

**2SC5639**

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

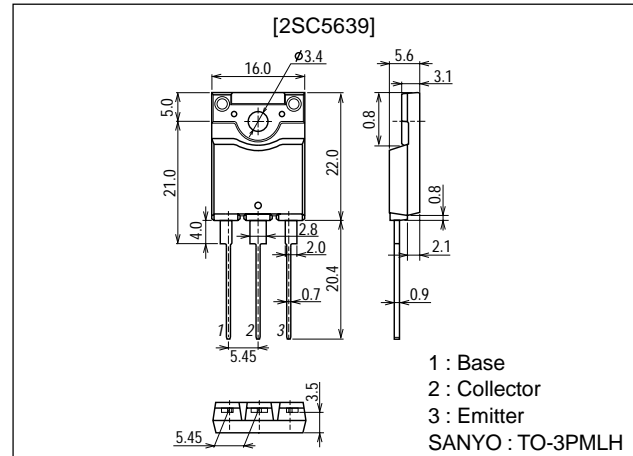
Features

- High speed ($t_f=100\text{ns}$ typ).
- High breakdown voltage ($V_{CBO}=1500\text{V}$).
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2174



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1500	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		20	A
Collector Current (Pulse)	I_{CP}		40	A
Collector Dissipation	P_C		3	W
		$T_c=25^\circ\text{C}$	100	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CES}	$V_{CE}=1500\text{V}$, $R_{BE}=0$			1.0	mA
Collector-to-Emitter Sustain Voltage	$V_{CEO(sus)}$	$I_C=100\text{mA}$, $I_B=0$	800			V
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$			1.0	mA
Collector Cutoff Current	I_{CBO}	$V_{CB}=800\text{V}$, $I_E=0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}$, $I_C=1\text{A}$	20		30	
	h_{FE2}	$V_{CE}=5\text{V}$, $I_C=16\text{A}$	4		7	

