

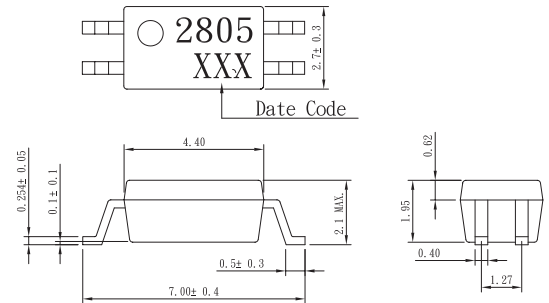
**Features**

1. High isolation voltage (BV=2500 Vrms)
2. Small and thin package (4pin SOP, Pin pitch 1.27 mm)
3. High collector to emitter voltage (V<sub>CEO</sub>=80V)
4. AC input response
5. High-speed switching (tr=3 μS TYP., tf=5 μS TYP.)

**Applications**

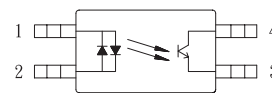
1. Programmable logic controllers
2. Measuring instruments
3. Hybrid IC

**Outside Dimension:Unit (mm)**



TOLERANCE : ± 0.2mm

**Schematic:Top View**



1. Anode / Cathode
2. Cathode / Anode
3. Emitter
4. Collector

**Absolute Maximum Ratings**

(Ta=25°C)

| Parameter             |                            | Symbol             | Rating      | Unit    |
|-----------------------|----------------------------|--------------------|-------------|---------|
| Input                 | Forward current (DC)       | I <sub>F</sub>     | ± 50        | mA      |
|                       | Power dissipation derating | P <sub>D</sub> /°C | 0.6         | mW / °C |
|                       | Power dissipation          | P <sub>D</sub>     | 60          | mW      |
|                       | Peak forward current *1    | I <sub>FP</sub>    | ±1          | A       |
| Output                | Collector-emitter voltage  | V <sub>CEO</sub>   | 80          | V       |
|                       | Emitter-collector voltage  | V <sub>ECO</sub>   | 6           | V       |
|                       | Collector current          | I <sub>C</sub>     | 50          | mA      |
|                       | Power dissipation derating | P <sub>C</sub> /°C | 1.2         | mW / °C |
|                       | Total power dissipation    | P <sub>C</sub>     | 120         | mW      |
| Isolation voltage *2  |                            | V <sub>iso</sub>   | 2500        | Vrms    |
| Operating temperature |                            | T <sub>opr</sub>   | -30 to +100 | °C      |
| Storage temperature   |                            | T <sub>stg</sub>   | -55 to +150 | °C      |

\*1 PW=100 μs, duty cycle=1%

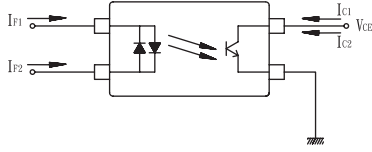
\*2 AC voltage for 1 minute at T<sub>A</sub>=25°C, RH=60% between input and output

**Electro-optical Characteristics**

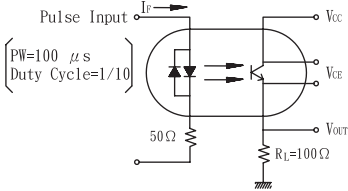
(Ta=25°C)

| Parameter                |   | Symbol                | Conditions   | MIN.               | TYP.             | MAX. | Unit |
|--------------------------|---|-----------------------|--|--------------------|------------------|------|------|
| Input                    | Forward voltage   | V <sub>F</sub>        | I <sub>F</sub> =± 5mA  |                    | 1.1              | 1.4  | V    |
|                          | Terminal capacitance                                      | C <sub>t</sub>        | V=0V, f=1.0MHZ   |                    | 60               |      | pF   |
| Output                   | Collector-emitter dark current                            | I <sub>CEO</sub>      | V <sub>CE</sub> =80V, I <sub>F</sub> =0mA                        |                    |                  | 100  | nA   |
| Transfer characteristics | Current transfer ratio (I <sub>C</sub> / I <sub>F</sub> ) | CTR                   | I <sub>F</sub> =± 5mA, V <sub>CE</sub> =5V                       | 80                 |                  | 600  | %    |
|                          | CTR ratio *1  | CTR1/CTR2             | I <sub>F</sub> =5mA, V <sub>CE</sub> =5V                         | 0.3                | 1.0              | 3.0  |      |
|                          | Collector saturation voltage                              | V <sub>CE (sat)</sub> | I <sub>F</sub> =± 10mA, I <sub>C</sub> =2mA                      | 施                  |                  | 0.3  | V    |
|                          | Isolation resistance                                      | R <sub>I-O</sub>      | V <sub>I-O</sub> =500VDC   | 5X10 <sup>10</sup> | 10 <sup>11</sup> |      | ohm  |
|                          | Floating capacitance                                      | C <sub>I-O</sub>      | V=0V, f=1.0MHZ   |                    | 0.4              |      | pF   |
|                          | Response time (Rise) *2                                   | t <sub>r</sub>        | V <sub>CE</sub> =5V, I <sub>C</sub> =2mA, R <sub>L</sub> =100ohm |                    | 3                |      | μS   |
|                          | Response time (Fall) *2                                   | t <sub>f</sub>        |  |                    | 5                |      | μS   |

