

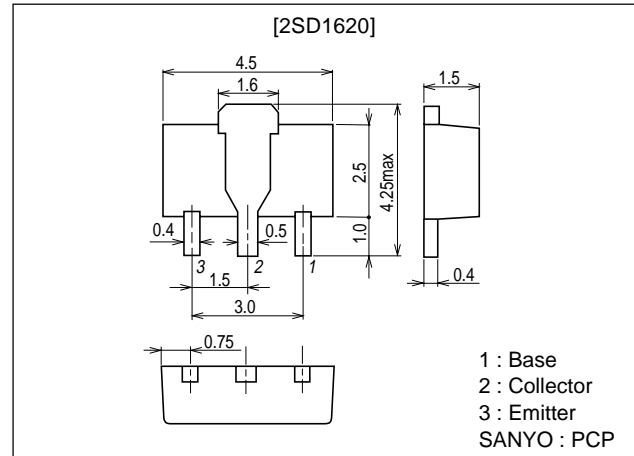
**2SD1620****1.5V, 3V Strobe Applications****Features**

- Less power dissipation because of low $V_{CE(sat)}$, permitting more flashes of light to be emitted.
- Large current capacity and highly resistant to breakdown.
- Excellent linearity of h_{FE} in the region from low current to high current.
- Ultrasmall size supports high-density, ultrasmall-sized hybrid IC designs.

Package Dimensions

unit:mm

2038A

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

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|--|-------------|------|
| Collector-to-Base Voltage | V_{CBO} | | 30 | V |
| Collector-to-Emitter Voltage | V_{CEX} | | 20 | V |
| | V_{CEO} | | 10 | V |
| Emitter-to-Base Voltage | V_{EBO} | | 6 | V |
| Collector Current | I_C | | 3 | A |
| Collector Current (Pulse) | I_{CP} | | 5 | A |
| Collector Dissipation | P_C | | 500 | mW |
| | | Mounted on ceramic board (250mm ² ×0.8mm) | 1.3 | W |
| Junction Temperature | T_j | | 150 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |

Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--------------------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=20\text{V}, I_E=0$ | | | 100 | nA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | | | 100 | nA |
| DC Current Gain | h_{FE} | $V_{CE}=2\text{V}, I_C=3\text{mA}$ | 140 | 210 | | |
| Gain-Bandwidth Product | f_T | $V_{CE}=10\text{V}, I_C=50\text{mA}$ | | 200 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=10\text{V}, f=1\text{MHz}$ | | 30 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=3\text{A}, I_B=60\text{mA}$ | | 0.3 | 0.4 | V |

