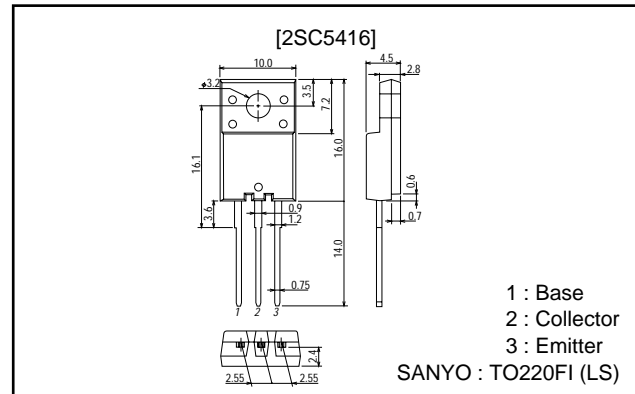


**Inverter Lighting Applications****Features**

- High breakdown voltage.
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

**Package Dimensions**

unit: mm

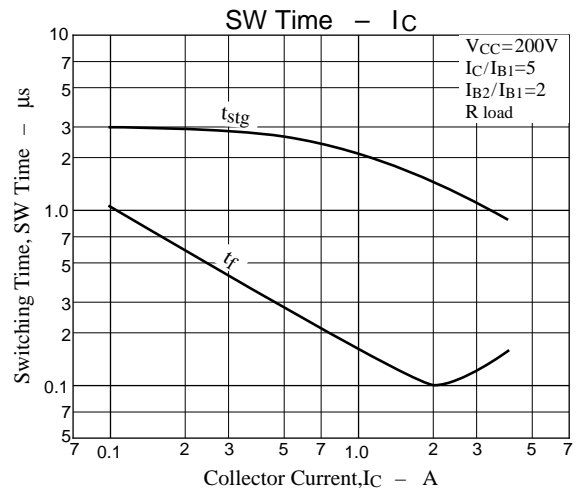
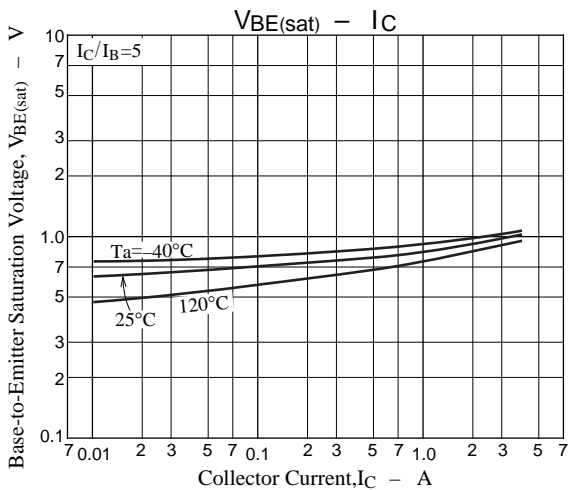
