

**2SC5042**

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

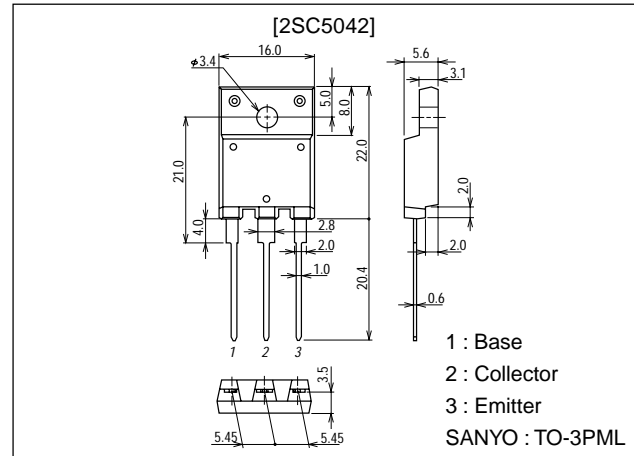
Features

- High speed ($t_f=100\text{ns}$ typ).
- High reliability (HVP process).
- High breakdown voltage ($V_{CBO}=1600\text{V}$).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2039D



Specifications

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

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		7	A
Collector Current (Pulse)	I_{CP}		16	A
Collector Dissipation	P_C		3.0	W
		$T_c=25^\circ\text{C}$	60	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_{CBO}	$V_{CB}=800\text{V}, I_E=0$			10	μA
	I_{CES}	$V_{CE}=1600\text{V}, R_{BE}=0$			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-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5\text{A}, I_B=1.25\text{A}$			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5\text{A}, I_B=1.25\text{A}$			1.5	V

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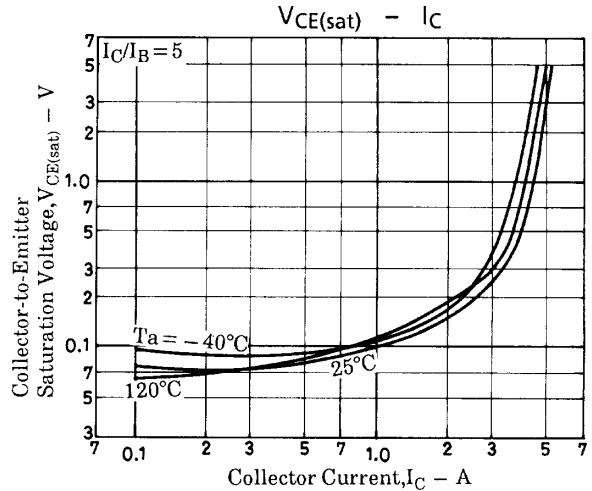
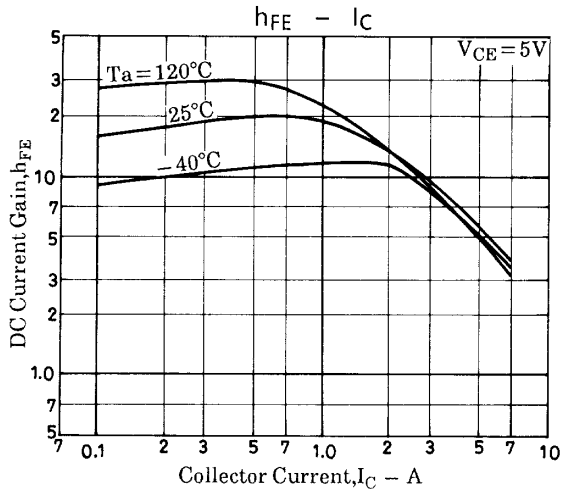
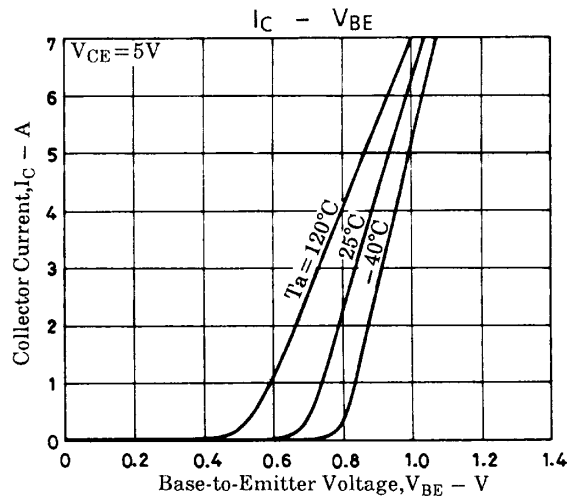
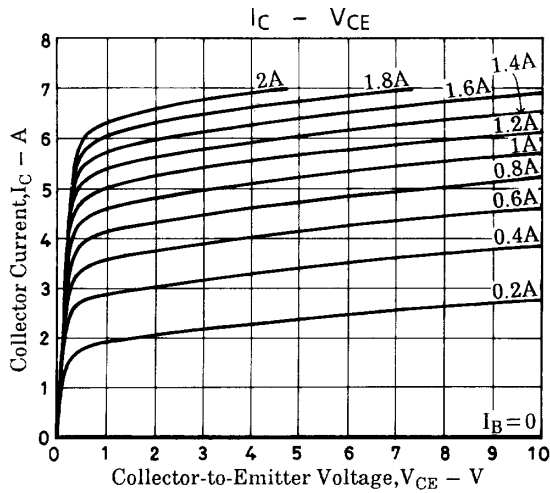
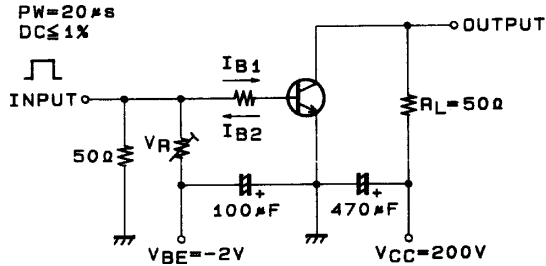
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12599HA (KT)/91294MT (KOTO) BX-0710 No.4780-1/4

