



2SA2186

PNP Epitaxial Planar Silicon Transistor
High-Current Switching Applications

Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

Features

- Adoption of MBIT processes.
- High current capacity.
- Low collector-to-emitter saturation voltage.
- High-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-50	V
Collector-to-Emitter Voltage	V _{CEO}		-50	V
Emitter-to-Base Voltage	V _{EBO}		-6	V
Collector Current	I _C		-2	A
Collector Current (Pulse)	I _{CP}		-4	A
Base Current	I _B		-400	mA
Collector Dissipation	P _C		0.9	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 _{CBO}	V _{CB} =-40V, I _E =0A			-1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =-4V, I _C =0A			-1	μA
DC Current Gain	h _{FE1}	V _{CE} =-2V, I _C =-100mA	200		560	
	h _{FE2}	V _{CE} =-2V, I _C =-1.5A	40			
Gain-Bandwidth Product	f _T	V _{CE} =-10V, I _C =-300mA		420		MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, f=1MHz		16		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =-1A, I _B =-50mA		-0.22	-0.43	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =-1A, I _B =-50mA		-0.9	-1.2	V

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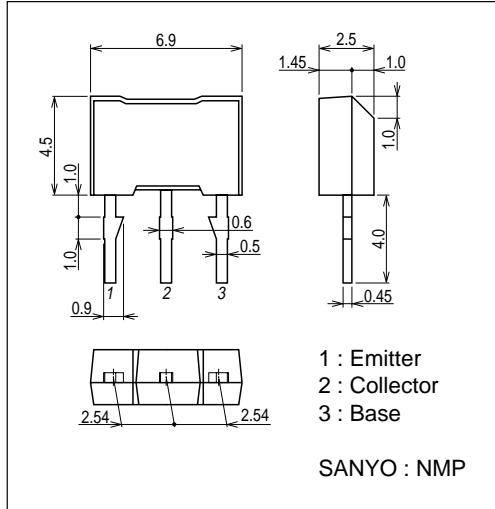
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0A$	-6			V
Turn-On Time	t_{on}	See specified Test Circuit.		35		ns
Storage Time	t_{stg}	See specified Test Circuit.		200		ns
Fall Time	t_f	See specified Test Circuit.		24		ns