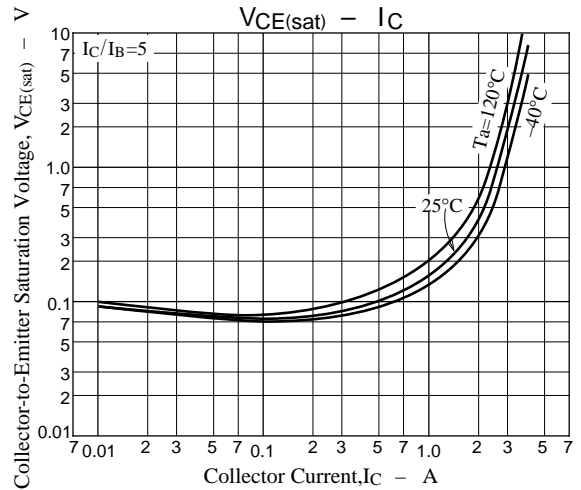
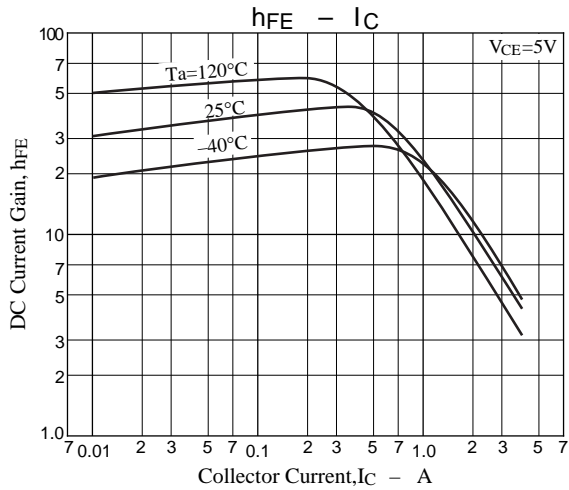
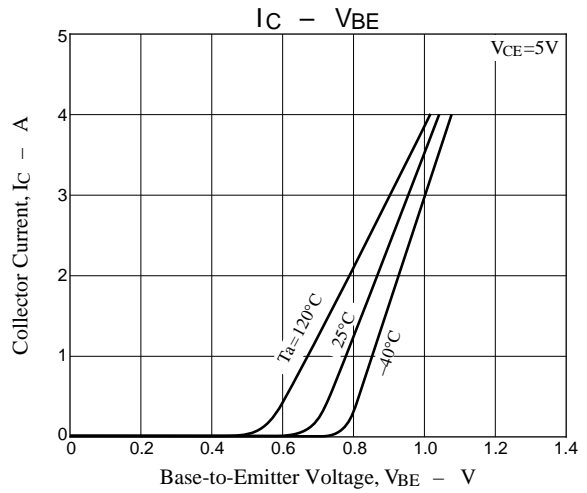
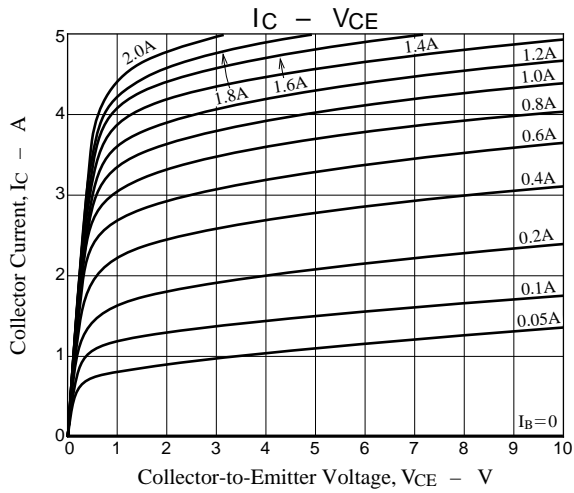
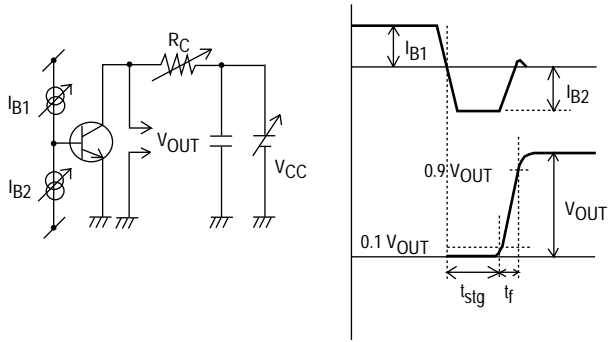
**2079B-TO220FI (LS)****Specifications****Absolute Maximum Ratings** at  $T_a=25^\circ\text{C}$ 

