

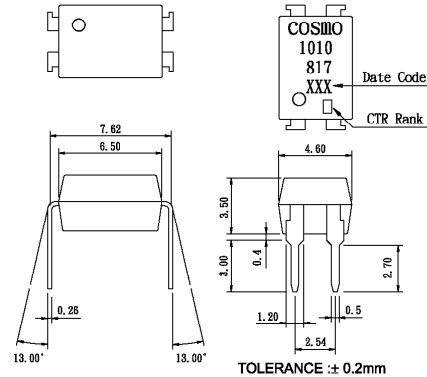
### Features

1. Current transfer ratio  
(CTR:MIN.50% at  $I_F=5mA$   $V_{ce}=5V$ )
2. High isolation voltage between input and output  
(Viso:5000Vrms).
3. Compact dual-in-line package.
4. Available package : DIP/ SMD/ H.

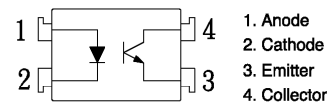
### Applications

1. Registers, copiers, automatic vending machines.
2. System appliances, measuring instruments.
3. Computer terminals, programmable controllers.
4. Communications, telephone, etc.
5. Electric home appliances, such as oil fan heaters, Microwave oven, Washer, Refrigerator, Air conditioner, etc.
6. Medical instruments, physical and chemical equipment.
7. Signal transmission between circuits of different potentials and impedances.
8. Facsimile equipment, Audio, Video.
9. Switching power supply, Laser beam printer.

### Outside Dimension : Unit (mm)



### Schematic : Top View



### Absolute Maximum Ratings

( $T_a=25^\circ C$ )

| Parameter                       | Symbol                      | Rating      | Unit |
|---------------------------------|-----------------------------|-------------|------|
| Input                           | Forward current             | $I_F$       | 50   |
|                                 | Peak forward current        | $I_{FM}$    | 1    |
|                                 | Reverse voltage             | $V_R$       | 6    |
|                                 | Power dissipation           | $P_D$       | 70   |
| Output                          | Collector-emitter voltage   | $V_{CEO}$   | 60   |
|                                 | Emitter-collector voltage   | $V_{ECO}$   | 6    |
|                                 | Collector current           | $I_C$       | 50   |
|                                 | Collector power dissipation | $P_C$       | 150  |
| Total power dissipation         | $P_{tot}$                   | 200         |      |
| Isolation voltage 1 minute      | Viso                        | 5000        |      |
| Operating temperature           | $T_{opr}$                   | -30 to +100 |      |
| Storage temperature             | $T_{stg}$                   | -55 to +125 |      |
| Soldering temperature 10 second | $T_{sol}$                   | 260         |      |

### Electro-optical Characteristics

( $T_a=25^\circ C$ )

| Parameter                | Symbol                               | Conditions                       | MIN.               | TYP.      | MAX. | Unit    |
|--------------------------|--------------------------------------|----------------------------------|--------------------|-----------|------|---------|
| Input                    | Forward voltage                      | $I_F=20mA$                       | —                  | 1.2       | 1.4  | V       |
|                          | Peak forward voltage                 | $I_{FM}=0.5A$                    | —                  | —         | 3.0  | V       |
|                          | Reverse current                      | $V_R=4V$                         | —                  | —         | 10   | $\mu A$ |
|                          | Terminal capacitance                 | $V=0, f=1kHz$                    | —                  | 30        | —    | pF      |
| Output                   | Collector dark current               | $V_{CE}=20V$                     | —                  | —         | 0.1  | $\mu A$ |
|                          | Current transfer ratio               | $I_F=5mA, I_C=2mA, V_{CE}=5V$    | 50                 | —         | 600  | %       |
| Transfer characteristics | Collector-emitter saturation voltage | $I_F=20mA, I_C=1mA$              | —                  | 0.1       | 0.2  | V       |
|                          | Isolation resistance                 | DC500V                           | $5 \times 10^{10}$ | $10^{11}$ | —    | ohm     |
|                          | Floating capacitance                 | $V=0, f=1MHz$                    | —                  | 0.6       | 1.0  | pF      |
|                          | Cut-off frequency                    | $V_{CC}=5V, I_C=2mA, R_L=100ohm$ | —                  | 80        | —    | kHz     |
|                          | Response time(Rise)                  | $V_{CE}=2V, I_C=2mA, R_L=100ohm$ | —                  | 4         | 18   | us      |
|                          | Response time(Fall)                  |                                  | —                  | 3         | 18   | us      |

