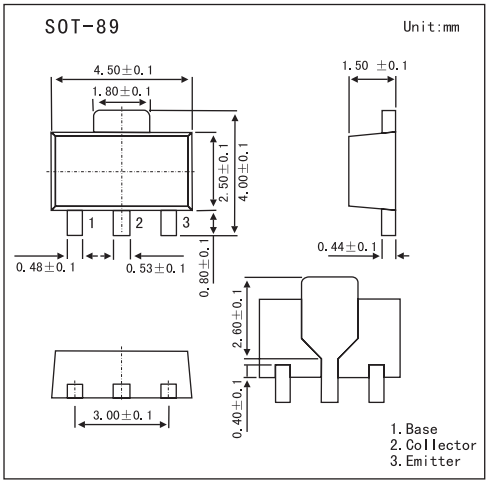
High-Current Switching Applications

2SB1123



■ Features

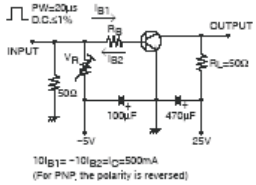
- Adoption of FBET, MBIT processes.
- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-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	0.5	W
Mounted on a ceramic board (250mm250.8mm)		1.3	W
Jumction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

2SB1123

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = -50V , I_E = 0			-100	nA
Emitter-base cutoff current	I_{EBO}	V_{EB} = -4 V , I_C = 0			-100	nA
DC current Gain	h_{FE}	V_{CE} = -2V , I_C = -100mA	100		560	
Gain bandwidth product	f_T	V_{CE} = -10V , I_C = -50mA		150		MHz
Output capacitance	C_{ob}	V_{CB} = -10V , f = 1MHz		22		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -1A , I_B = -50mA		-0.3	-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C = -1A , I_B = -50mA		-0.9	-1.2	V
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	I_C = -10μA , I_E = 0	-60			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA , R_{BE} = ∞	-50			V
Emitter-to-base breakdown voltage	$V_{(BR)EBO}$	I_E = -10μA , I_C = 0	-6			V
Turn-ON Time	ton			60		ns
Storage Time	tstg			450		ns
Fall Time	tf			30		ns

$10I_{B1}$= $-10I_{B2}$=I_C=500mA
(For PNP, the polarity is reversed)

■ h_{FE} Classification

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