

**2SC3176**

CRT Horizontal Deflection Output Applications (with Damper Diode)

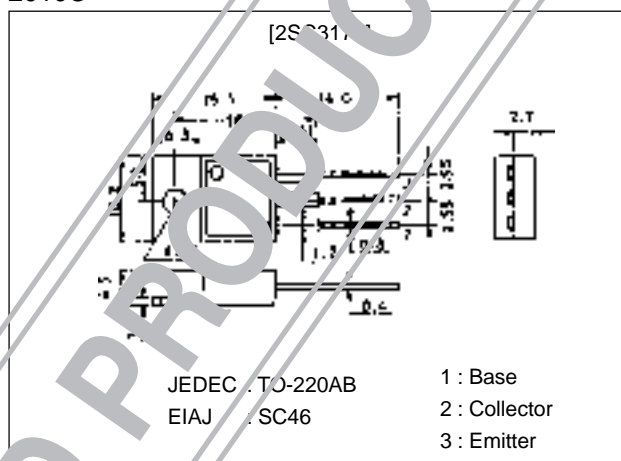
Features

- Fast switching speed.
- Especially suited for use in high-definition CRT display ($V_{CC}=12$ to $24V$).
- Wide ASO.

Package Dimensions

unit:mm

2010C



Specifications

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|--------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CB0} | | 400 | V |
| Collector-to-Emitter Voltage | V_{CE0} | | 200 | V |
| Emitter-to-Base Voltage | V_{EB0} | | 6 | V |
| Collector Current | I_C | | 7 | A |
| Collector Current (Pulse) | I_{CP} | | 12 | A |
| Base Current | I_B | | 4 | A |
| Collector Dissipation | P_C | $T_c = 25^\circ C$ | 50 | 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_{CBO} | $V_{CB}=200V, I_E=0$ | | | 100 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=6V, I_C=0$ | | | 400 | mA |
| DC Current Gain | h_{FE1} | $V_{CE}=1V, I_C=1A$ | 15 | | | |
| | h_{FE2} | $V_{CE}=1V, I_C=5A$ | 8 | | 40 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=10V, I_C=0.5A$ | 10 | 40 | | MHz |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=5A, I_B=0.65A$ | | | 1 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=5A, I_B=0.65A$ | | | 1.3 | V |