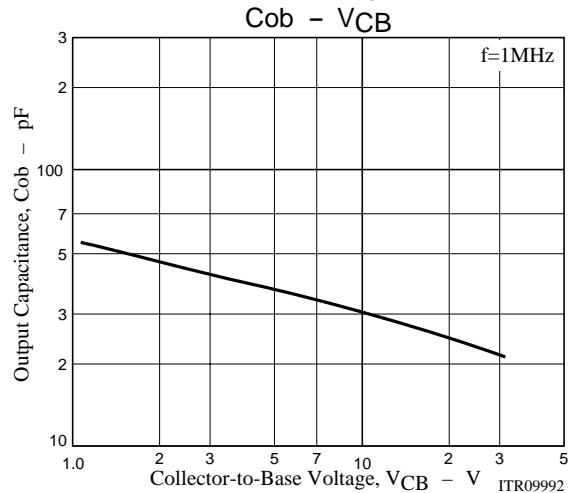
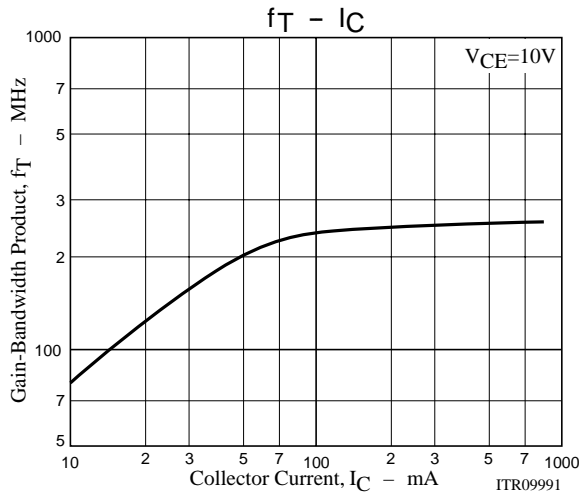
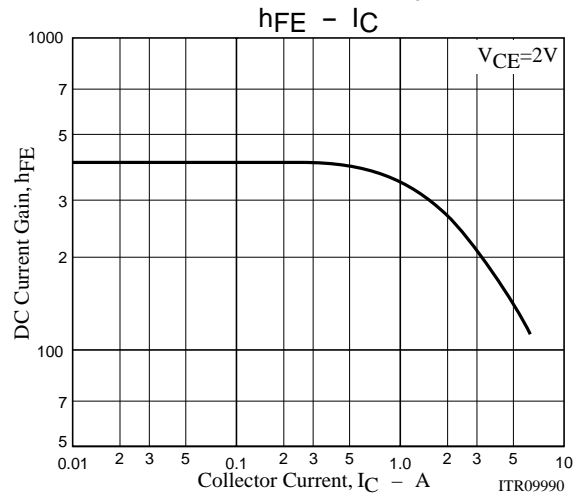
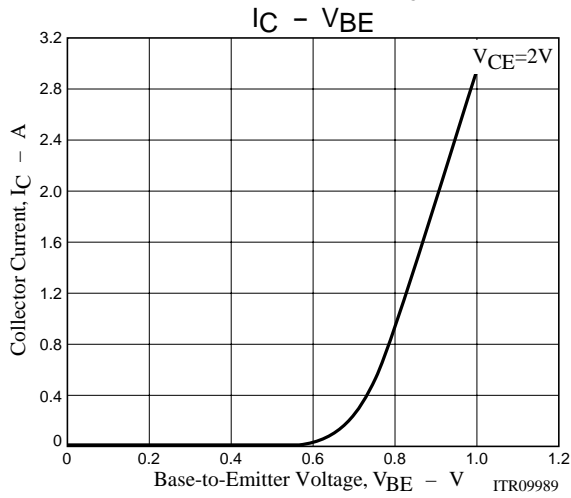
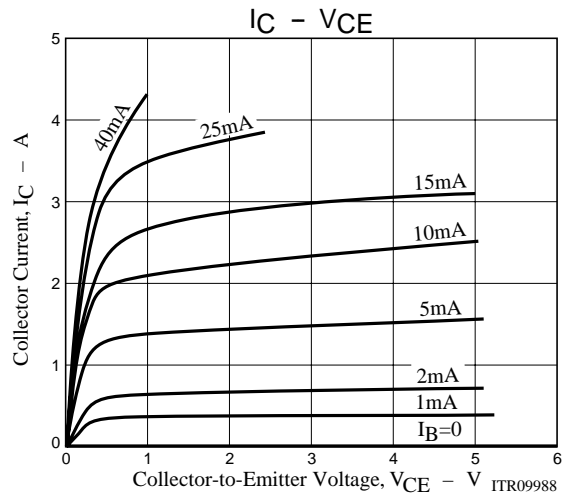
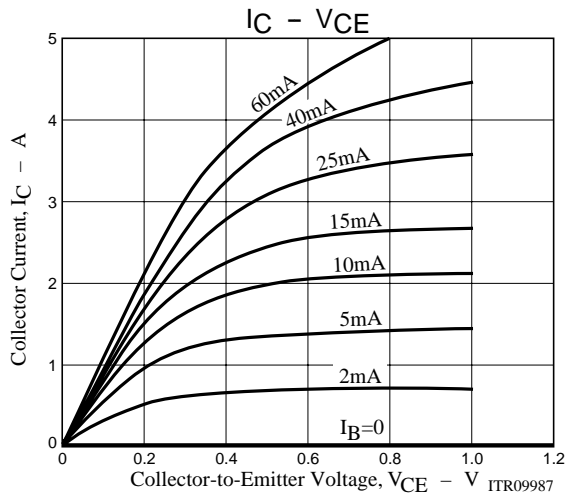
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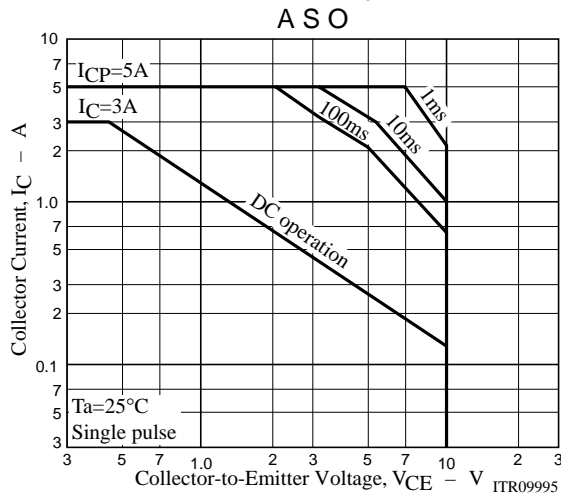
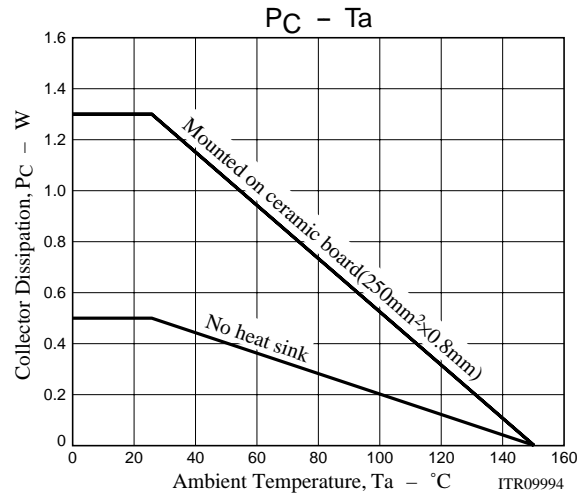
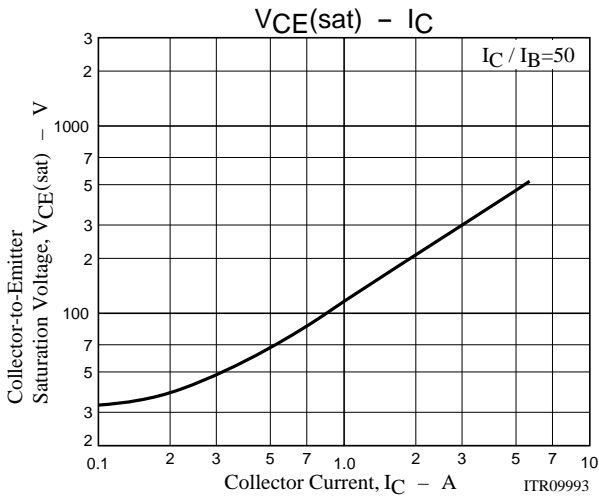
2SD1620

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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------|--------------------------|---------|-----|-----|------|
| | | | min | typ | max | |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=10\mu A, I_E=0$ | 30 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEX}$ | $I_C=1mA, V_{BE}=3V$ | 20 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=1mA, R_{BE}=\infty$ | 10 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$ | 6 | | | V |



2SD1620



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