

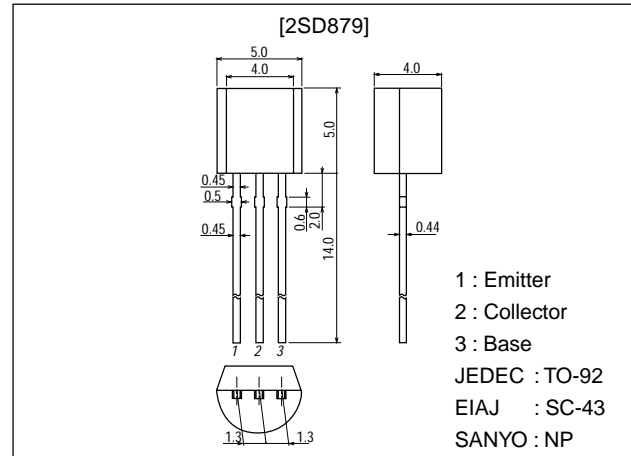
**2SD879****1.5V, 3V Strobe Applications****Features**

- In applications where two NiCd batteries are used to provide 2.4V, two 2SD879s are used.
- The charge time is approximately 1 second faster than that of germanium transistors.
- Less power dissipation because of low Collector-to-Emitter Voltage  $V_{CE(sat)}$ , permitting more flashes of light to be emitted.
- Small package and large allowable collector dissipation (TO-92,  $P_C=750mW$ ).
- Large current capacity and highly resistant to breakdown.
- Excellent linearity of  $h_{FE}$  in the region from low current to high current.

**Package Dimensions**

unit:mm

2003B

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

| 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)    | $I_{CP}$  | 100ms single pulse | 5           | A          |
| Collector Dissipation        | $P_C$     |                    | 750         | mW         |
| 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                | $I_{CBO}$     | $V_{CB}=20V, I_E=0$         |         |     | 1.0 | $\mu A$ |
| Emitter Cutoff Current                  | $I_{EBO}$     | $V_{EB}=4V, I_C=0$          |         |     | 1.0 | $\mu A$ |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=2V, I_C=3A$ (pulse) | 140     | 210 |     |         |
| Gain-Bandwidth Product                  | $f_T$         | $V_{CE}=10V, I_C=50mA$      |         | 200 |     | MHz     |
| Output Capacitance                      | $C_{ob}$      | $V_{CB}=10V, f=1MHz$        |         | 30  |     | pF      |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=3A, I_B=60mA$ (pulse)  |         | 0.3 | 0.4 | V       |

