



SANYO Semiconductors

DATA SHEET

2SC4521

 NPN Epitaxial Planar Silicon Transistor
High-Speed Switching Applications

Features

- Adoption of FBET, MBIT processes.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- Small-sized package.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		60	V
Collector-to-Emitter Voltage	V_{CEO}		45	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		3	A
Collector Current (Pulse)	I_{CP}		6	A
Collector Dissipation	P_C	Mounted on a ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=45\text{V}, I_E=0\text{A}$			1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0\text{A}$			10	μA

Marking : CL

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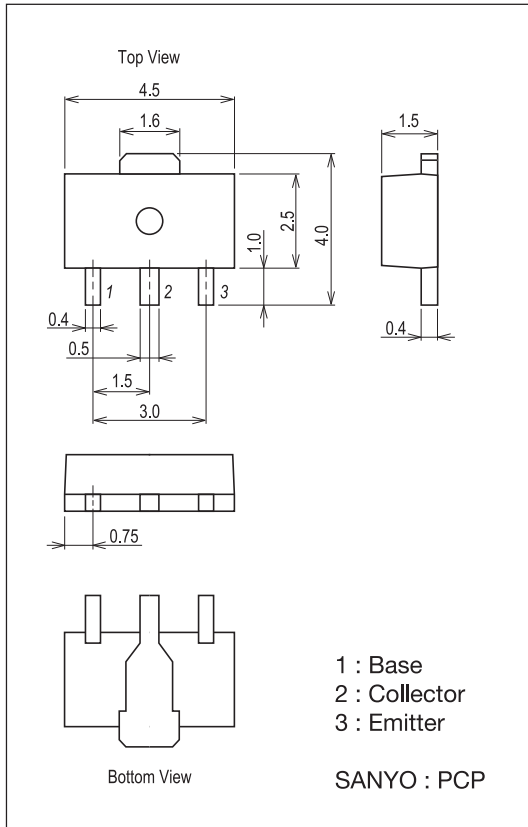
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	hFE1	VCE=2V, IC=500mA	100*		400*	
	hFE2	VCE=2V, IC=3A	40			
Gain-Bandwidth Product	fT	VCE=2V, IC=500mA		300		MHz
Output Capacitance	Cob	VCB=10V, f=1MHz		25		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC=1.5A, IB=75mA		0.25	0.7	V
Base-to-Emitter Saturation Voltage	VBE(sat)	IC=1.5A, IB=75mA		0.95	1.3	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC=10μA, IE=0A	60			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC=1mA, RBE=∞	45			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE=100μA, IC=0A	5			V
Turn-ON Time	ton	See specified Test Circuit.		50	100	ns
Storage Time	tstg	See specified Test Circuit.		150	270	ns
Turn-OFF Time	toff	See specified Test Circuit.		180	350	ns

*: The 2SC4521 is classified by 500mA hFE as follows:

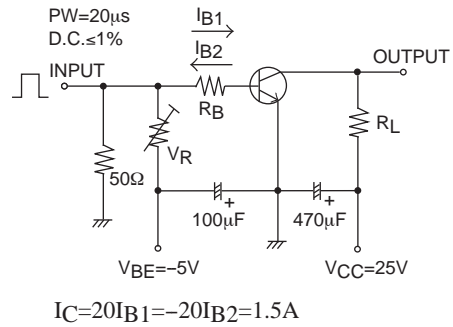
Rank	R	S	T
hFE	100 to 200	140 to 280	200 to 400

