

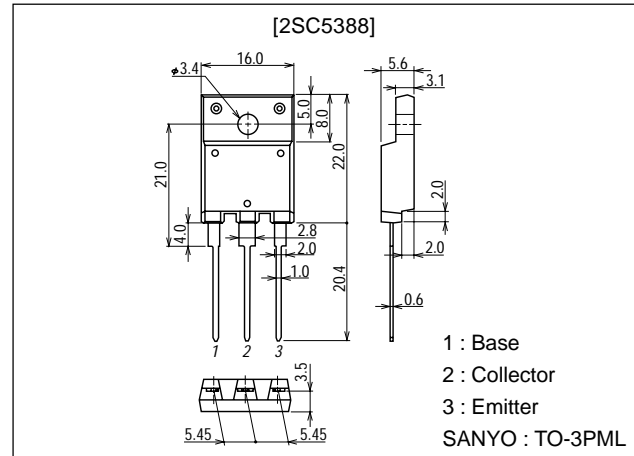
**2SC5388****High-Voltage Switching Applications****Features**

- High speed (Adoption of MBIT process).
- High breakdown voltage ($V_{CBO}=1500V$).
- High reliability (Adoption of HVP process).
- On-chip damper diode.

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} | | 1500 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | 700 | V |
| Emitter-to-Base Voltage | V_{EBO} | | 5 | V |
| Collector Current | I_C | | 5 | A |
| Collector Current (Pulse) | I_{CP} | | 10 | A |
| Base Current | I_B | | 1 | A |
| Collector Dissipation | P_C | | 3.0 | W |
| | | $T_c=25^\circ C$ | 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} | $V_{CB}=700V, I_E=0$ | | | 0.1 | mA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=5V, I_C=0$ | | | 600 | mA |
| DC Current Gain | h_{FE1} | $V_{CE}=5V, I_C=1A$ | 100 | | 230 | |
| | h_{FE2} | $V_{CE}=5V, I_C=5A$ | 50 | | 150 | |