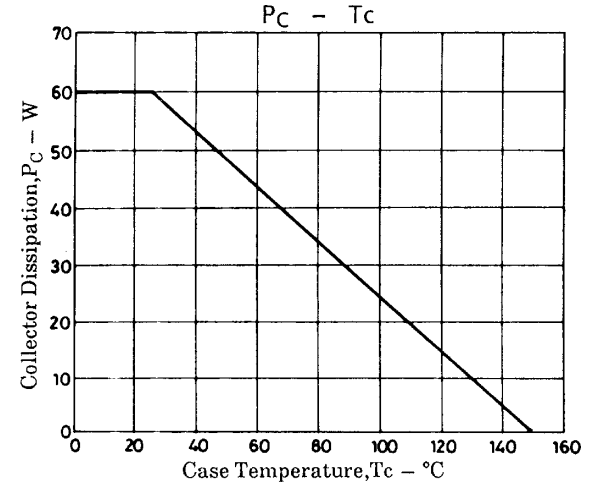
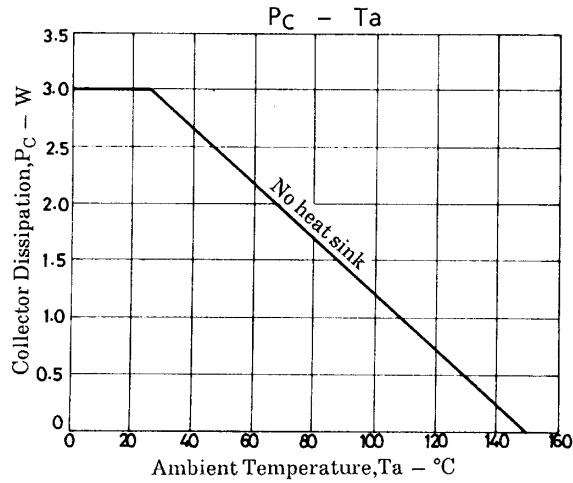
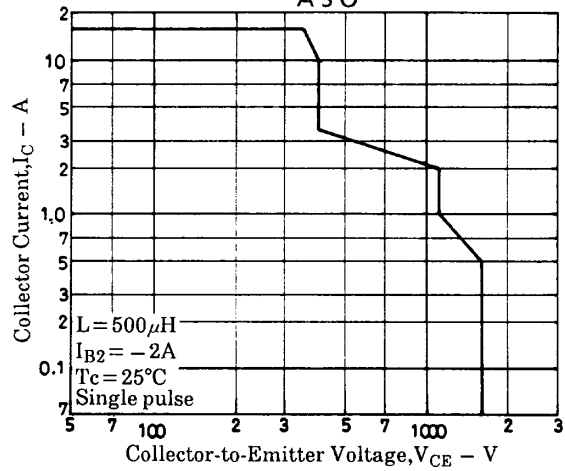
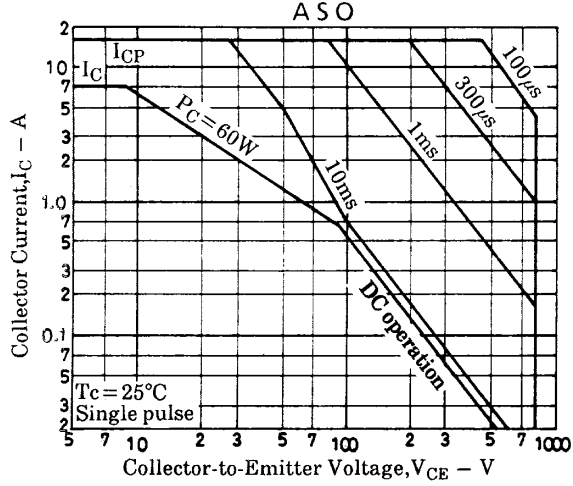
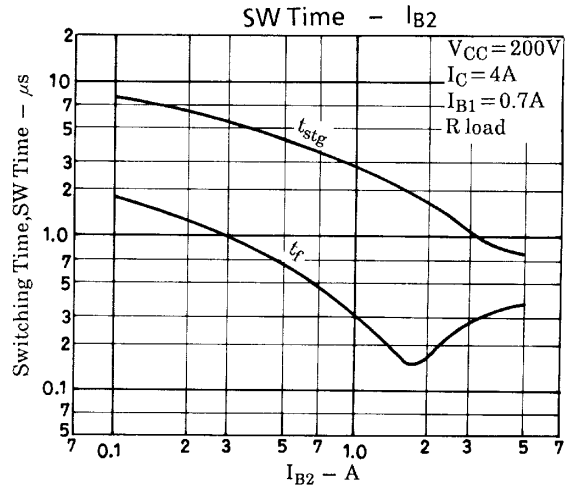
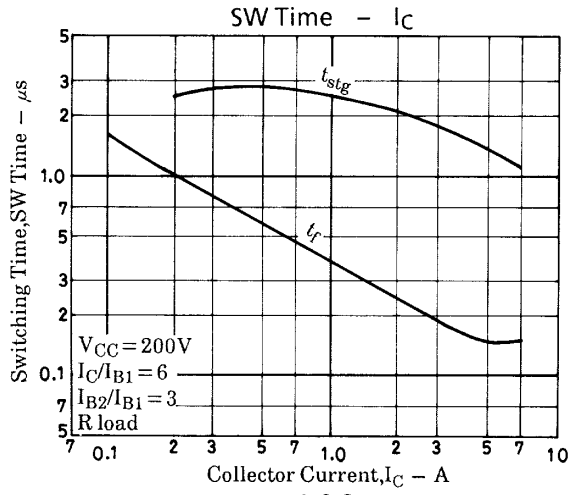
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=1A$	15		25	
	h_{FE2}	$V_{CE}=5V, I_C=5A$	4		7	
Storage Time	t_{stg}	$I_C=4A, I_{B1}=0.7A, I_{B2}=-2.0A$			2.0	μs
Fall Time	t_f	$I_C=4A, I_{B1}=0.7A, I_{B2}=-2.0A$		0.1	0.2	μs

Switching Time Test Circuit



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