

# 2SB1108

## Silicon PNP Epitaxial Planar Darlington Type

Medium Speed Switching  
Complementary Pair with 2SD1608

### ■ Features

- High DC current gain ( $h_{FE}$ )
- High speed switching
- "Full Pack" package for simplified mounting on a heat sink with one screw

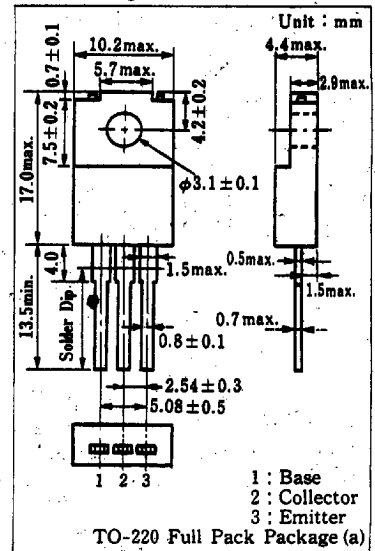
### ■ Absolute Maximum Ratings ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	-120	V
Collector-emitter voltage	$V_{CEO}$	-120	V
Emitter-base voltage	$V_{EBO}$	-7	V
Peak collector current	$I_{CP}$	-15	A
Collector current	$I_C$	-10	A
Collector power dissipation	$T_c=25^\circ\text{C}$	50	W
	$T_a=25^\circ\text{C}$	2	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

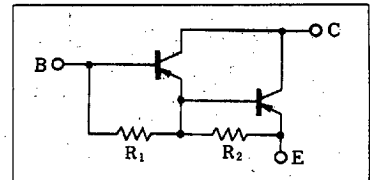
### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