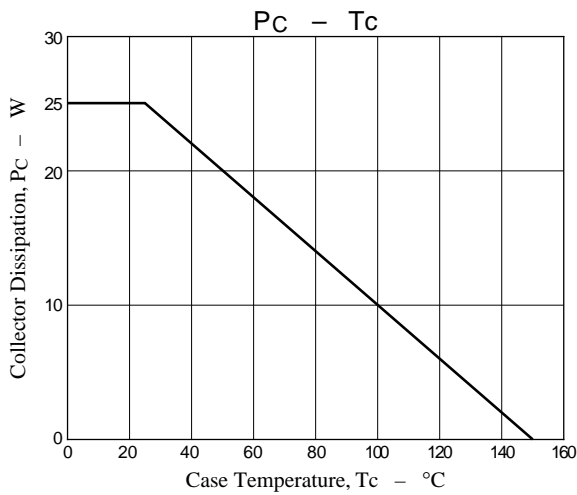
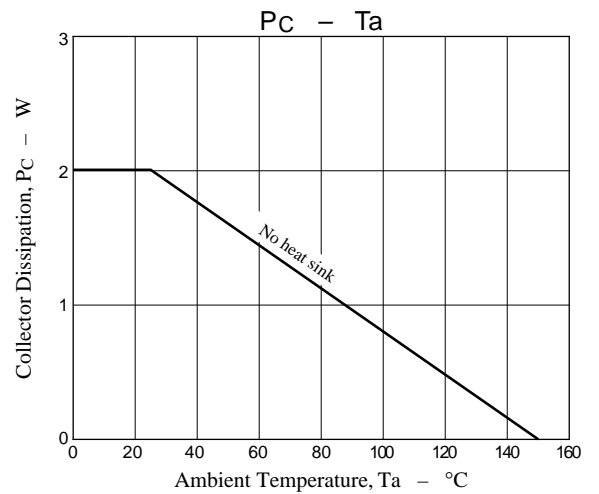
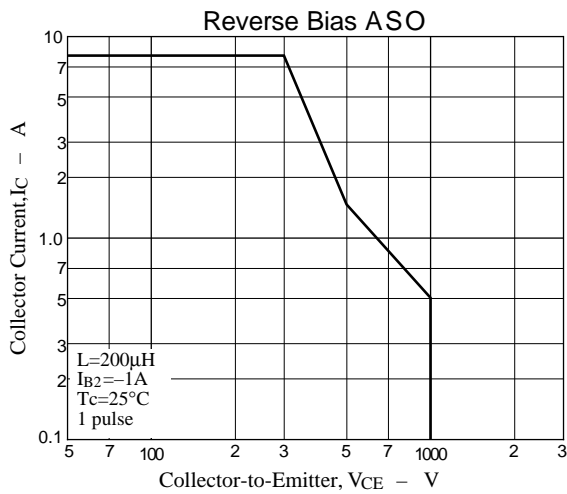
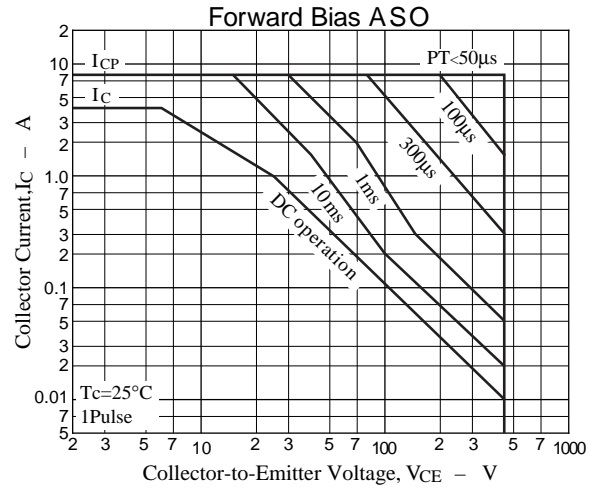
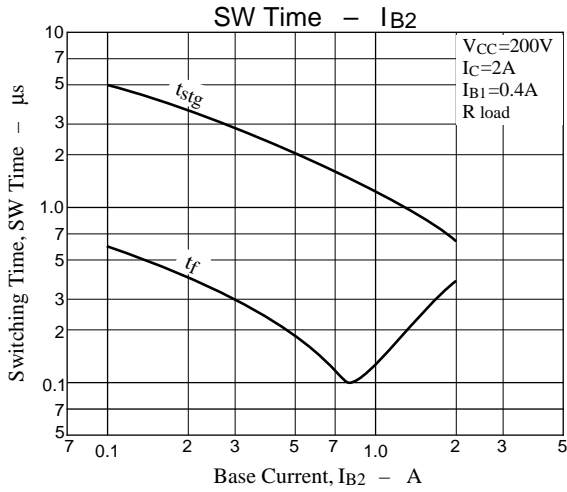
| Parameter                    | Symbol    | Conditions             | Ratings     | Unit             |
|------------------------------|-----------|------------------------|-------------|------------------|
| Collector-to-Base Voltage    | $V_{CBO}$ |                        | 1000        | V                |
| Collector-to-Emitter Voltage | $V_{CEO}$ |                        | 450         | V                |
| Emitter-to-Base Voltage      | $V_{EBO}$ |                        | 9           | V                |
| Collector Current            | $I_C$     |                        | 4           | A                |
| Collector Current (Pulse)    | $I_{CP}$  |                        | 8           | A                |
| Collector Dissipation        | $P_C$     |                        | 2           | W                |
|                              |           | $T_c=25^\circ\text{C}$ | 25          | 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  | $I_{CBO}$      | $V_{CB}=450\text{V}, I_E=0$                              |         |     | 10   | $\mu\text{A}$ |
| Collector Cutoff Current  | $I_{CES}$      | $V_{CE}=1000\text{V}, R_{BE}=0$                          |         |     | 1.0  | mA            |
| Collector Sustain Voltage | $V_{CEO(sus)}$ | $I_C=100\text{mA}, I_B=0$                                | 450     |     |      | V             |
| Emitter Cutoff Current    | $I_{EBO}$      | $V_{EB}=9\text{V}, I_C=0$                                |         |     | 1.0  | mA            |
| C-E Saturation Voltage    | $V_{CE(sat)}$  | $I_C=2\text{A}, I_B=0.4\text{A}$                         |         |     | 1.0  | V             |
| B-E Saturation Voltage    | $V_{BE(sat)}$  | $I_C=2\text{A}, I_B=0.4\text{A}$                         |         |     | 1.5  | V             |
| DC Current Gain           | $h_{FE(1)}$    | $V_{CE}=5\text{V}, I_C=0.1\text{A}$                      | 30      | 40  | 50   |               |
|                           | $h_{FE(2)}$    | $V_{CE}=5\text{V}, I_C=1.5\text{A}$                      | 10      |     |      |               |
| Storage Time              | $t_{stg}$      | $I_C=2\text{A}, I_{B1}=0.4\text{A}, I_{B2}=-0.8\text{A}$ |         |     | 2.5  | $\mu\text{s}$ |
| Fall Time                 | $t_f$          | $I_C=2\text{A}, I_{B1}=0.4\text{A}, I_{B2}=-0.8\text{A}$ |         |     | 0.15 | $\mu\text{s}$ |

Switching Time Test Circuit





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