑ
current (Emitter open)	2SB1180A		$V_{CB} = -80 \text{ V}, I_E = 0$			-100	
Emitter-base cutoff current (Col	lector open)	I_{EBO}	$V_{EB} = -7 \text{ V}, I_C = 0$			-2	mA
Forward current transfer rat	io	h _{FE1} *	$V_{CE} = -3 \text{ V}, I_{C} = -4 \text{ A}$	2000		10 000	_
		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 volt	age	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

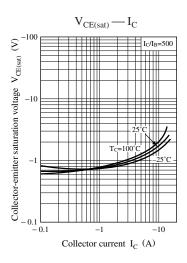
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

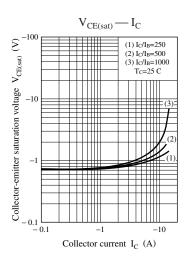
2. *: Rank classification

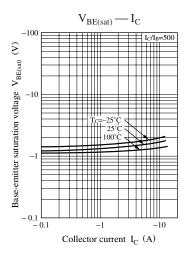
Rank	Q	Р
h _{FE1}	2000 to 5000	4000 to 10000

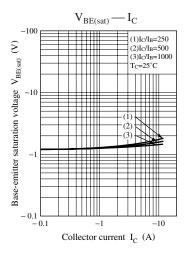


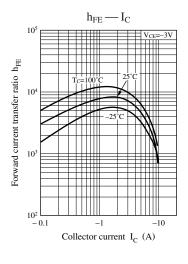


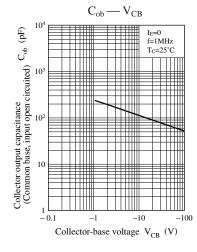


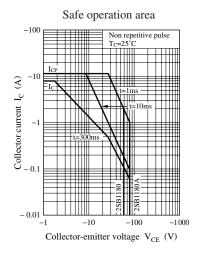


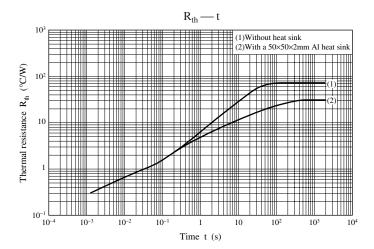












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