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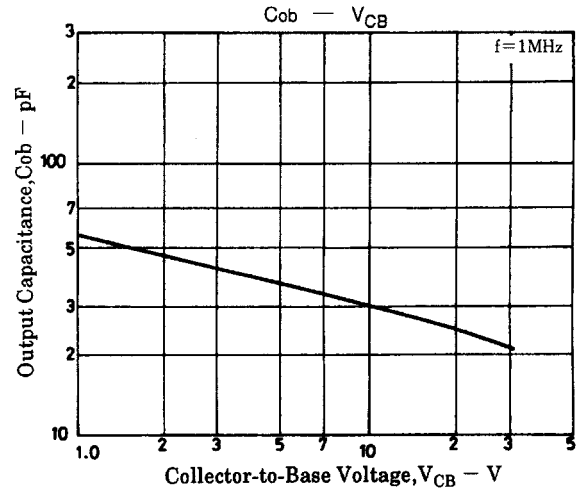
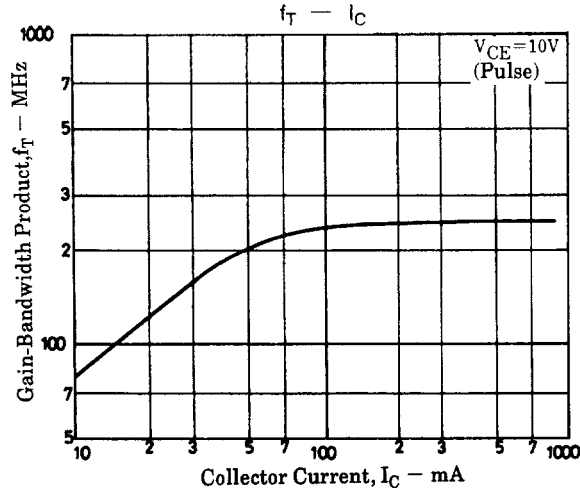
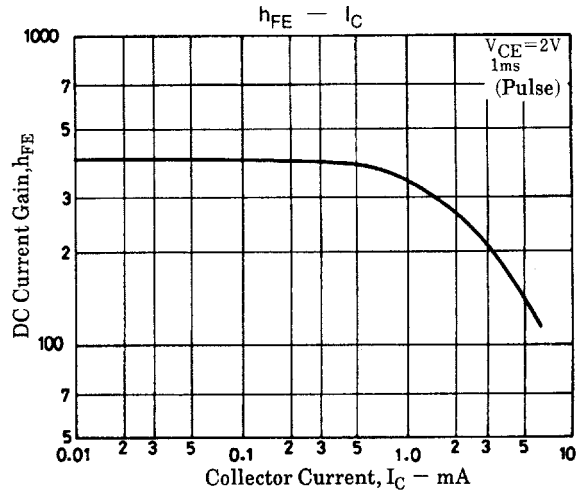
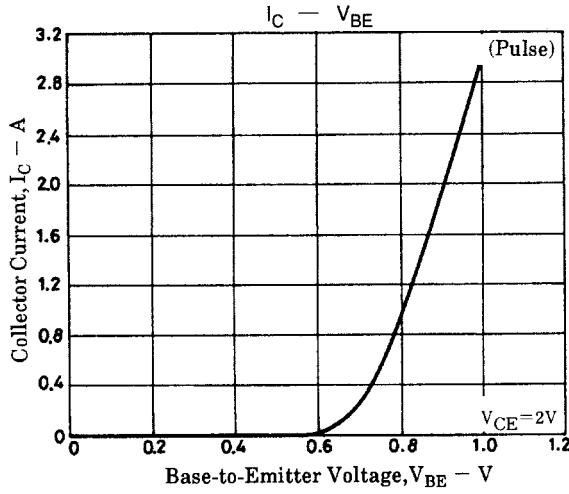
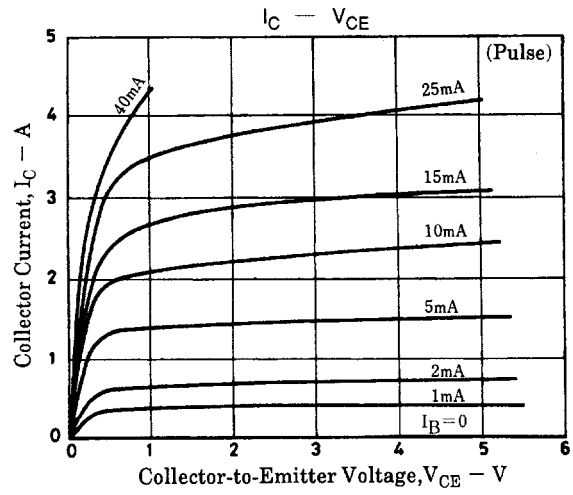
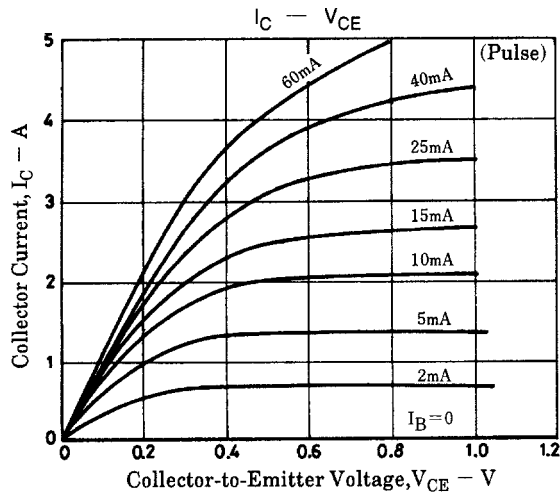
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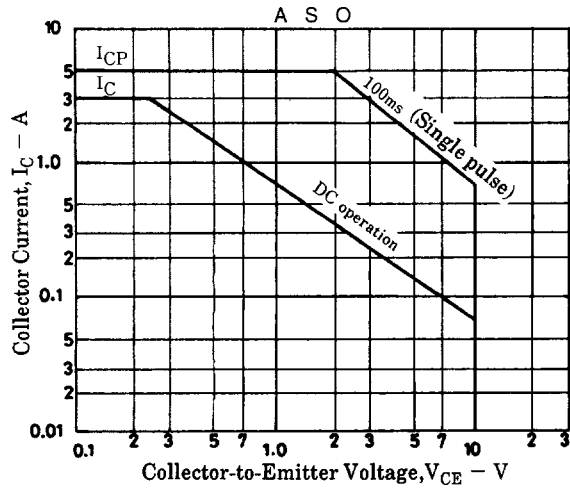
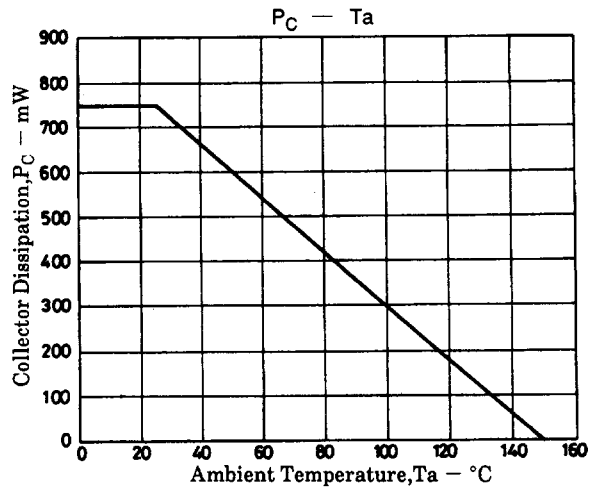
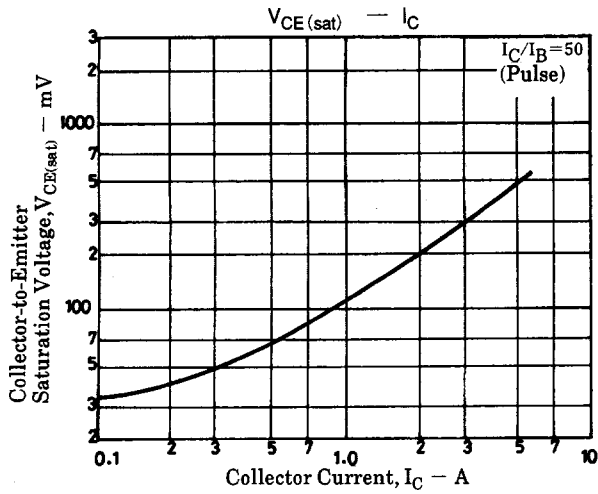
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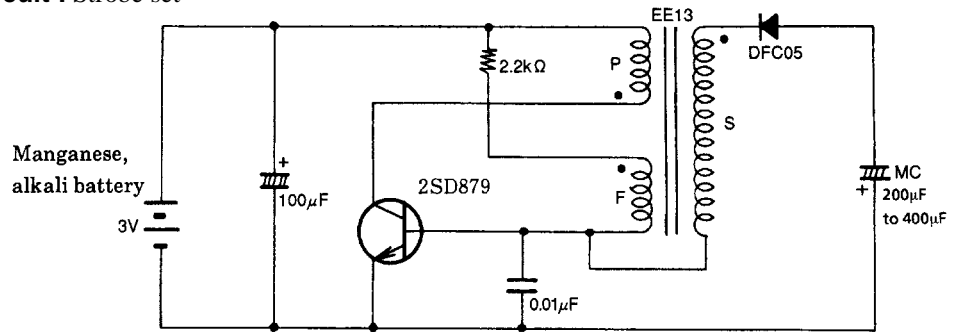
| Parameter                              | Symbol        | Conditions               | Ratings |     |     | Unit |
|--|---------------|--------------------------|---------|-----|-----|------|
|  |               |                          | min     | typ | max |      |
| Collector-to-Base Breakdown Voltage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



