

**2SC5042**

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

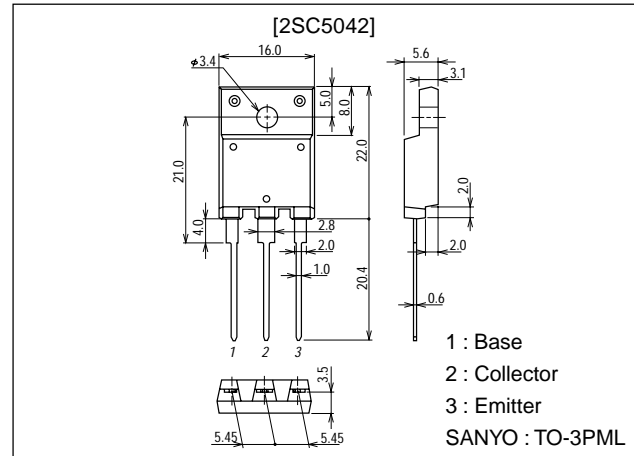
Features

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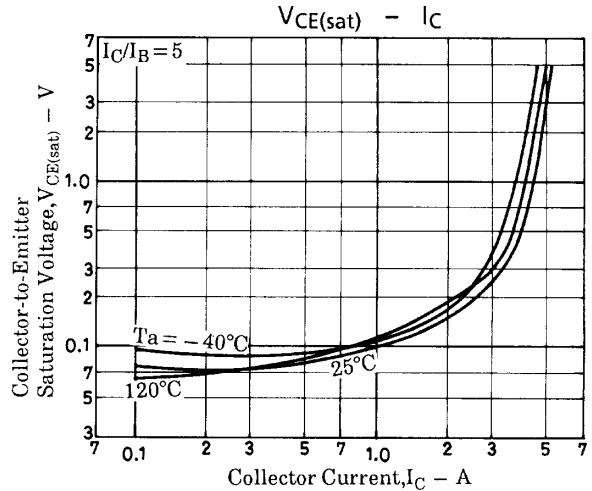
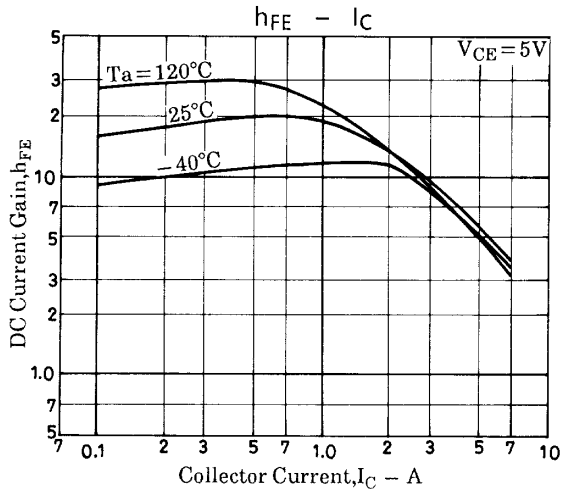
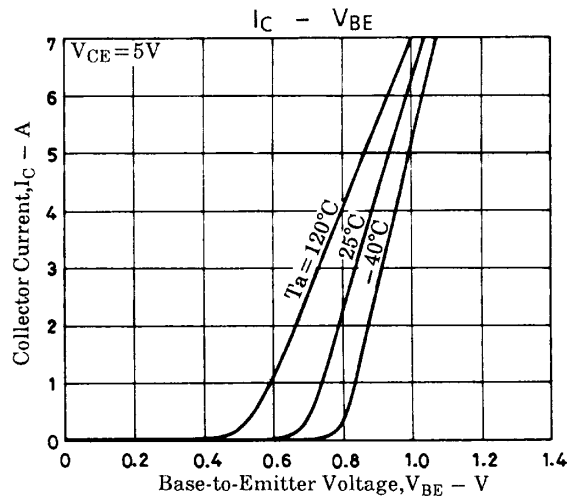
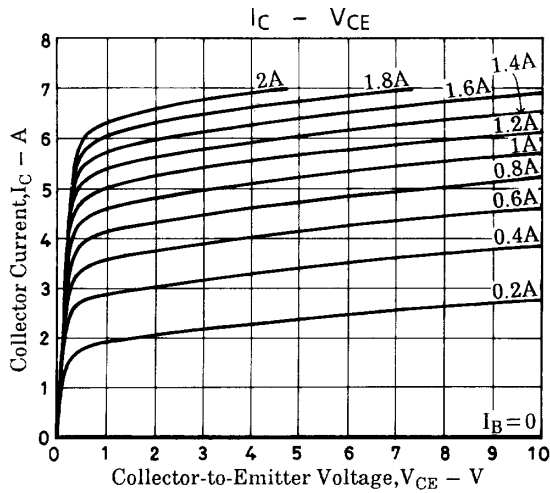
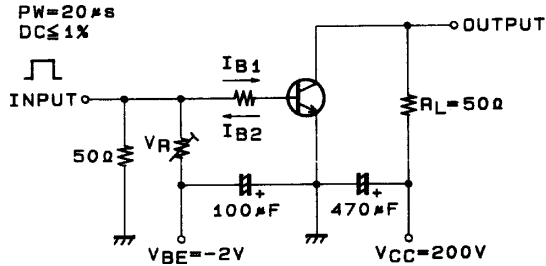
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12599HA (KT)/91294MT (KOTO) BX-0710 No.4780-1/4