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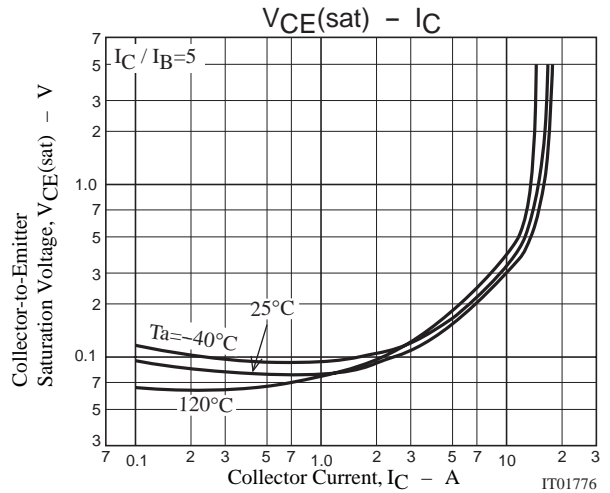
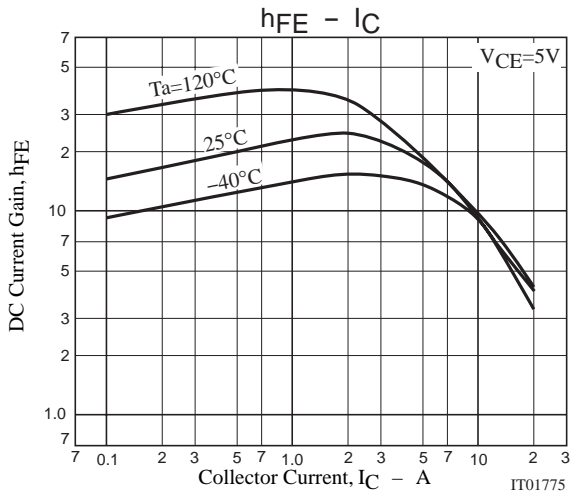
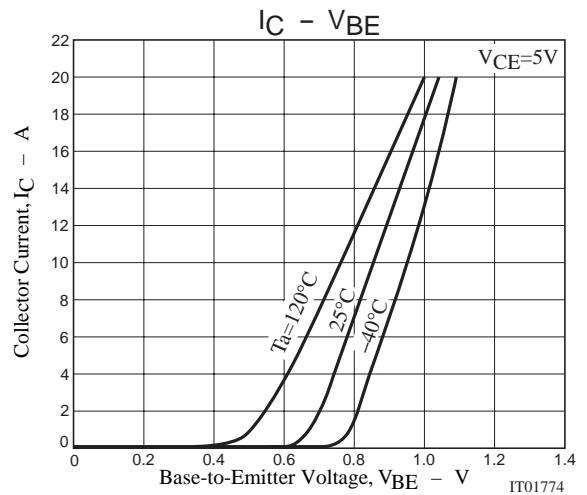
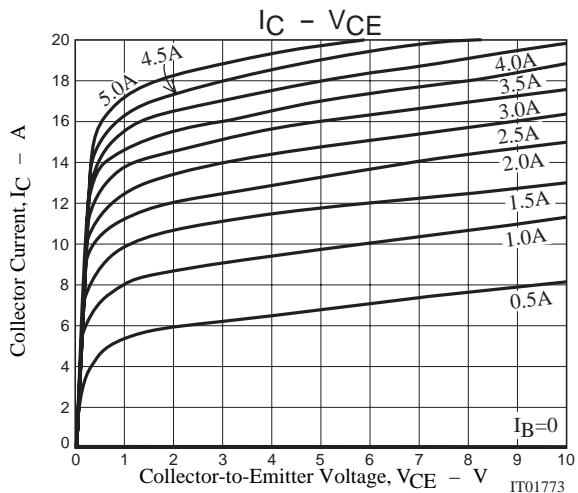
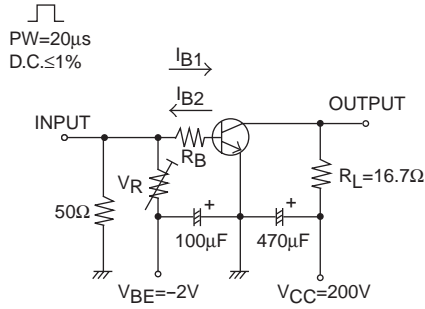
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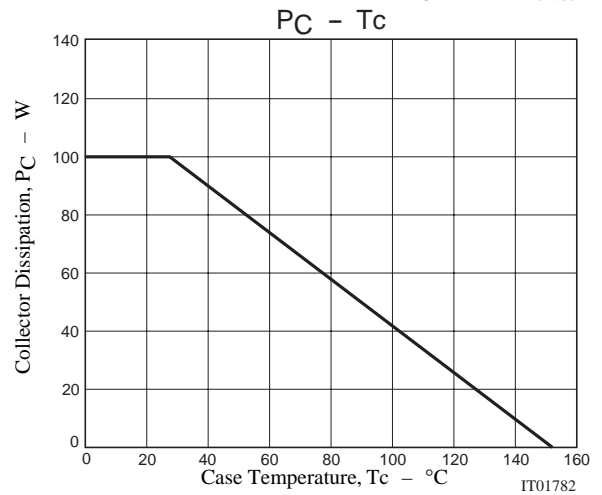
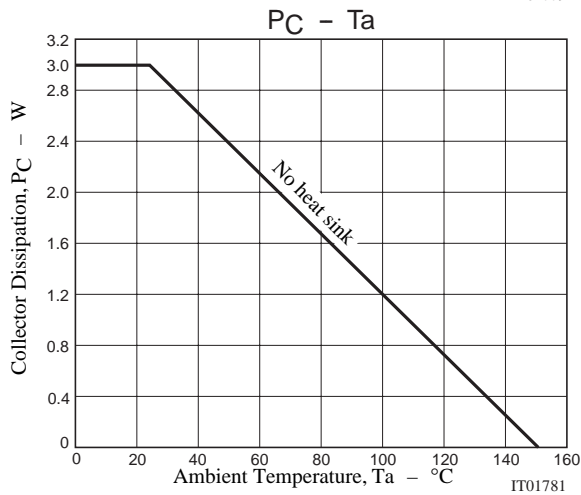
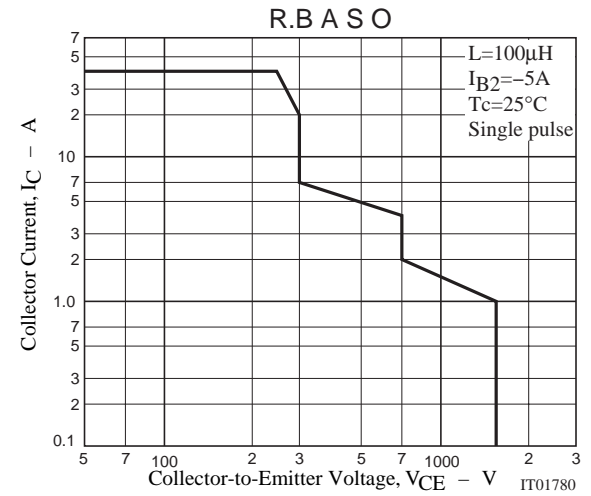
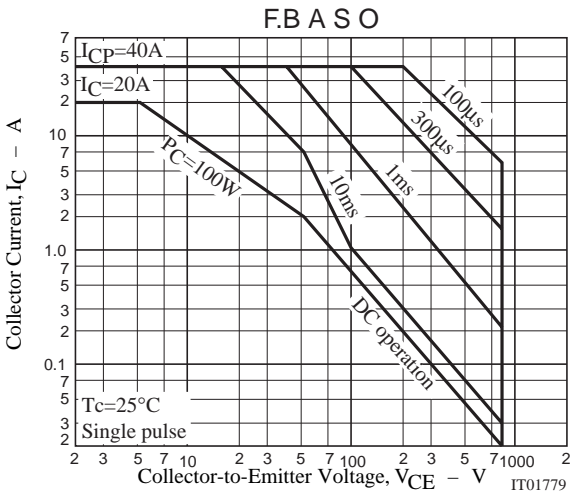
