

2SC6044 — NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

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

Features

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

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		40	V
Collector-to-Emitter Voltage	V _{CEO}		30	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		2	A
Collector Current (Pulse)	I _{CP}		5	A
Base Current	I _B		400	mA
Collector Dissipation	P _C	Mounted on a ceramic board (450mm ² X0.8mm)	1.3	W
		T _c =25°C	3.5	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} =30V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =4V, I _C =0			0.1	μA
DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =100mA	200		560	
	h _{FE2}	V _{CE} =2V, I _C =1.5A	65			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =300mA		400		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		12		pF

Marking : HB

Continued on next page.

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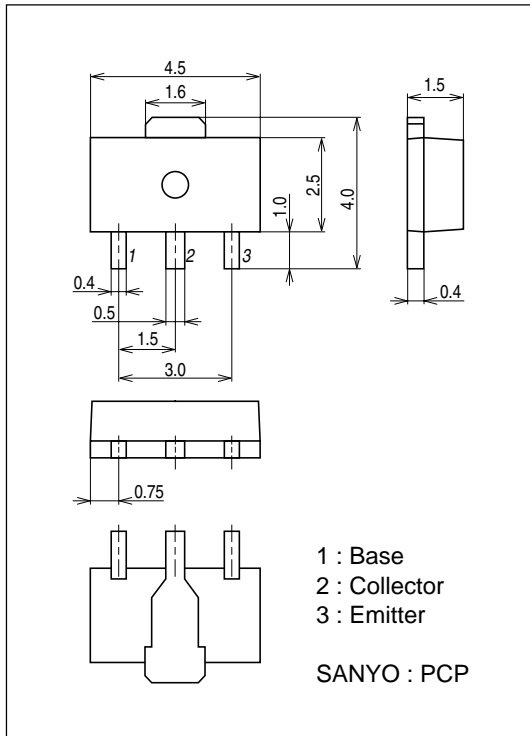
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.5A, I_B=75mA$		170	260	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=75mA$		0.94	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	30			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.		350		ns
Fall Time	t_f	See specified Test Circuit.		30		ns