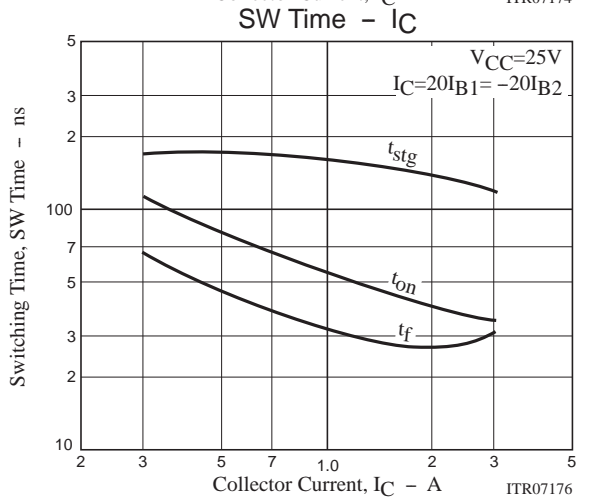
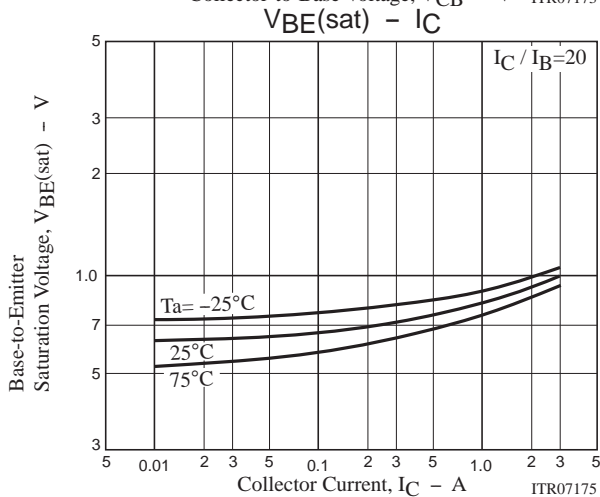
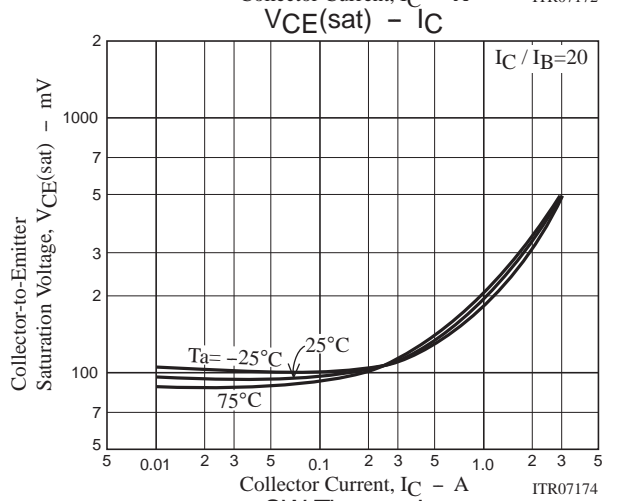
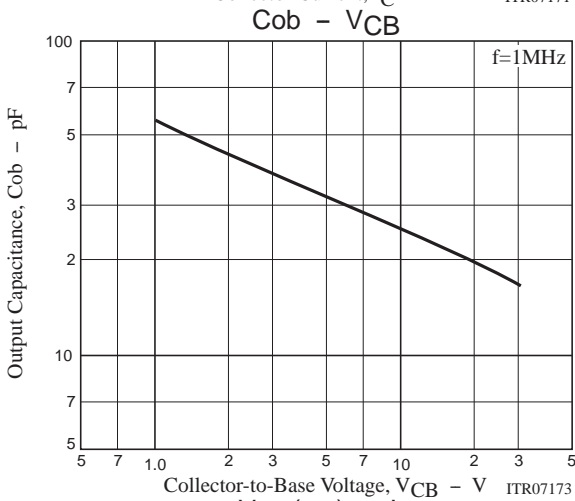
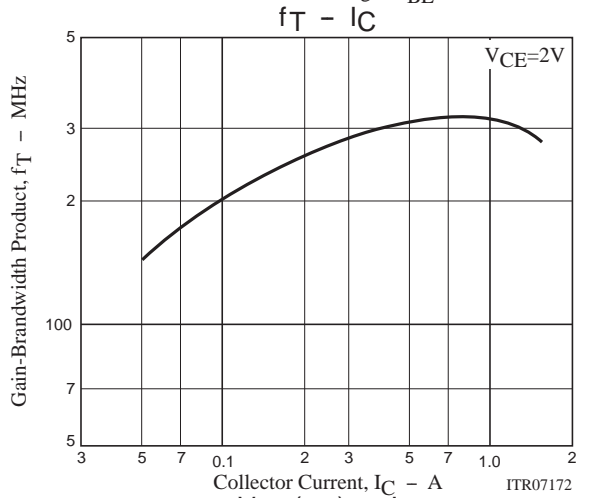
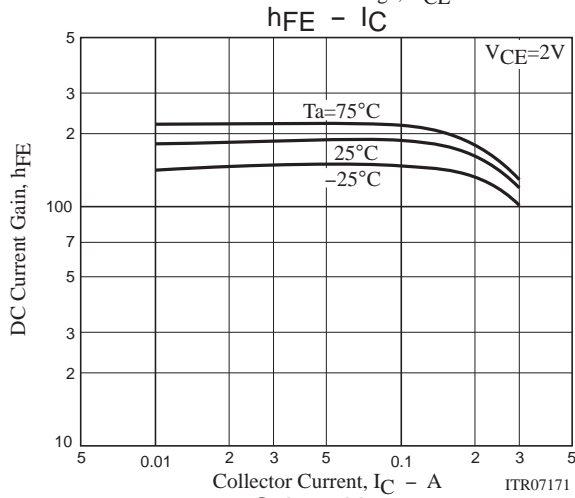
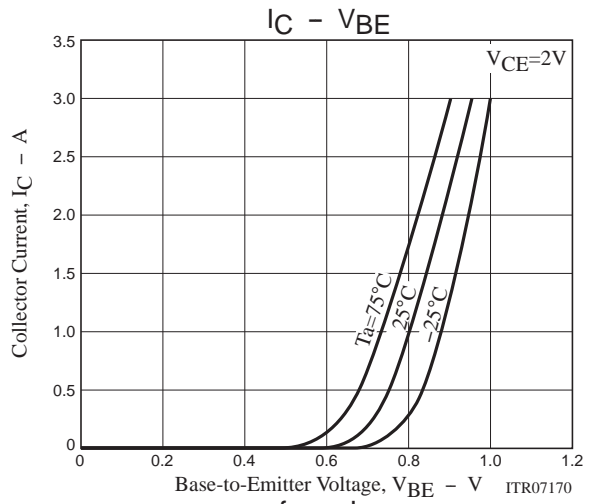
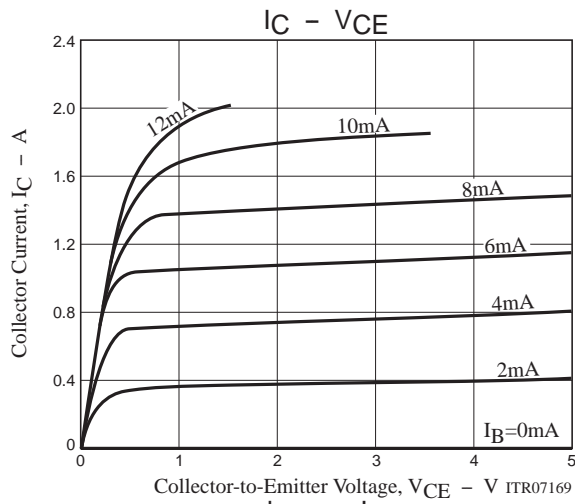
Package Dimensions