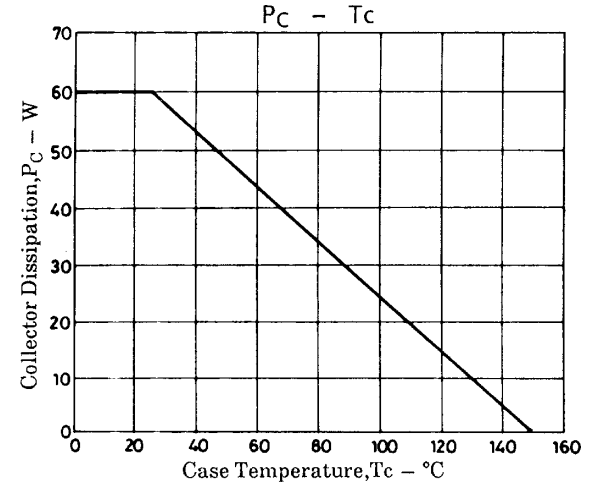
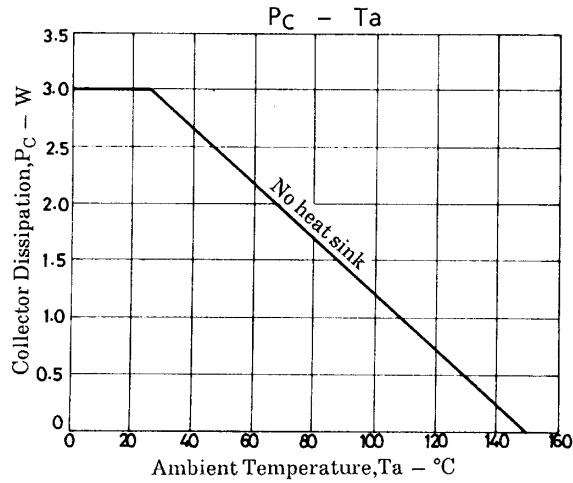
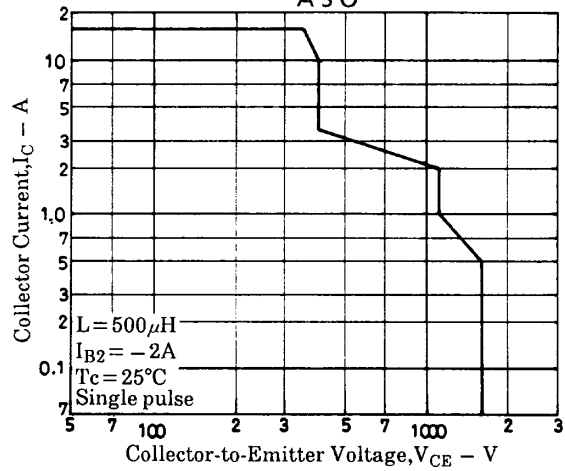
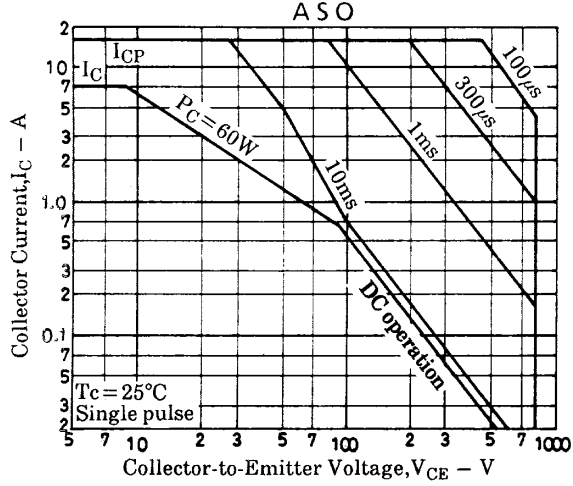
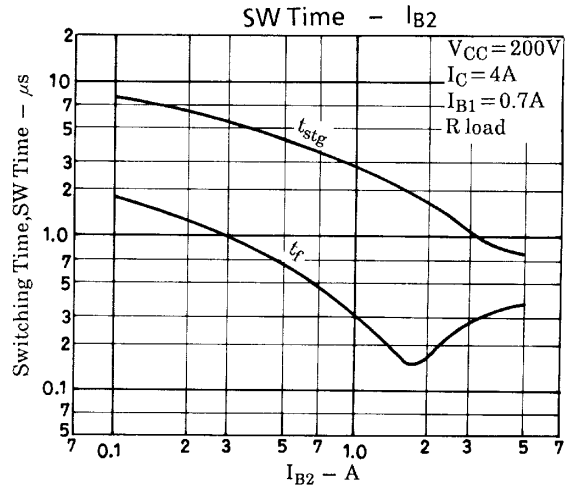
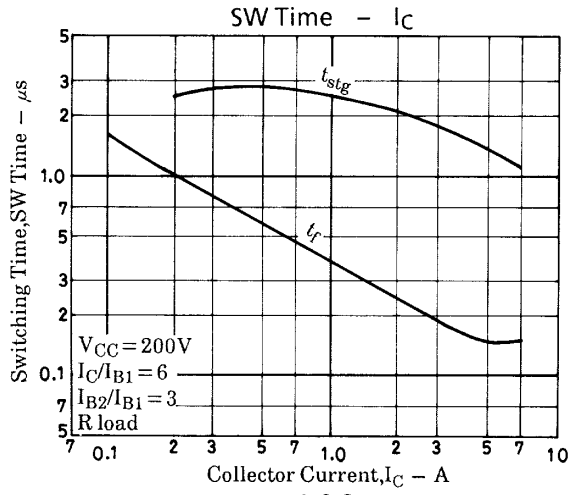
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-----------------|-----------|-------------------------------------|---------|-----|-----|---------|
| | | | min | typ | max | |
| DC Current Gain | h_{FE1} | $V_{CE}=5V, I_C=1A$ | 15 | | 25 | |
| | 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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