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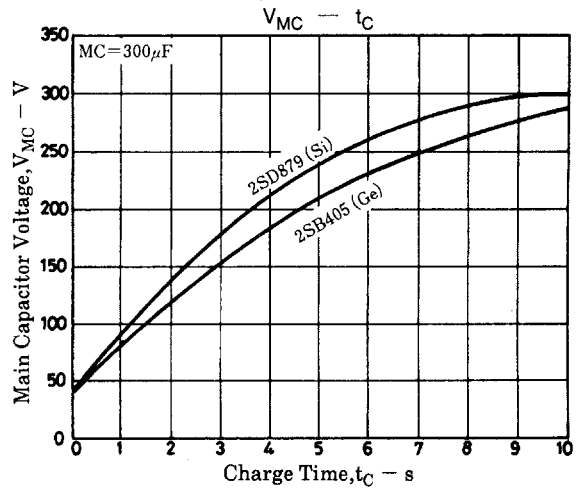
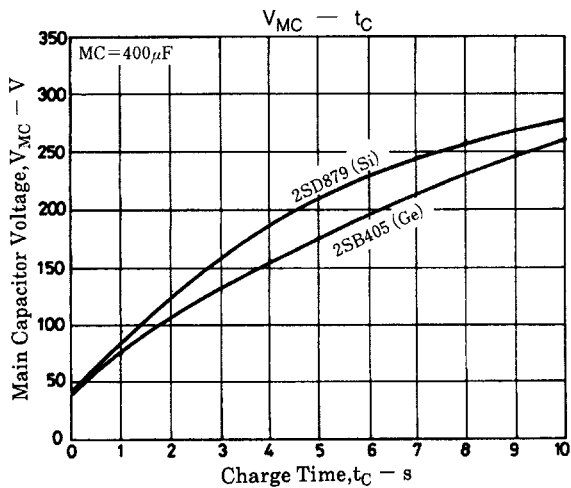


