

NPN Triple Diffused Planar Silicon Transistor



2SC5451

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

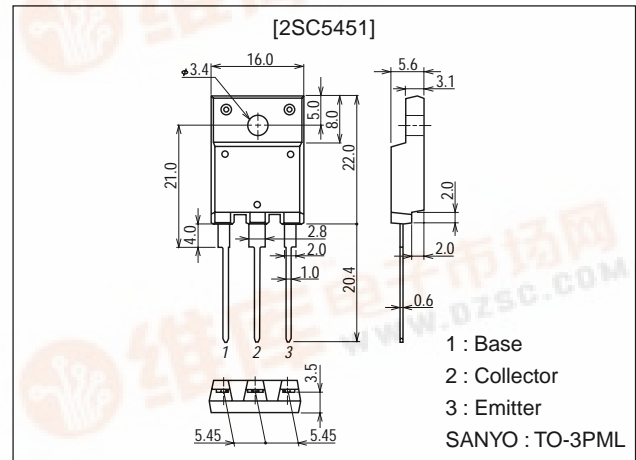
Features

- High speed.
- High breakdown voltage ($V_{CBO}=1600V$).
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2039D



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1600	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		15	A
Collector Current (Pulse)	I_{CP}		35	A
Collector Dissipation	P_C		3	W
		$T_c=25^\circ C$	75	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CES}	$V_{CE}=1600V, R_{BE}=0$			1.0	mA