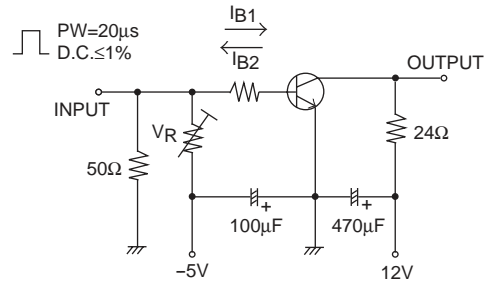
Package Dimensions

unit : mm

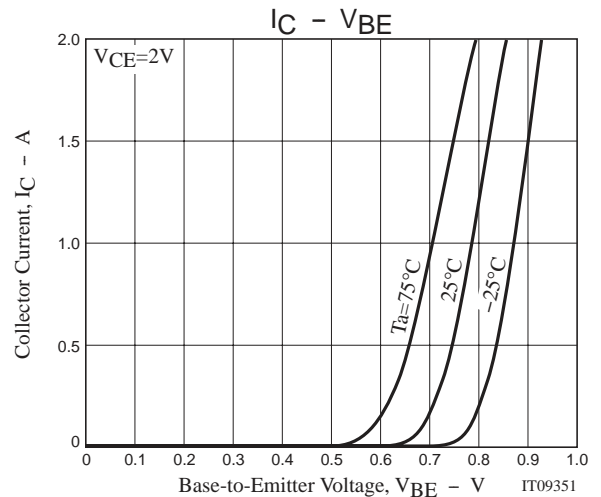
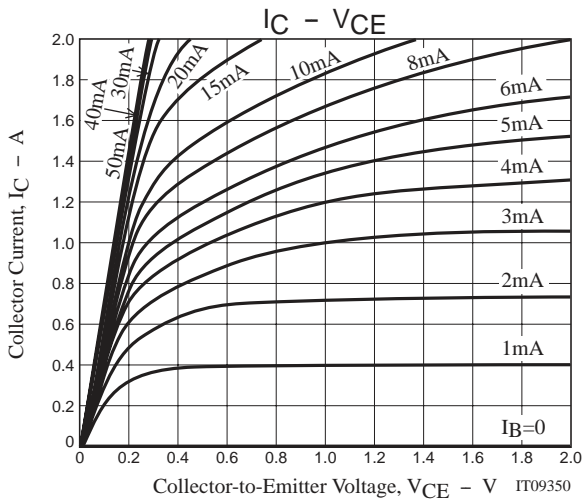
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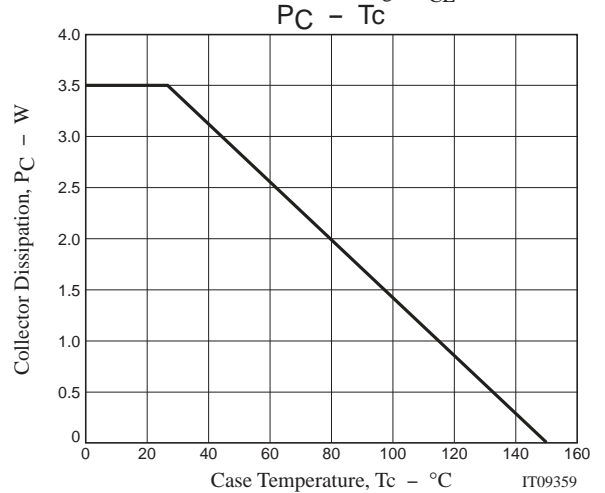
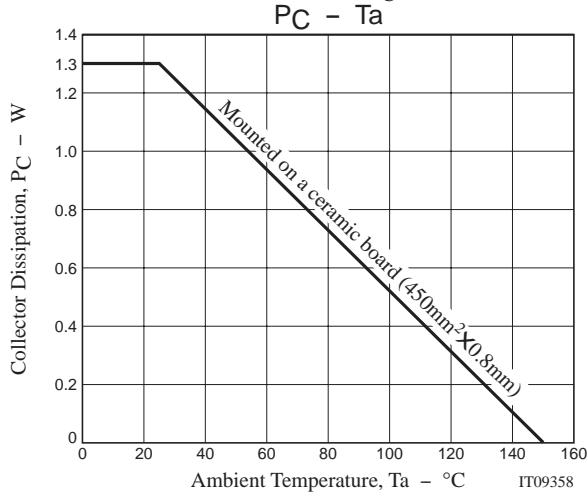
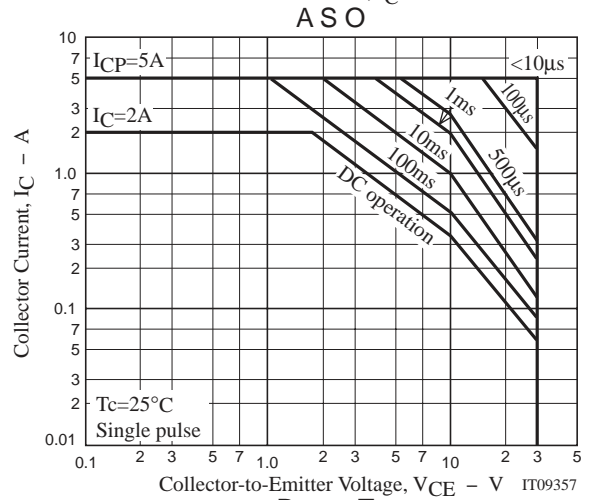