Classification table of current transfer ratio is shown below.

| Model NO. | CTR (%)    |
|-----------|------------|
| A         | 80 TO 160  |
| B         | 130 TO 260 |
| C         | 200 TO 400 |
| D         | 300 TO 600 |
| E         | 50 TO 600  |

Fig.1 Current Transfer Ratio vs. Forward Current

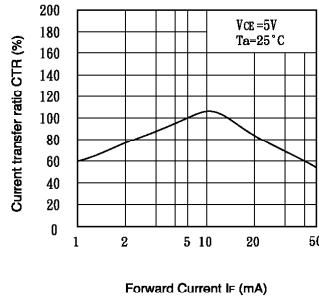


Fig.2 Collector Power Dissipation vs. Ambient Temperature

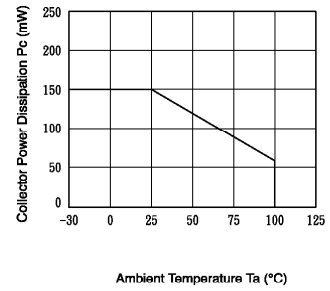


Fig.3 Collector Dark Current vs. Ambient Temperature

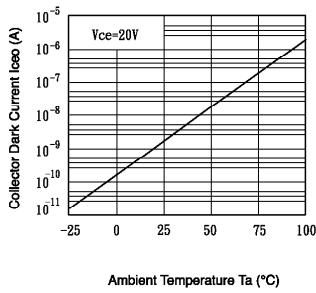


Fig.4 Forward Current vs. Ambient Temperature

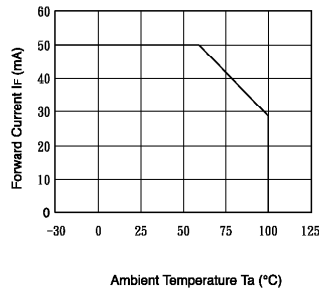


Fig.5 Forward Current vs. Forward Voltage

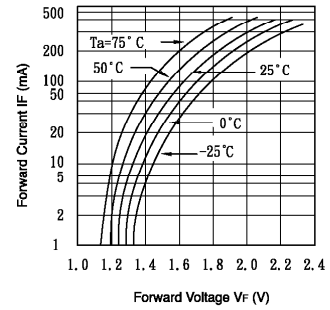


Fig.6 Collector Current vs. Collector-emitter Voltage

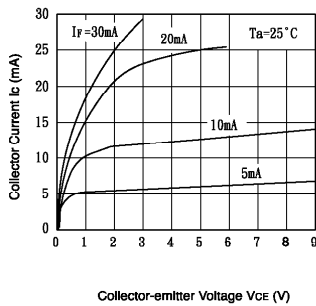


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

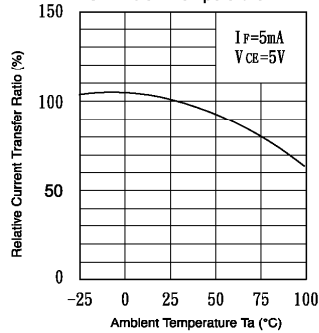


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

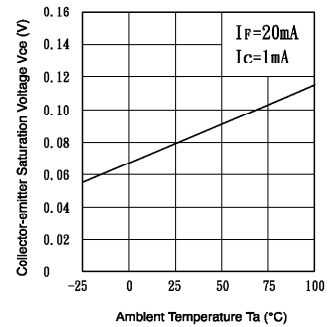


Fig.9 Collector-emitter Saturation Voltage vs. Forward Current

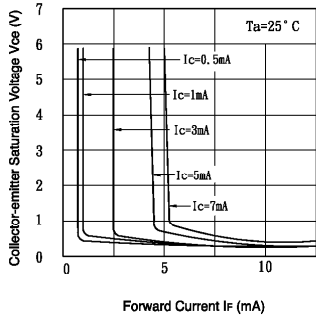


Fig.10 Response Time vs. Load Resistance

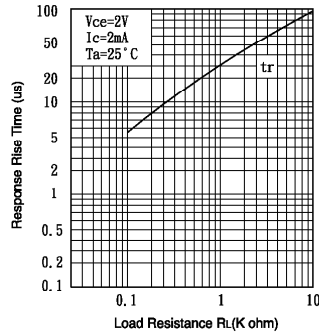


Fig.11 Response Time vs. Load Resistance