Collector-to-Emitter Sustain Voltage	$V_{CEO(sus)}$	$I_C=100mA, I_B=0$	800			V
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			1.0	mA
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=1.0A$	15		30	
	h_{FE2}	$V_{CE}=5V, I_C=11A$	4		7	

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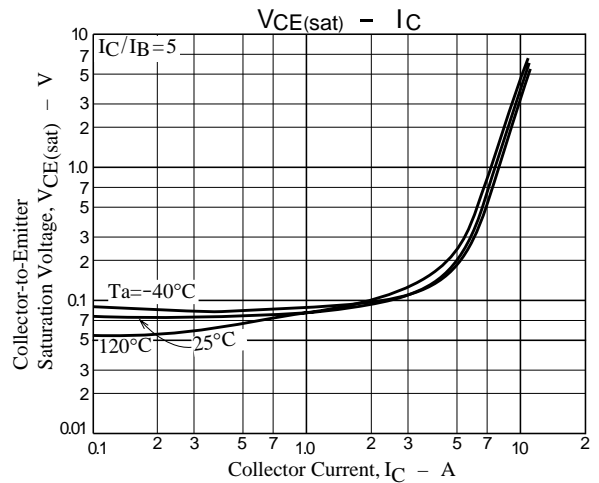
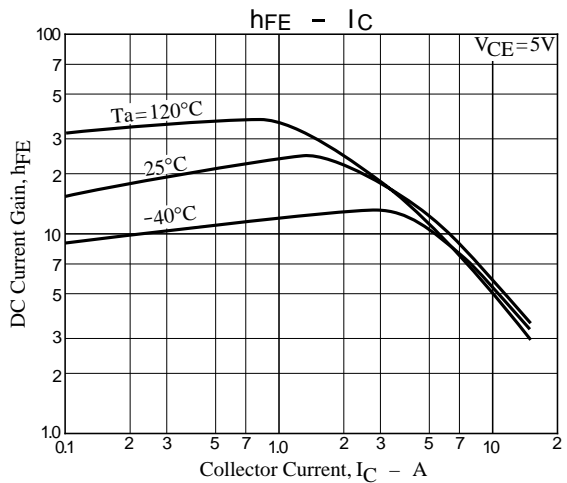
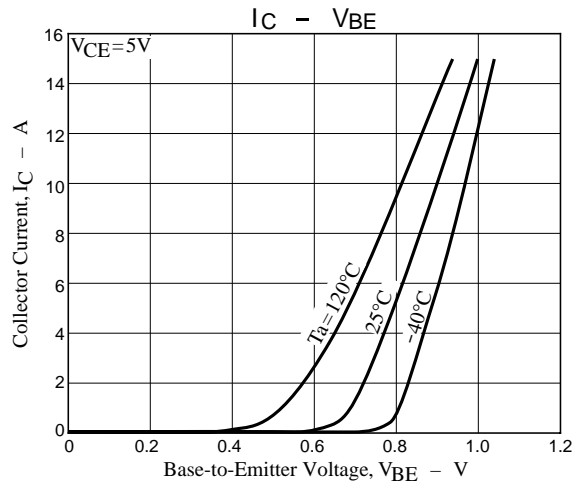
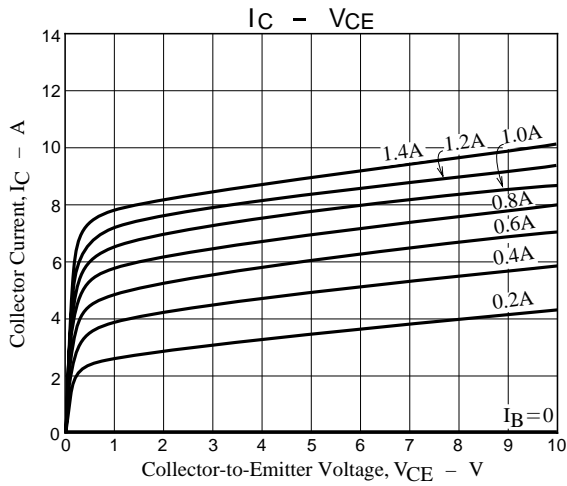
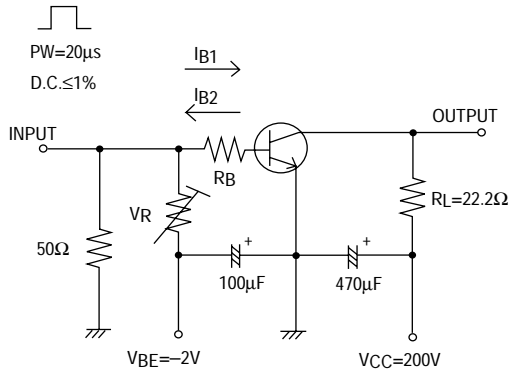