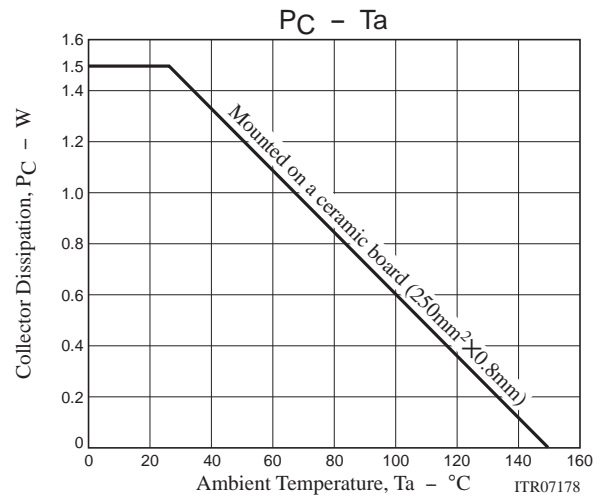
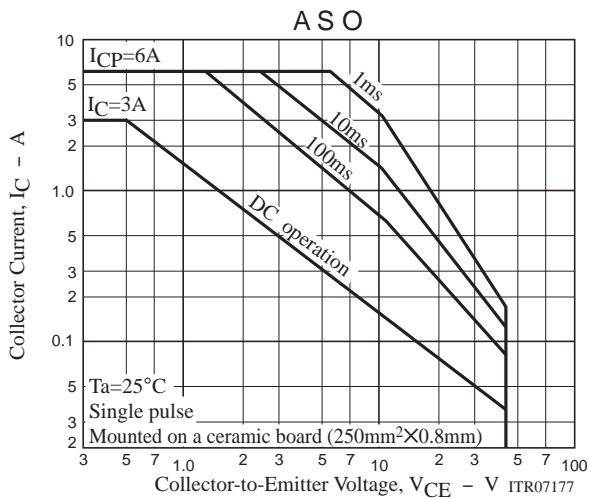
unit : mm (typ)
7007B-004



Switching Time Test Circuit







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