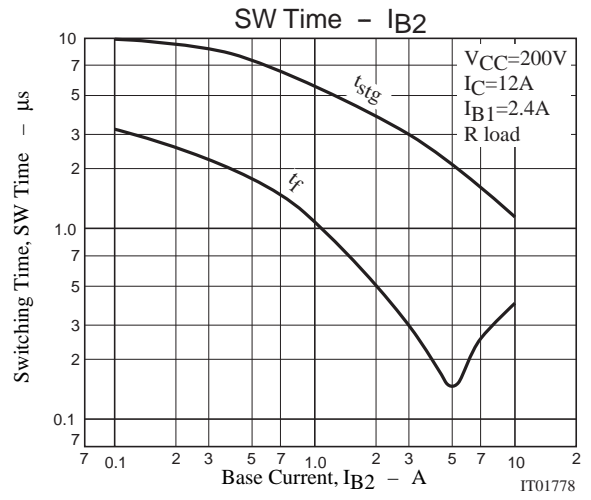
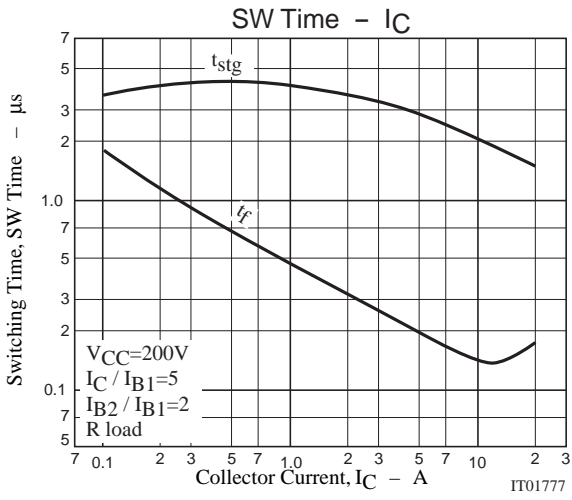
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=16A, I_B=4A$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=16A, I_B=4A$			1.5	V
Storage Time	t_{stg}	$I_C=12A, I_{B1}=2.4A, I_{B2}=-4.8A$			3.0	μs
Fall Time	t_f	$I_C=12A, I_{B1}=2.4A, I_{B2}=-4.8A$		0.1	0.2	μs

Switching Time Test Circuit



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