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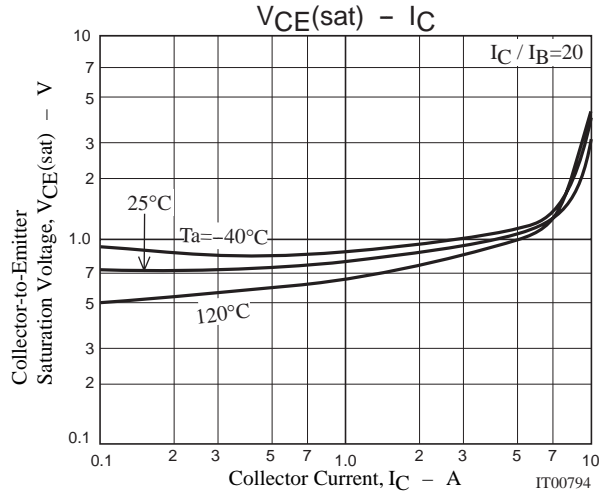
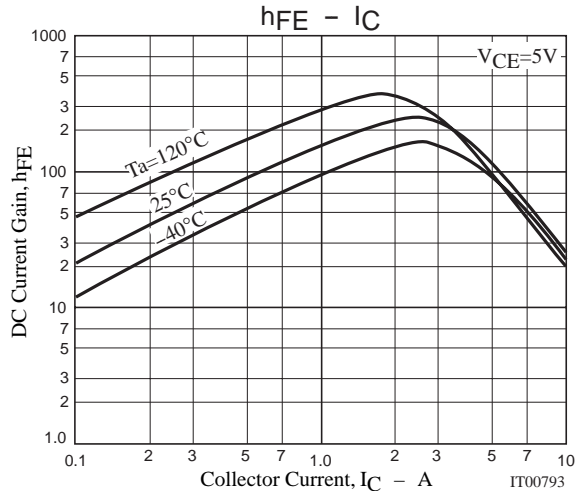
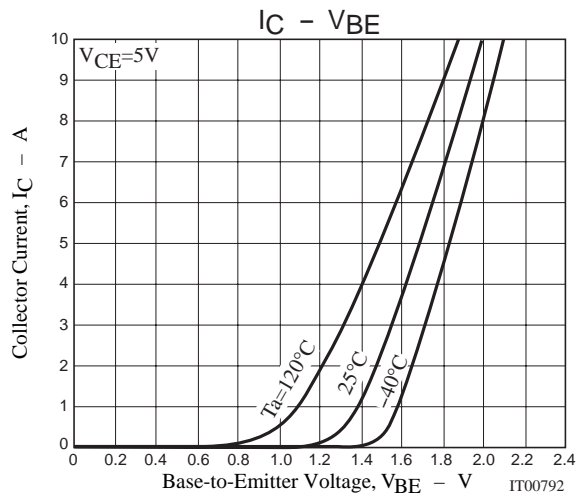
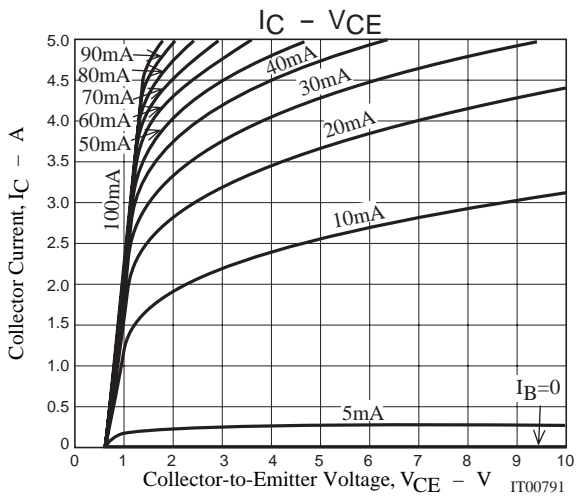
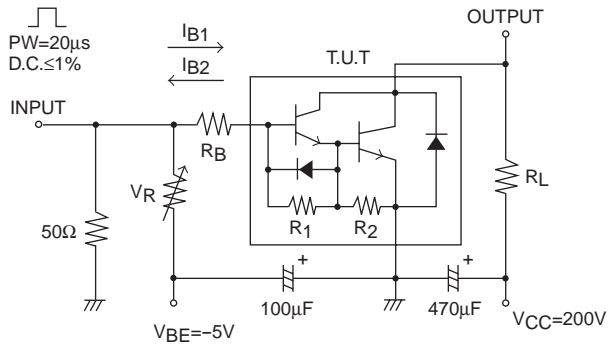
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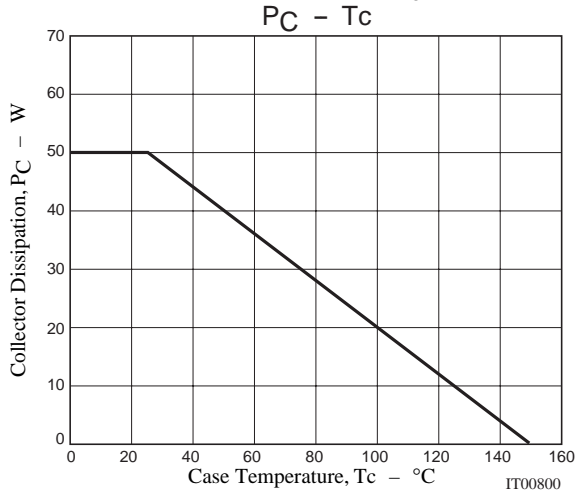
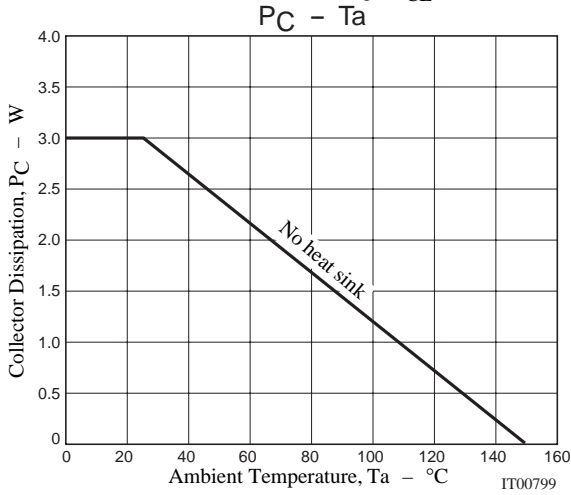
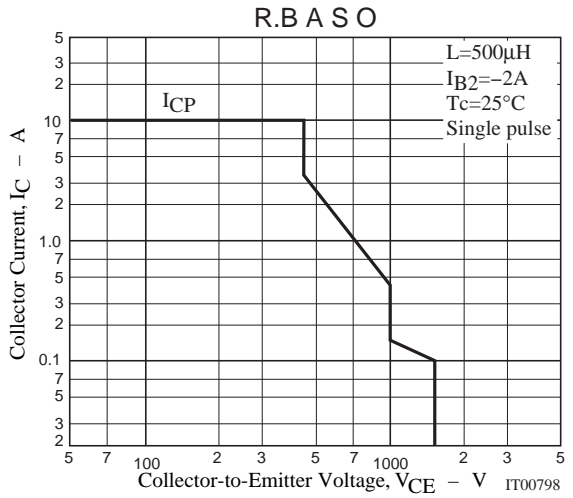
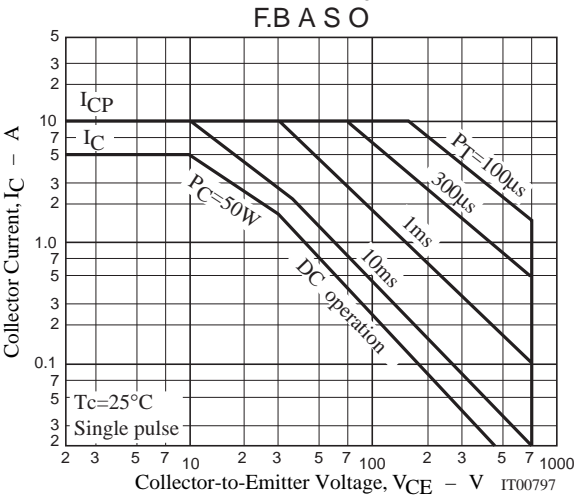
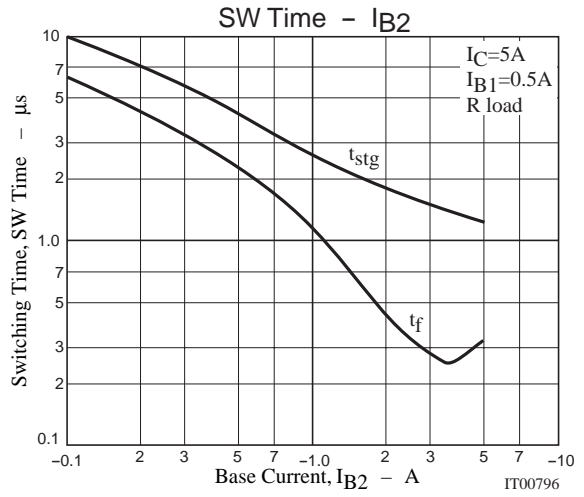
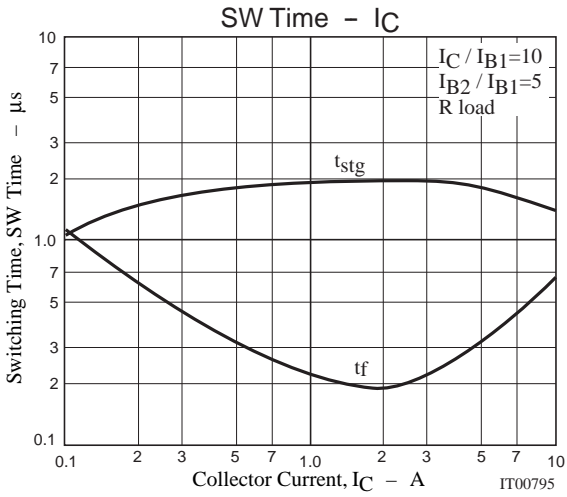
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------|--|---------|-----|-----|---------|
| | | | min | typ | max | |
| Collector-to-Emitter Sustain Voltage | $V_{CEO(sus)}$ | $I_C=100mA, I_B=0$ | 700 | | | V |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=5A, I_B=0.5A$ | | | 1.5 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=5A, I_B=0.5A$ | | | 2.0 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=1mA, I_E=0$ | 1500 | | | V |
| Diode Forward Voltage | V_F | $I_{EC}=5A$ | | | 2.0 | V |
| Fall Time | t_f | $I_C=5A, I_{B1}=0.5A, I_{B2}=-2.5A, V_{CC}=200V, R_L=40\Omega$ | | | 0.8 | μs |
| Storage Time | t_{stg} | $I_C=5A, I_{B1}=0.5A, I_{B2}=-2.5A, V_{CC}=200V, R_L=40\Omega$ | | | 3 | μs |

Switching Time Test Circuit



2SC5388



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