



2SC6083 — NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

Features

- High breakdown voltage.
- High-speed switching.
- Wide ASO.
- Adoption of MBIT process.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		700	V
Collector-to-Emitter Voltage	V _{CEO}		350	V
Emitter-to-Base Voltage	V _{EBO}		8	V
Collector Current	I _C		1	A
Collector Current (Pulse)	I _{CP}	PW≤300μs, duty cycle≤10%	2	A
Base Current	I _B		0.5	A
Collector Dissipation	PC		0.6	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} =350V, I _E =0A			10	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =5V, I _C =0A			10	μA
DC Current Gain	h _{FE1}	V _{CE} =5V, I _C =0.1A	100		200	
	h _{FE2}	V _{CE} =5V, I _C =0.5A	10			
	h _{FE3}	V _{CE} =5V, I _C =1mA	60			
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _C =0.1A		20		MHz
Output Capacitance	C _{ob}	V _{CB} =10V, f=1MHz		8		pF

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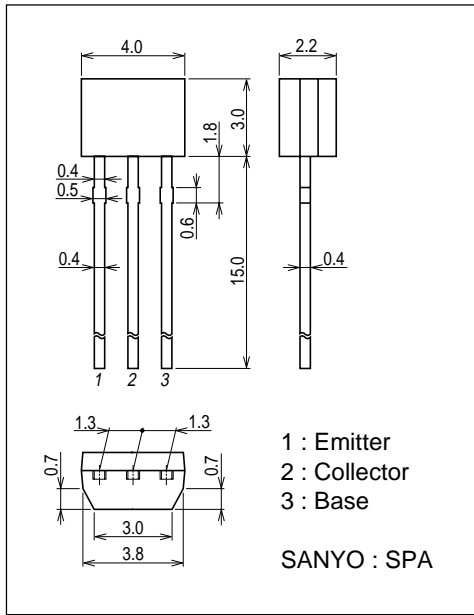
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=0.5A, I_B=0.1A$			0.8	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=0.5A, I_B=0.1A$			1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0A$	700			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=5mA, R_{BE}=\infty$	350			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0A$	8			V
Turn-ON Time	t_{on}	$I_C=0.5A, I_{B1}=0.05A, I_{B2}=-0.5A, R_L=400\Omega, V_{CC}=200V$			1.0	μs
Storage Time	t_{stg}	$I_C=0.5A, I_{B1}=0.05A, I_{B2}=-0.5A, R_L=400\Omega, V_{CC}=200V$			2.5	μs
Fall Time	t_f	$I_C=0.5A, I_{B1}=0.05A, I_{B2}=-0.5A, R_L=400\Omega, V_{CC}=200V$			0.3	μs

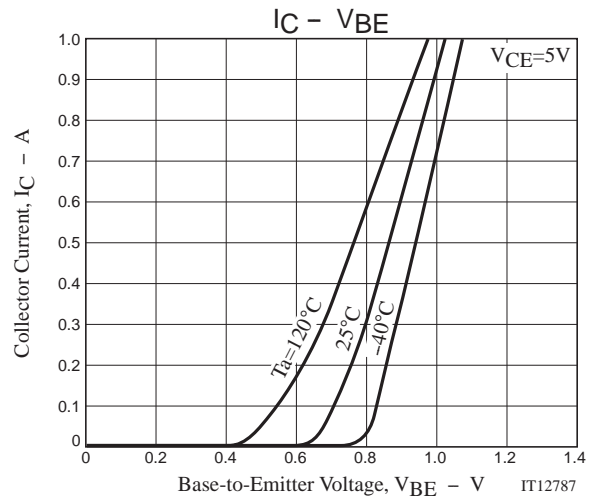
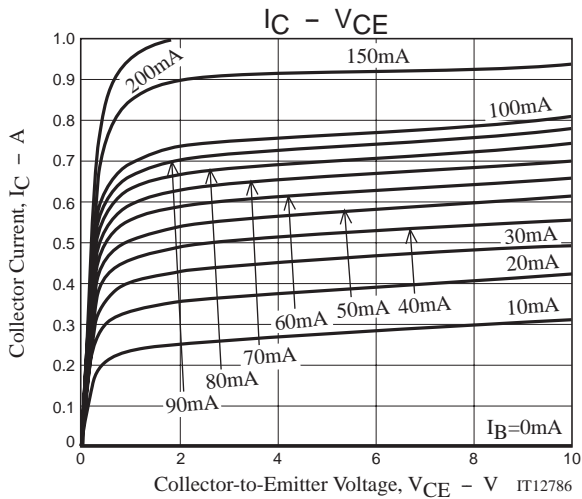
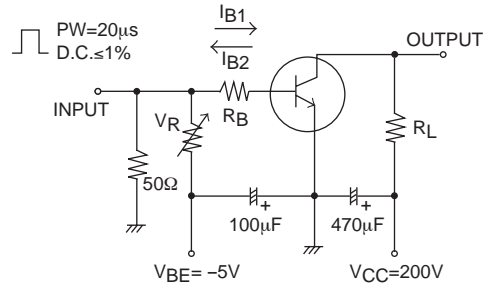
Package Dimensions