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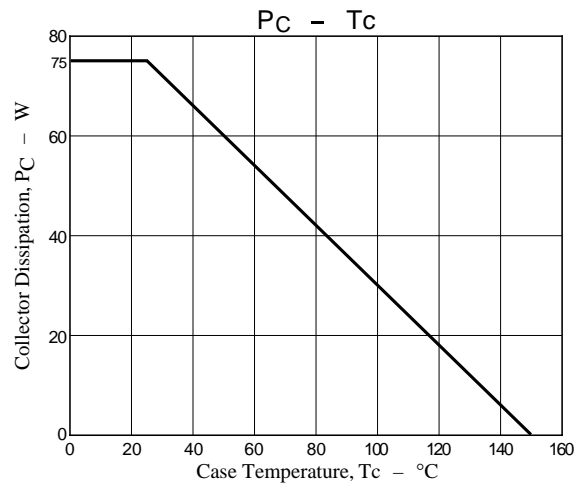
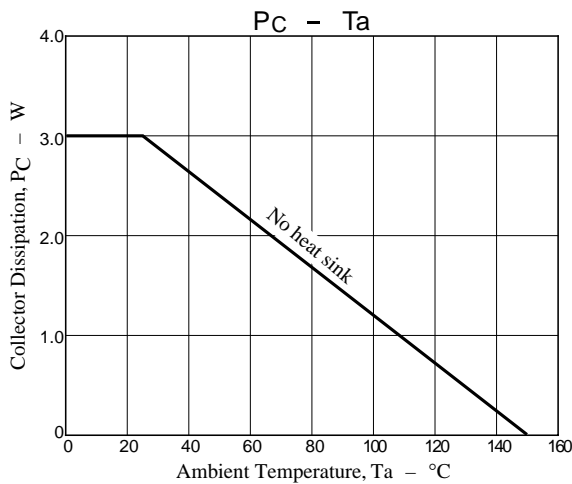
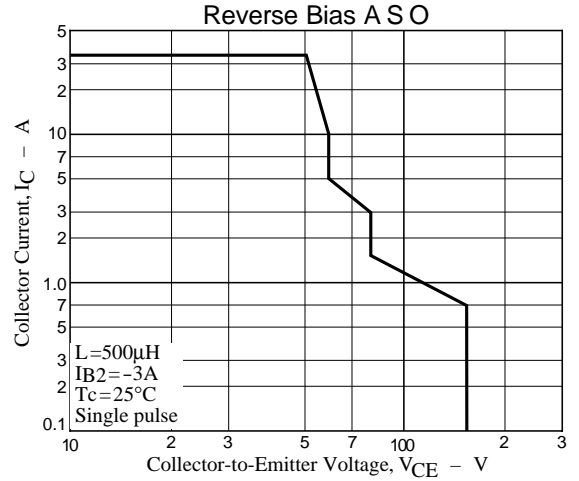
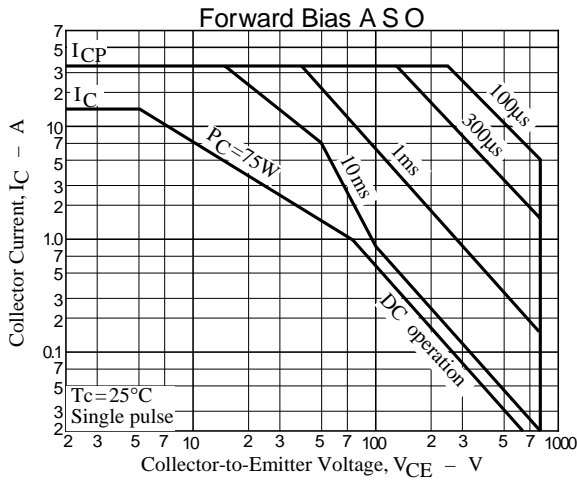
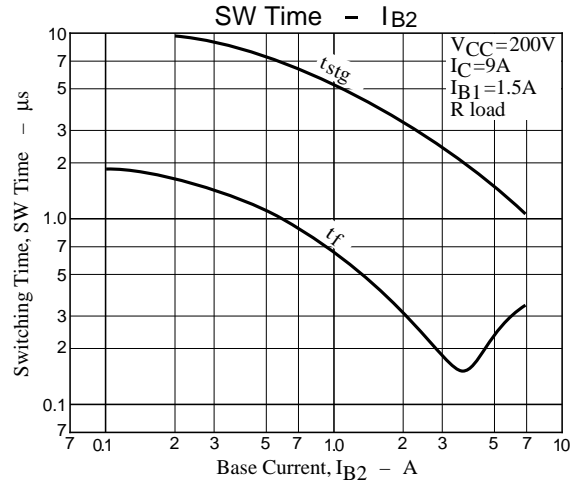
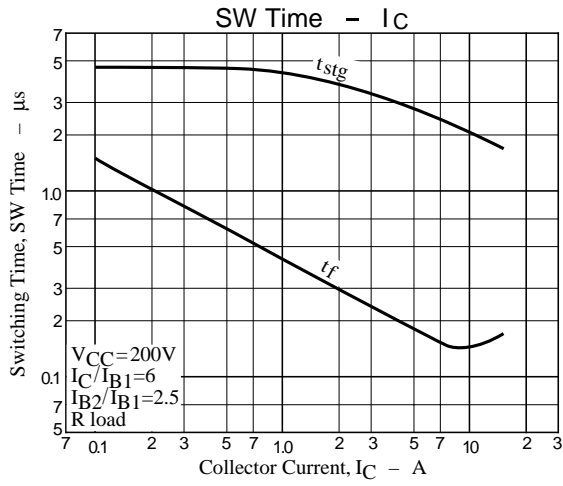
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=11A, I_B=2.75A$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=11A, I_B=2.75A$			1.5	V
Storage Time	t_{stg}	$I_C=9A, I_{B1}=1.5A, I_{B2}=-3.75A$			3.0	μs
Fall Time	t_f	$I_C=9A, I_{B1}=1.5A, I_{B2}=-3.75A$			0.2	μs

Switching Time Test Circuit



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