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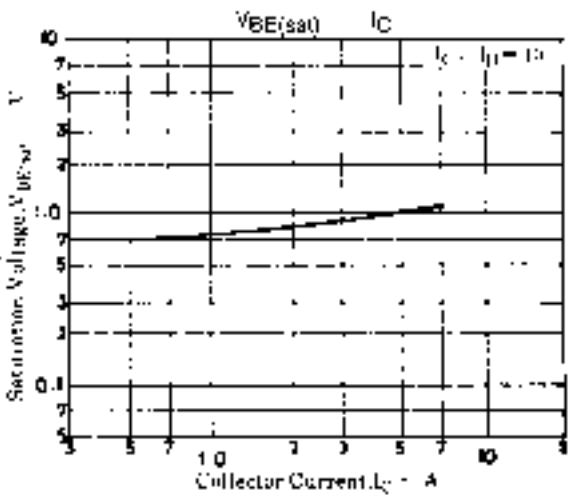
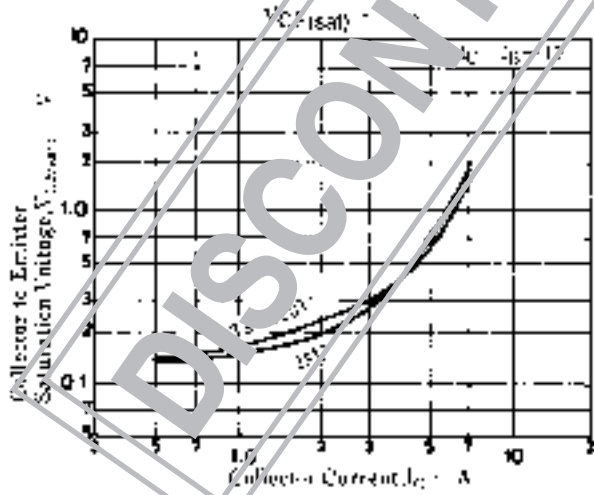
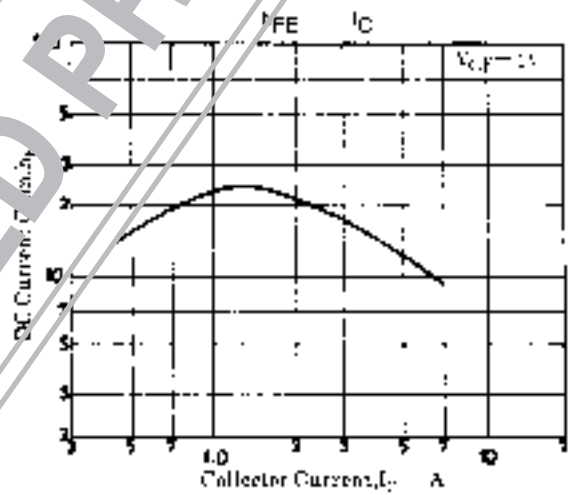
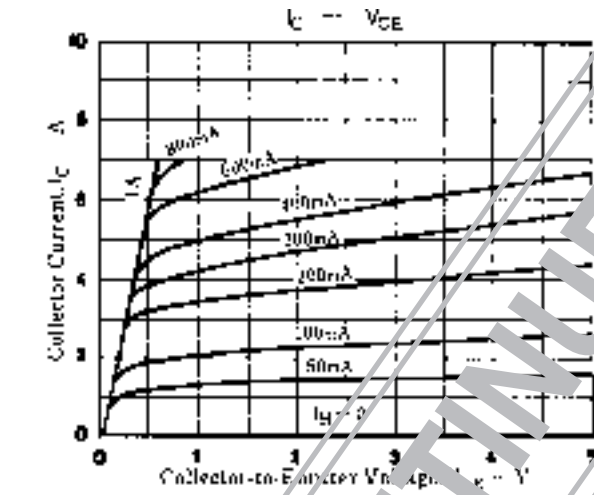
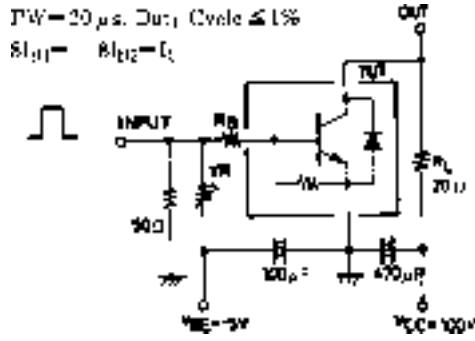
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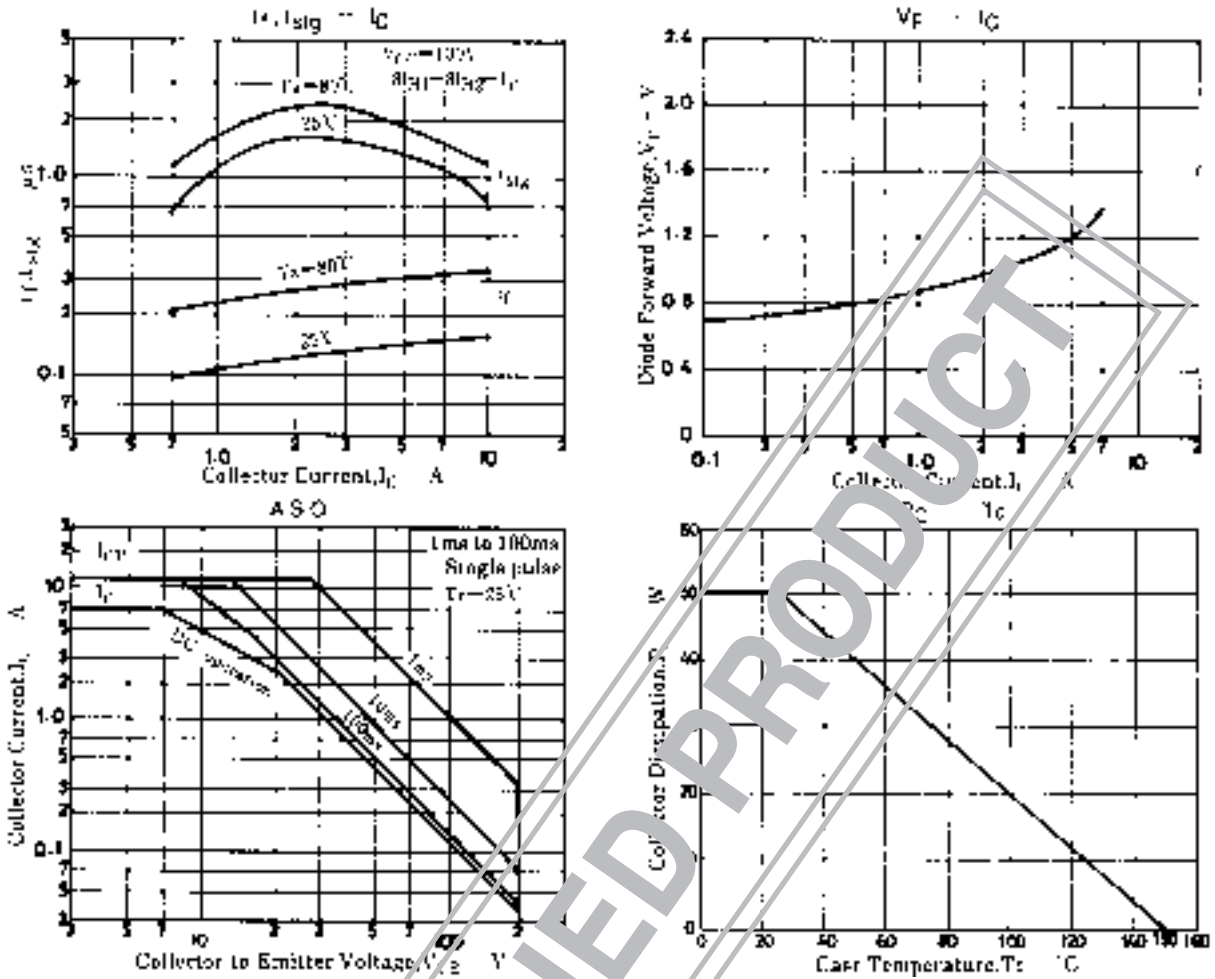
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-------------------------------------|---------------|---------------------------------|---------|-----|-----|---------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=1mA, I_E=0$ | 400 | | | V |
| Diode Forward Voltage | V_F | $I_F=5A$ | | | 1.5 | V |
| Fall Time | t_f | $I_C=5A, I_{B1}=-I_{B2}=0.625A$ | | | 0.5 | μs |

Switching Time Test Circuit





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