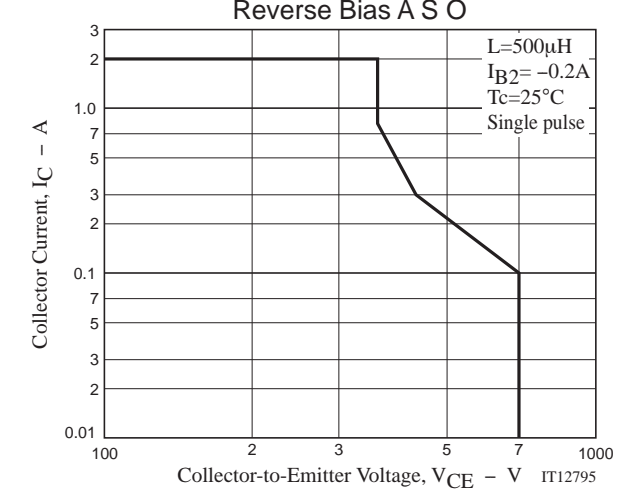
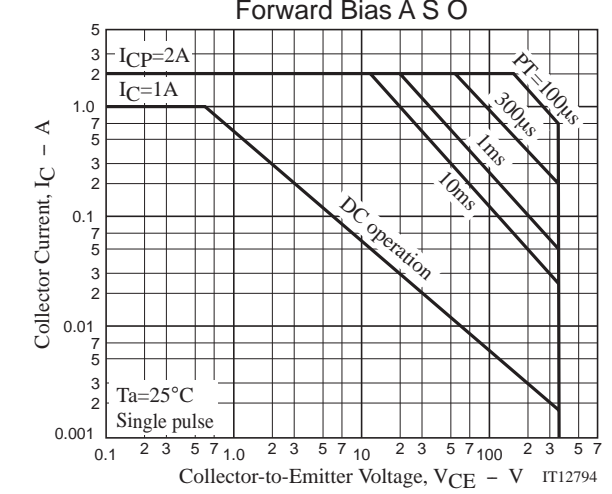
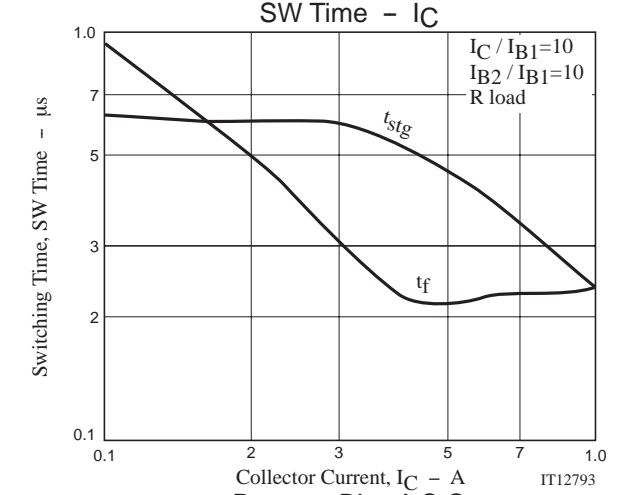
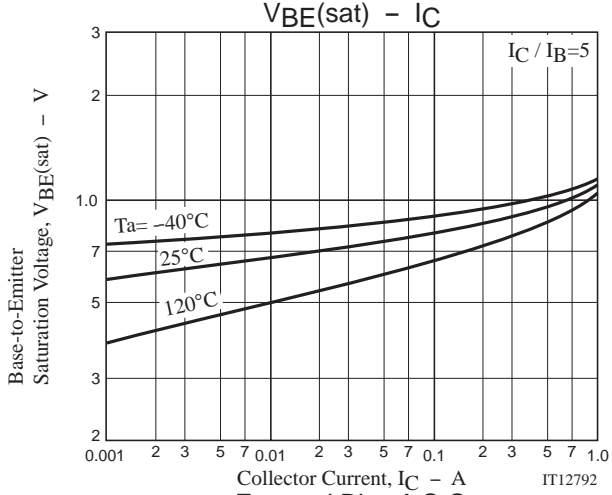
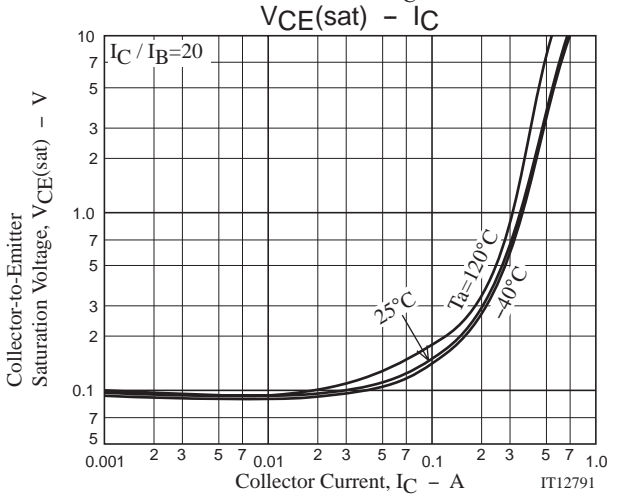
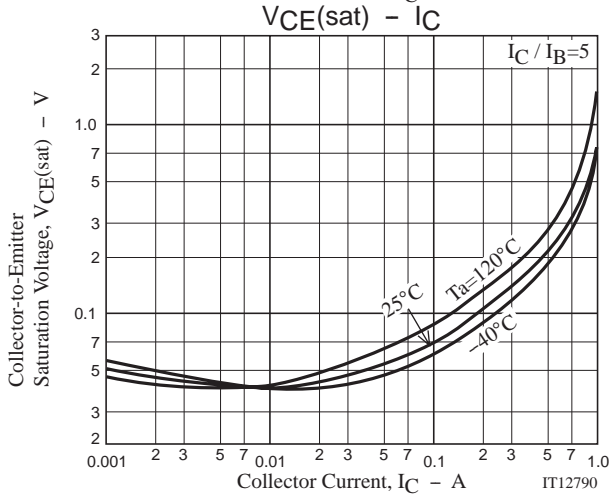
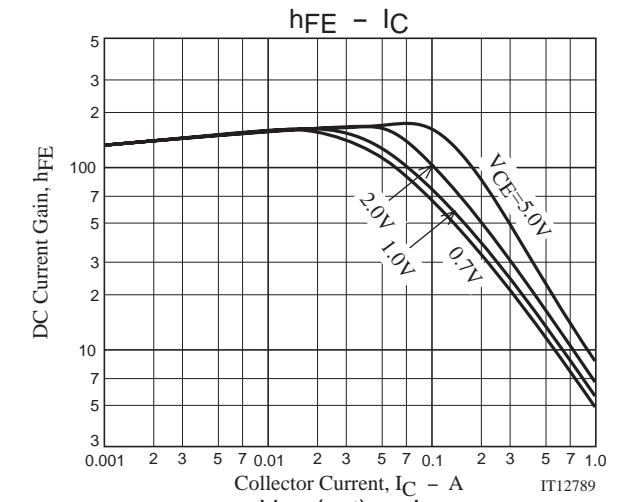