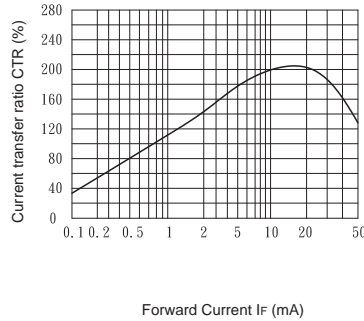
\*1  $CTR1=I_{c1} / I_{F1}$  ,  $CTR1=I_{c2} / I_{F2}$



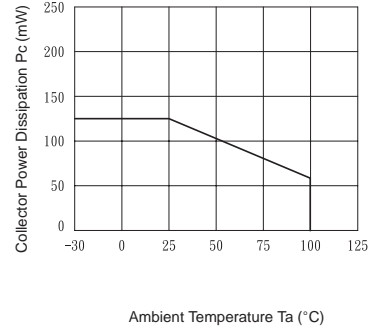
\*2 Test circuit for switching time



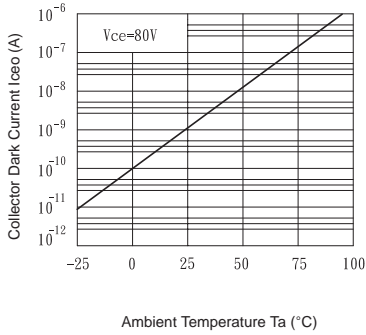
**Fig.1** Current Transfer Ratio vs. Forward Current



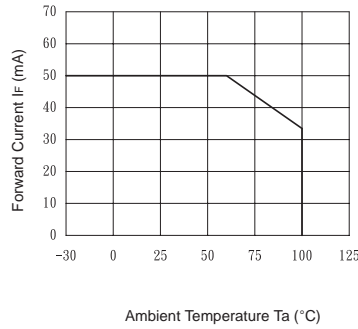
**Fig.2** Collector Power Dissipation vs. Ambient Temperature



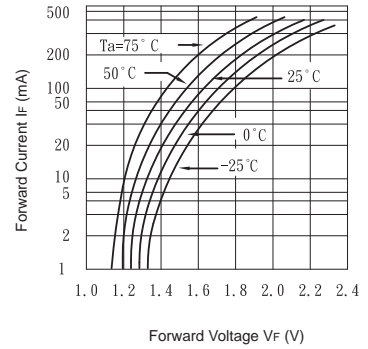
**Fig.3** Collector Dark Current vs. Ambient Temperature



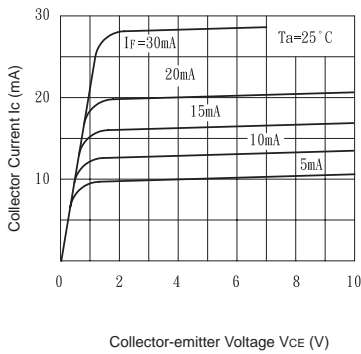
**Fig.4** Forward Current vs. Ambient Temperature



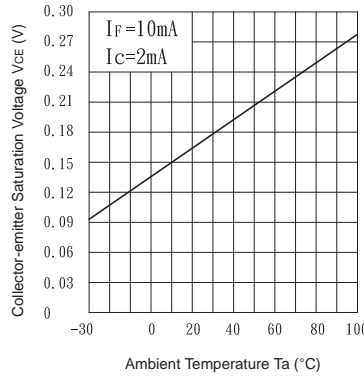
**Fig.5** Forward Current vs. Forward Voltage



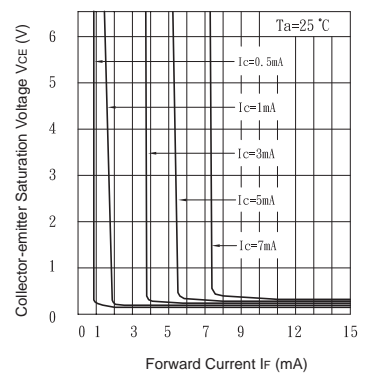
**Fig.6** Collector Current vs. Collector-emitter Voltage



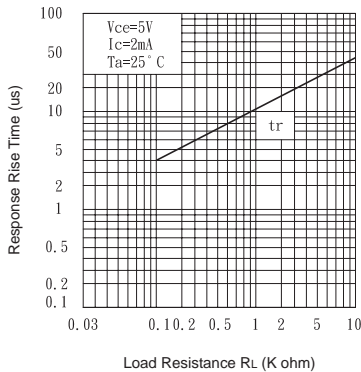
**Fig.7** Collector-emitter Saturation Voltage vs. Ambient Temperature



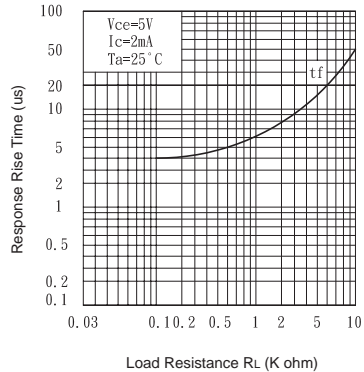
**Fig.8** Collector-emitter Saturation Voltage vs. Forward Current



**Fig.9** Response Time vs. Load Resistance



**Fig.10** Response Time vs. Load Resistance



**Fig.11** Relative Current Transfer Ratio vs. Ambient Temperature

