



2SB1127 — PNP Epitaxial Planar Silicon Transistor

Flash, High-Current Switching Applications

Applications

- Flash, power supplies, relay drivers, lamp drivers.

Features

- Adoption of FBET, MBIT processes.
- Low saturation voltage.
- Large current capacity.
- High-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-25	V
Collector-to-Emitter Voltage	V _{CEO}		-20	V
Emitter-to-Base Voltage	V _{EBO}		-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°C	10	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =-20V, I _E =0			-500	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-4V, I _C =0			-500	nA
DC Current Gain	h _{FE1}	V _{CE} =-2V, I _C =-500mA	100*		400*	
	h _{FE2}	V _{CE} =-2V, I _C =-4A	60			

* : The 2SB1127 is classified by 500mA h_{FE} as follows :

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Rank	R	S	T
h _{FE}	100 to 200	140 to 280	200 to 400

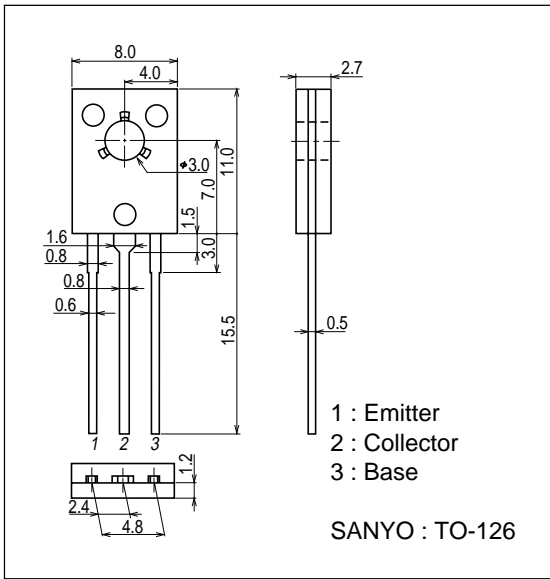
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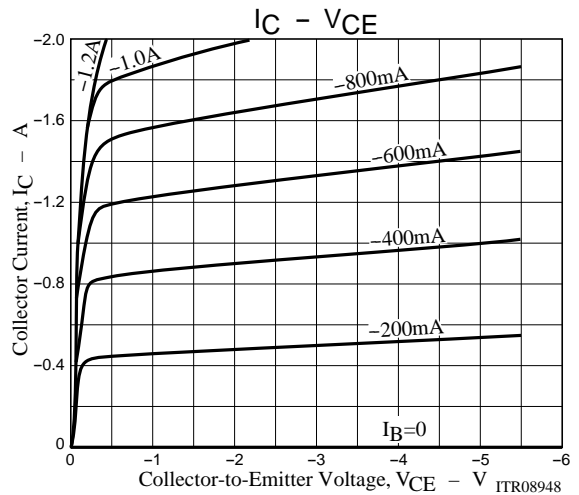
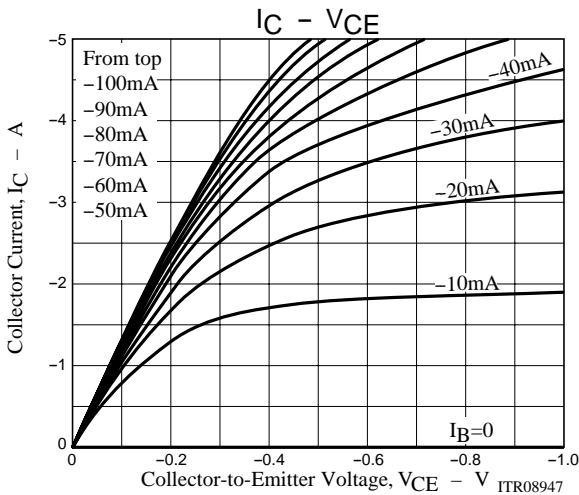
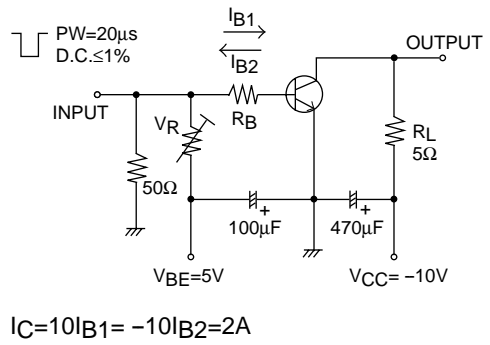
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE} = -5V, I_C = -200mA$		320		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -60mA$		-250	-500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -3A, I_B = -60mA$		-1.0	-1.3	V
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		60		pF
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}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}	See specified Test Circuit.		200		ns
Fall Time	t_f	See specified Test Circuit.		10		ns

