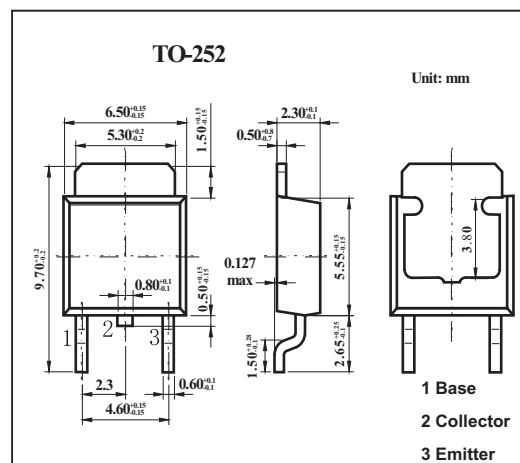


Strobe High-Current Switching Applications

2SB1205

■ Features

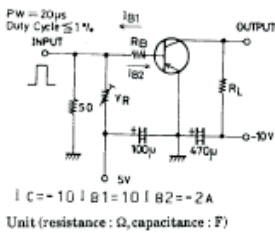
- Low saturation voltage.
- Fast switching speed.
- Large current capacity.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-25	V
Collector-emitter voltage	V_{CE0}	-20	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-5	A
Collector current (pulse)	I_{CP}	-8	A
Base current	I_B	-0.5	A
Collector dissipation	P_C	1	W
$T_C = 25^\circ\text{C}$		10	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SB1205

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -20V, I_E = 0$			-500	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-500	μA
DC current Gain	h_{FE}	$V_{CE} = -2V, I_C = -500mA$	100		400	
		$V_{CE} = -2V, I_C = -4A$	60			
Gain bandwidth product	f_T	$V_{CE} = -5V, I_C = -200mA$		320		MHz
Output capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		60		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -60mA$		-250	-500	mV
Base-to-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -3A, I_B = -60mA$		-1	-1.3	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-25			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-20			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5			V
Turn-on time	t_{on}	 $PW = 20\mu s$ Duty Cycle $\leq 1\%$ $I_C = -10mA, I_{B1} = 10mA, I_{B2} = -2mA$ Unit (resistance: Ω, capacitance: F)		40		ns
Storage time	t_{stg}			200		ns
Fall time	t_f			10		ns

■ hFE Classification

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