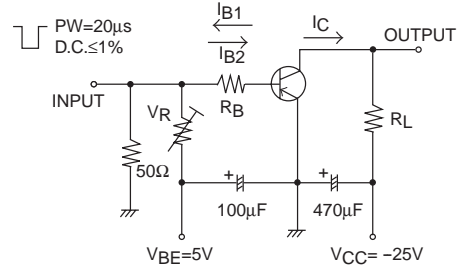
Package Dimensions

unit : mm

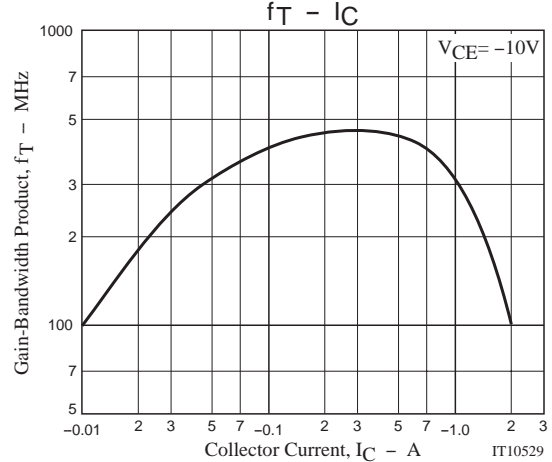
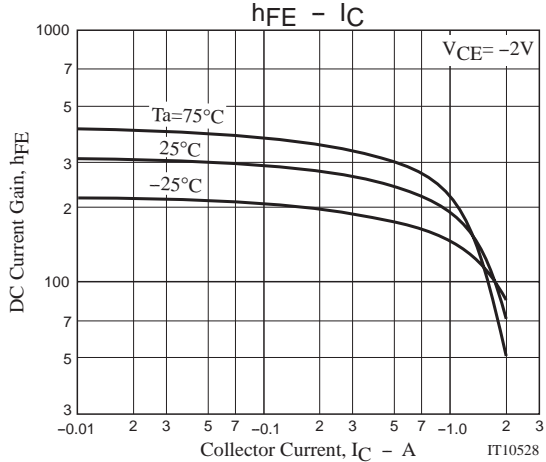
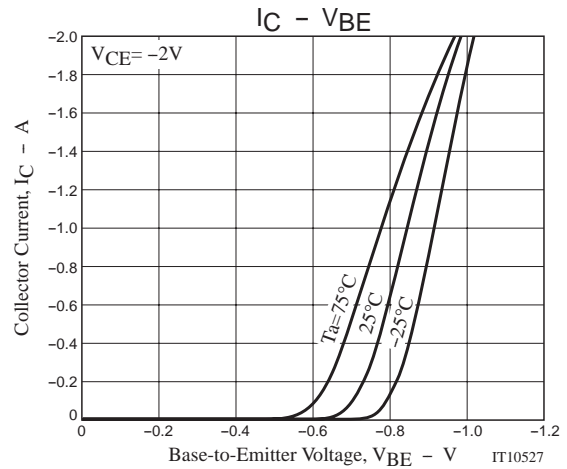
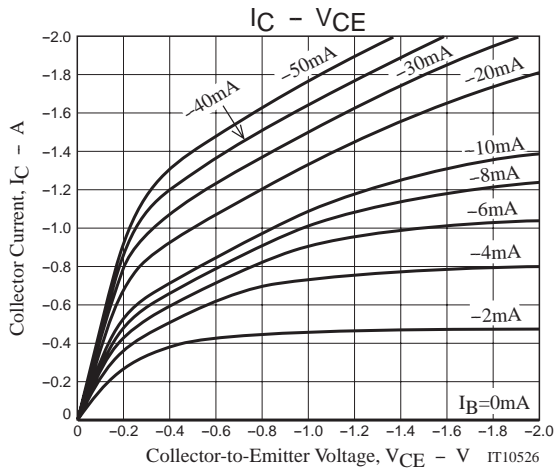
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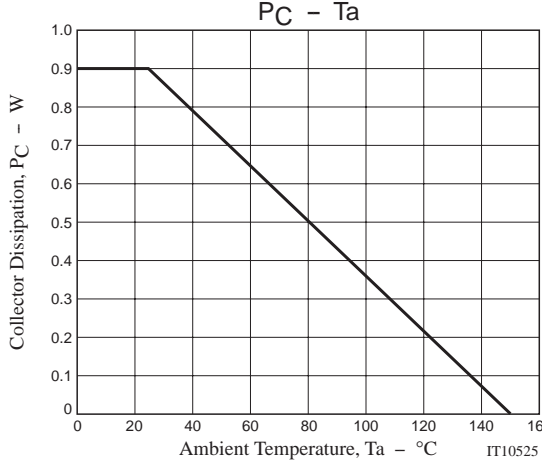
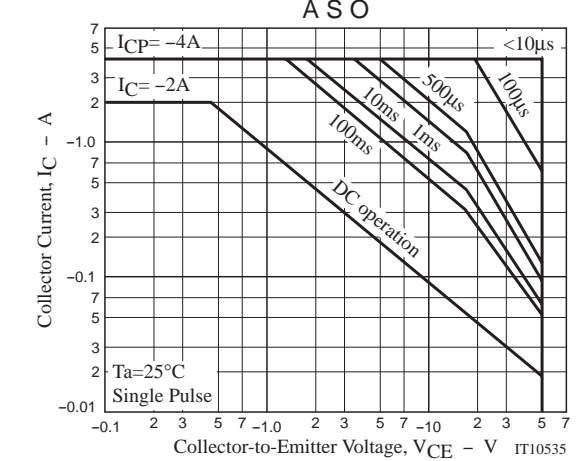