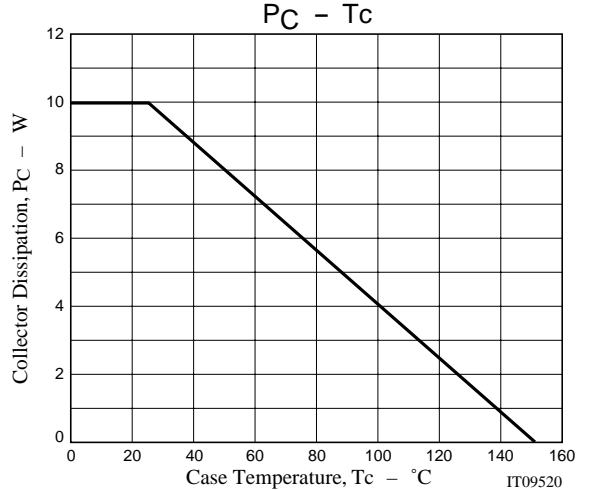
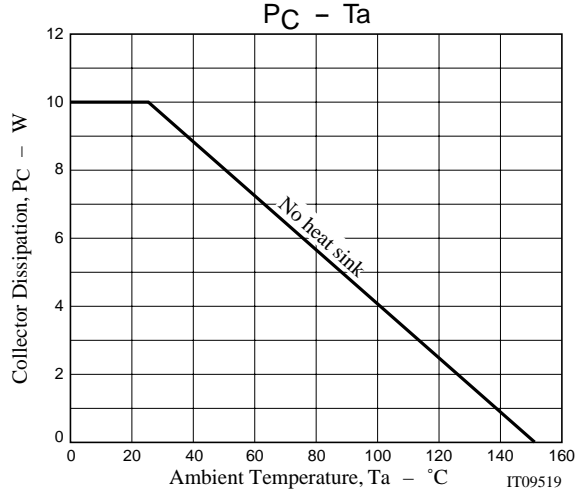
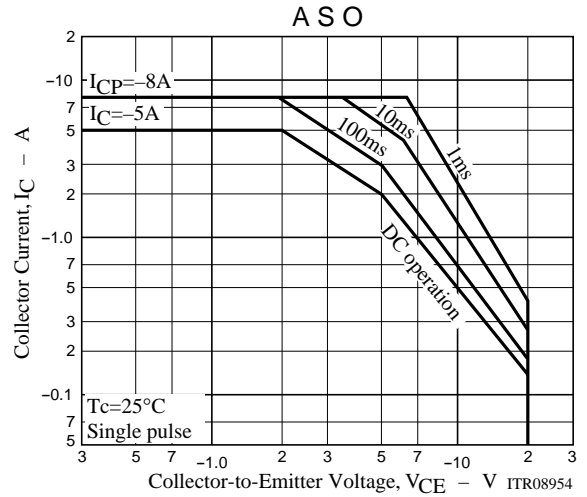
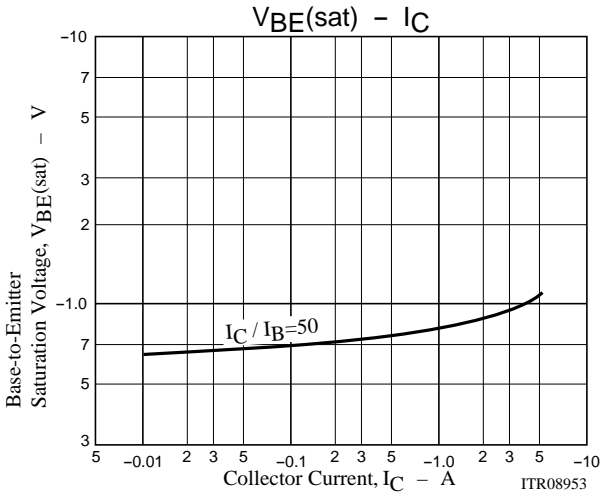
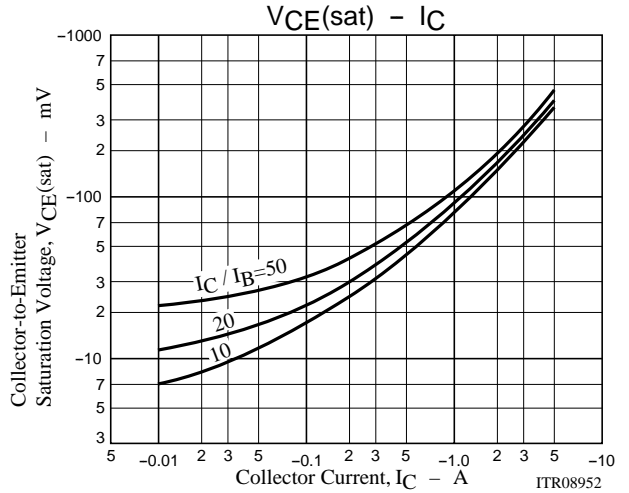
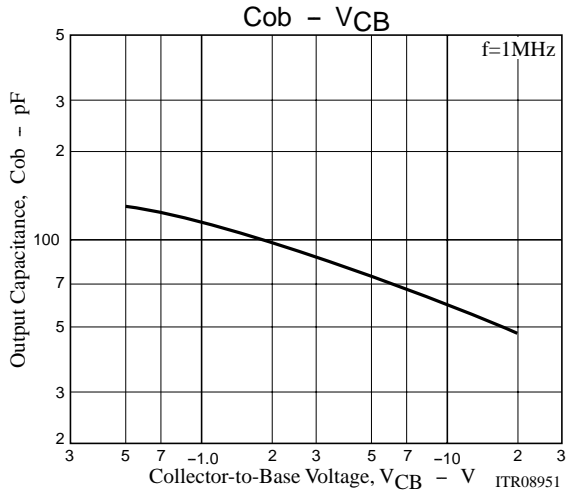
