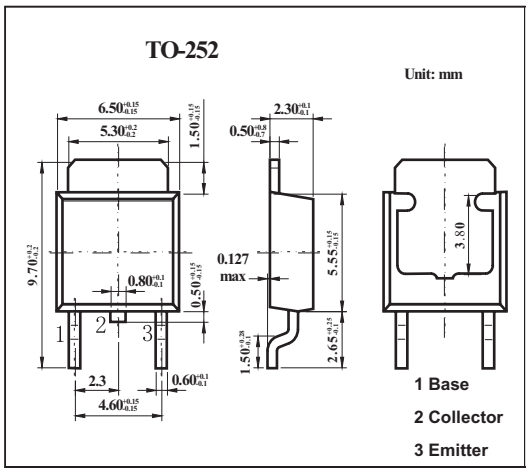
High-Current Switching Applications

2SB1216



■ Features

- Low collector-to-emitter saturation voltage.
- Good linearity of hFE.
- High fT.
- Fast switching time.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-120	V
Collector-emitter voltage	V_{CEO}	-100	V
Emitter-base voltage	V_{EBO}	-6	V
Collector current	I_C	-4	A
Collector current (pulse)	I_{CP}	-8	A
Collector dissipation	P_C	1	W
T_C = 25℃		20	W
Jumction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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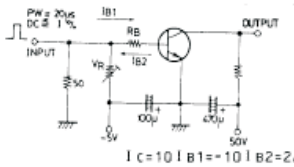
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = -100V , I_E = 0			-1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = -4V , I_C = 0			-1	μA
DC current Gain	h_{FE}	V_{CE} = -5V , I_C = -0.5A	70		400	
		V_{CE} = -5V , I_C = -3A	40			
Gain bandwidth product	f_T	V_{CE} = -10V , I_C = -0.5A		130		MHz
Output capacitance	C_{ob}	V_{CB} = -10V , f = 1MHz		65		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -2A , I_B = -0.2A		-200	-500	mV
Base-to-emitter saturation voltage	$V_{BE(sat)}$	I_C = -2A , I_B = -0.2A		-0.9	-1.2	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	I_C = -10μA , I_E = 0	-120			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA , R_{BE} = ∞	-100			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	I_E = -10μA , I_C = 0	-6			V
Turn-on time	t_{on}			100		ns
Storage time	t_{stg}			800		ns
Fall time	t_f			50		ns

I_C=10 I_{B1}=-10 I_{B2}=2A

(For PNP, minus sign is omitted.)

Unit (resistance : Ω, capacitance : F)

■ h_{FE} Classification

Rank	Q	R	S	T
hFE	70～140	100～200	140～280	200～400