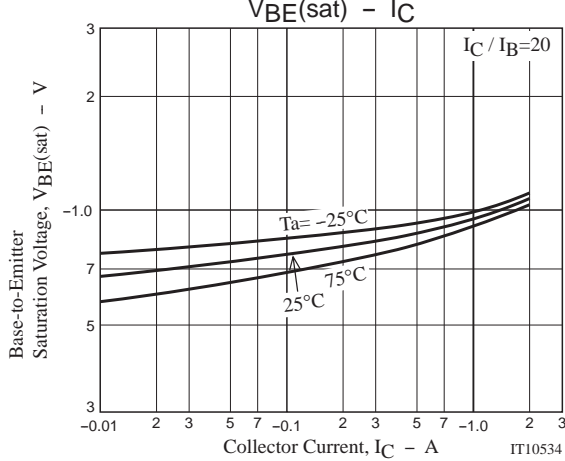
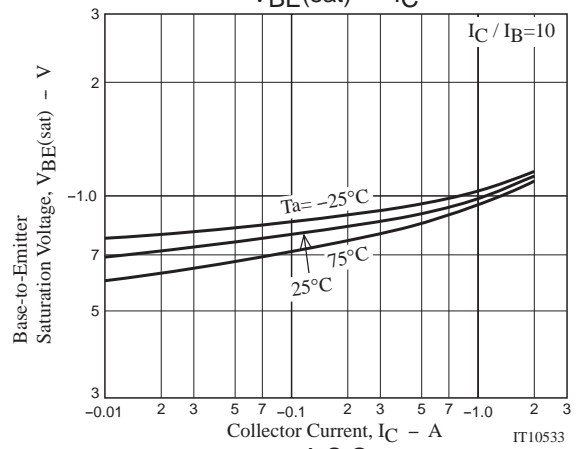
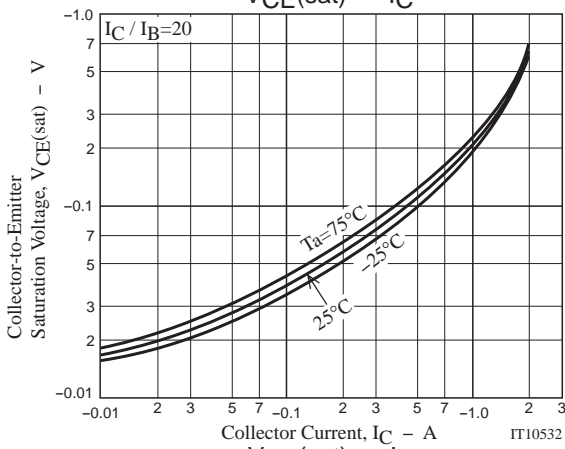
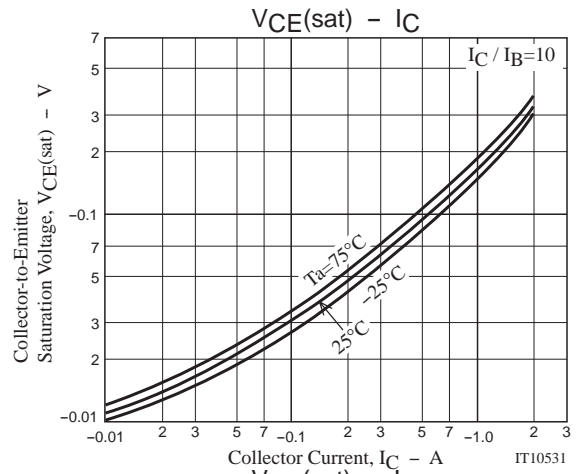
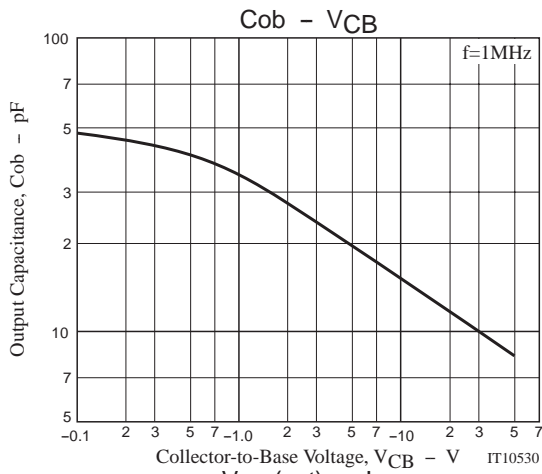


Switching Time Test Circuit



$$I_C = 10I_{B1} = -10I_{B2} = -0.7A$$





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