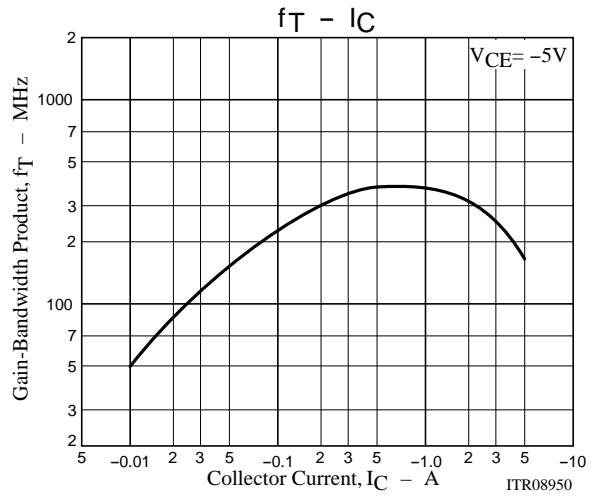
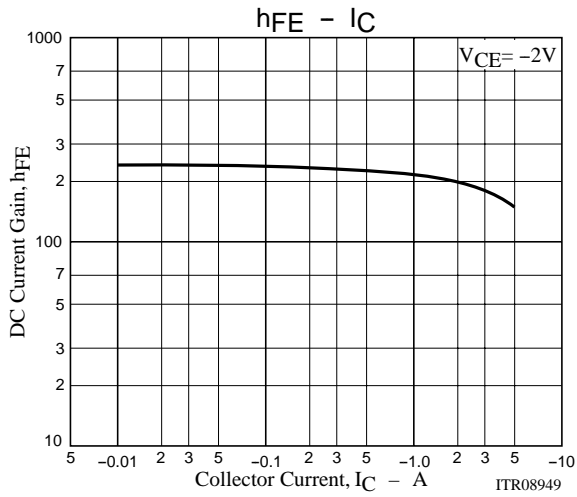
Package Dimensions

unit : mm
2009B



Switching Time Test Circuit





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