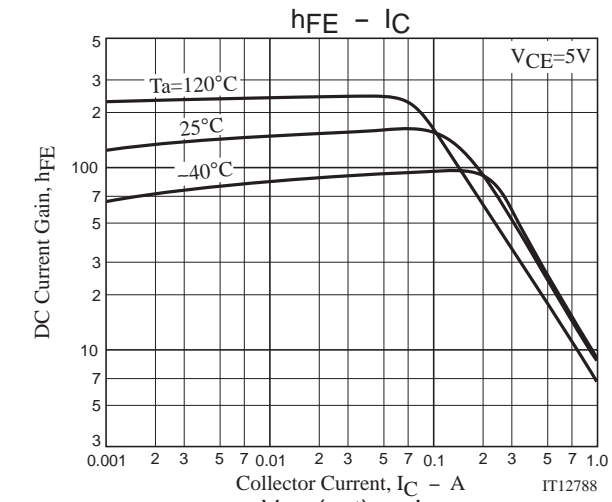
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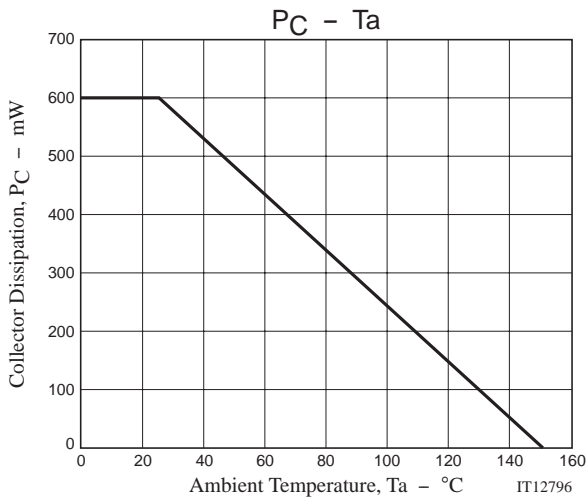
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Switching Time Test Circuit







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