## Sample Application Circuit : Strobe set

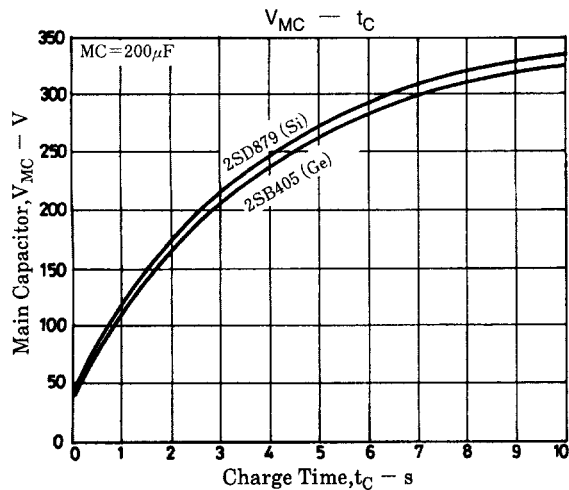


Core : EE13  
(Kijima Wireless)

Number of turns specified for transformer P :  $0.55 \phi \times 10 \frac{3}{4} T$ , S :  $0.07 \phi \times 1350 T$   
F :  $0.23 \phi \times 12 \frac{3}{4} T$



## 2SD879



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