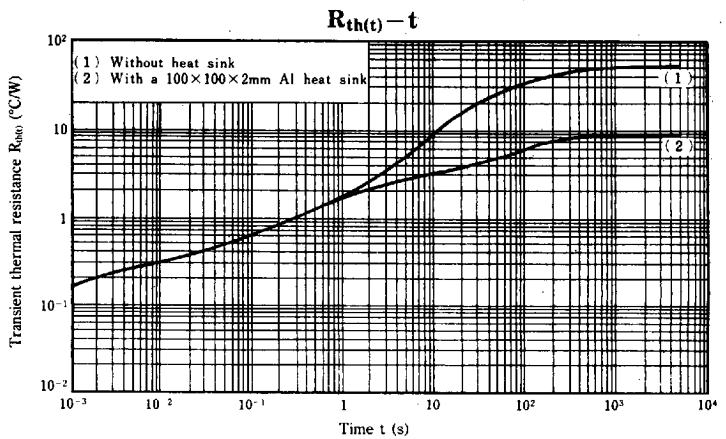
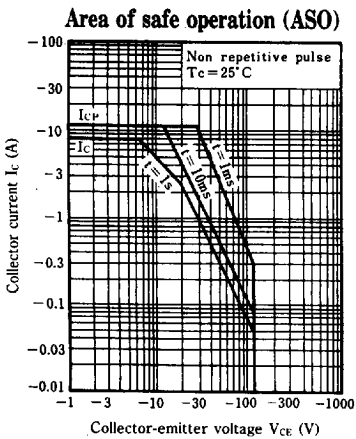
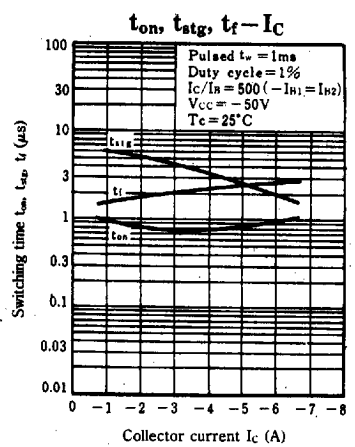
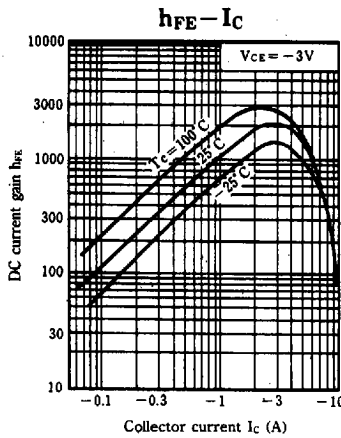
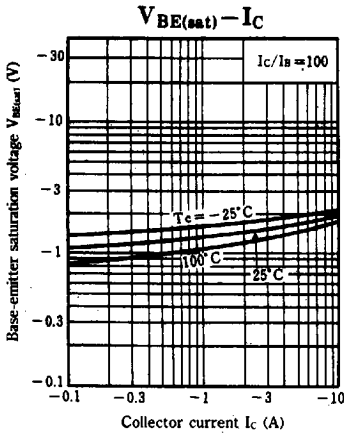
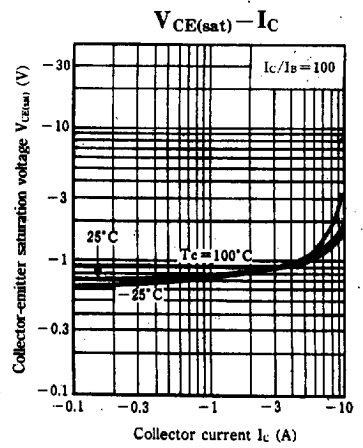
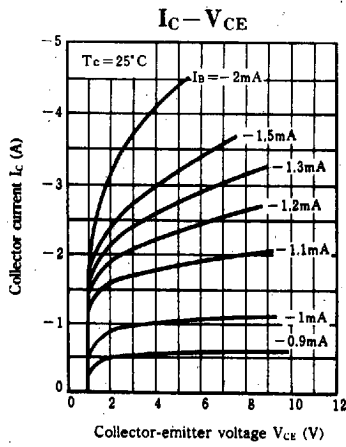
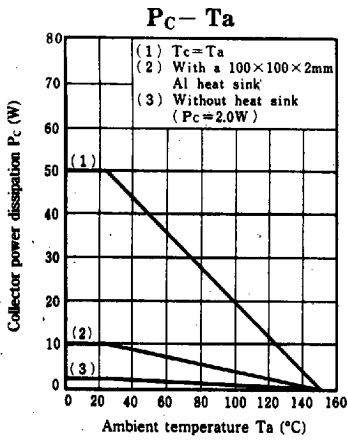
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = -120, I_E = 0$			-100	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = -100 \text{ V}, I_B = 0$			-10	
Collector-emitter voltage	$V_{CE(sat)1}$	$I_C = -2 \text{ A}, R_{BE} = \infty, L = 10 \text{ mH}$	-120			V
Emitter-base voltage	$V_{EBO}$	$I_E = -50 \text{ mA}, I_C = 0$	-7			V
DC current gain	$h_{FE}$	$V_{CE} = -3 \text{ V}, I_C = -4 \text{ A}$	1000		20000	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-1.5	V
	$V_{CE(sat)2}$	$I_C = -8 \text{ A}, I_B = -80 \text{ mA}$			-3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = -4 \text{ A}, I_B = -8 \text{ mA}$			-2	V
	$V_{BE(sat)2}$	$I_C = -8 \text{ A}, I_B = -80 \text{ mA}$			-3.5	V
Transition frequency	$f_T$	$V_{CE} = -10 \text{ V}, I_C = -1 \text{ A}, f = 10 \text{ MHz}$		30		MHz
Turn-on time	$t_{on}$	$I_C = -4 \text{ A}, I_{B1} = -8 \text{ mA}, I_{B2} = 8 \text{ mA}$		0.7		$\mu\text{s}$
Storage time	$t_{stg}$			3.5		$\mu\text{s}$
Collector current fall time	$t_f$		$V_{CC} = -50 \text{ V}$		2.5	

### ■ Package Dimensions



### ■ Inner Circuit





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