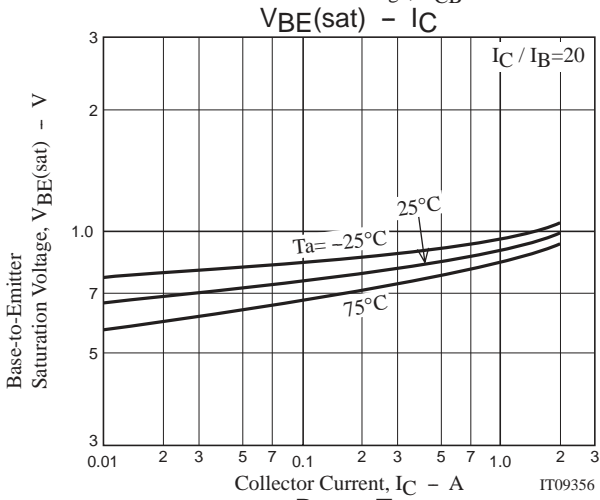
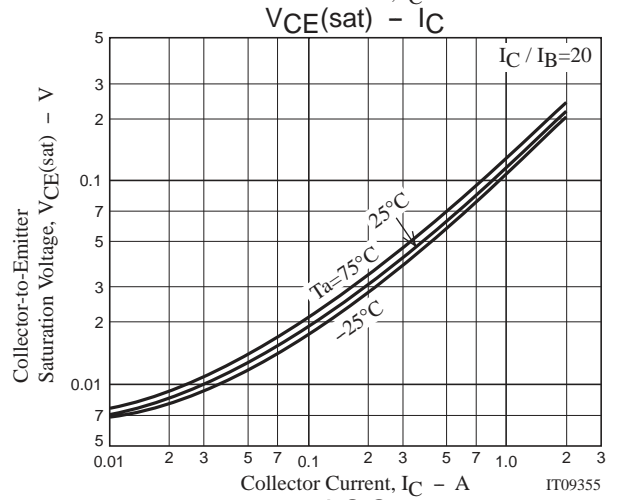
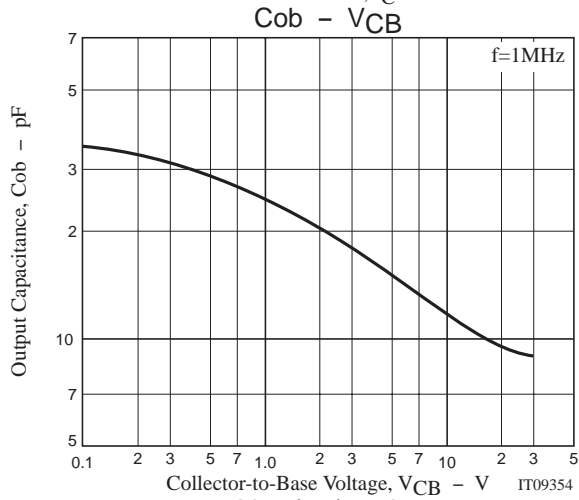
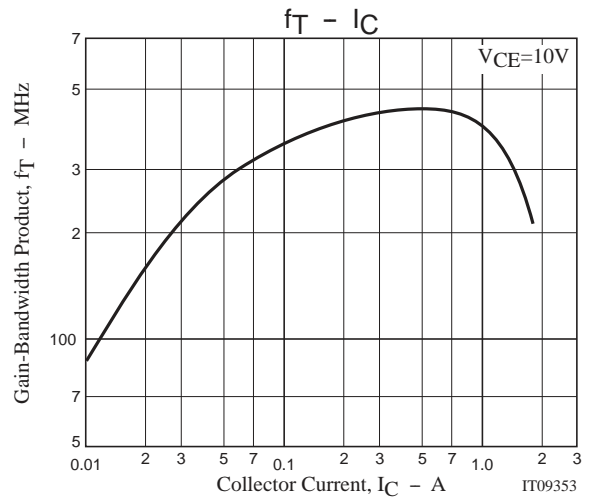
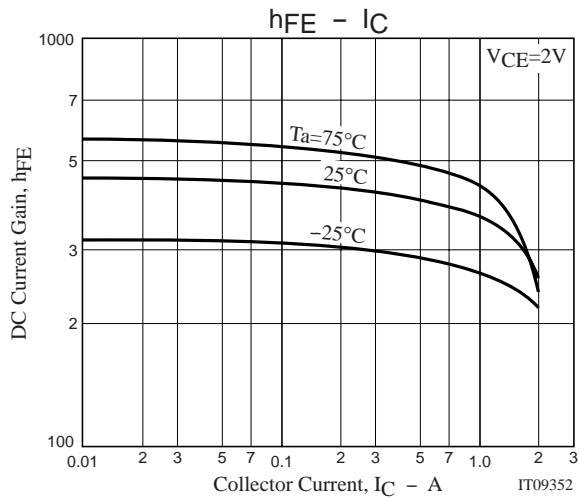
Switching Time Test Circuit



$$20I_{B1} = -20I_{B2} = I_C = 500mA$$



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