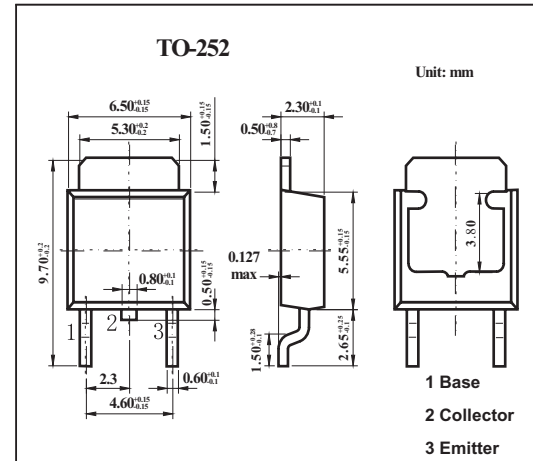


## High-Current Switching Applications

## 2SB1201

## ■ Features

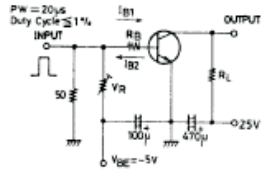
- Low collector-to-emitter saturation voltage.
- Fast switching speed.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-60	V
Collector-emitter voltage	$V_{CEO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-6	V
Collector current	$I_C$	-2	A
Collector current (pulse)	$I_{CP}$	-4	A
Collector dissipation	$P_C$	0.8	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

## 2SB1201

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0			-100	nA	
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = -4V, I <sub>C</sub> = 0			-100	nA	
DC current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -100mA	100		560		
		V <sub>CE</sub> = -2V, I <sub>C</sub> = -1.5A	40				
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -50mA		150		MHz	
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f = 1MHz		22		pF	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -50mA		-0.3	-0.7	V	
Base-to-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -50mA		-0.9	-1.2	V	
Collector-to-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA, I <sub>E</sub> = 0	-60			V	
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA, R <sub>BE</sub> = ∞	-50			V	
Emitter-to-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	-6			V	
Turn-on time	t <sub>on</sub>	 <p>I<sub>C</sub> = 10 I<sub>B1</sub> = -10 I<sub>B2</sub> = 500mA, V<sub>CC</sub> = 25V (For PNP, the polarity is reversed.) Unit (resistance : Ω, capacitance : F)</p>		60		ns	
Storage time	t <sub>stg</sub>				450		ns
Fall time	t <sub>f</sub>				30		ns

## ■ hFE Classification

Rank	R	S	T	U
hFE	100~200	140~280	200~400	280~560