

Features

1. Opaque type, mini-flat package.
2. Subminiature type
(The volume is smaller than that of our conventional DIP type by as far as 30%).
3. Current transfer ratio
(CTR:MIN.50% at $I_F=5mA$, $V_{ce}=5V$)
4. Isolation voltage between input and output (Viso:3750Vrms).

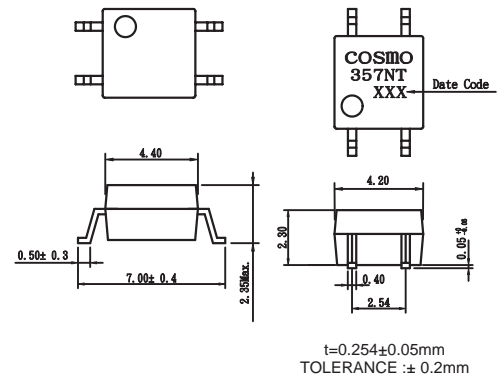
Applications

1. Hybrid substrates that require high density mounting.
2. Programmable controllers.

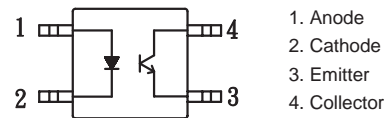
Classification table of current transfer ratio is shown below.

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

Outside Dimension : Unit (mm)



Schematic : Top View



Absolute Maximum Ratings

(Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|----------------------------------|-----------------------------|-------------|--------|
| Input | Forward current | I_F | 50 mA |
| | Peak forward current | I_{FM} | 1 A |
| | Reverse voltage | V_R | 6 V |
| | Power dissipation | P | 70 mW |
| Output | Collector-emitter voltage | V_{CEO} | 60 V |
| | Emitter-collector voltage | V_{ECO} | 5 V |
| | Collector current | I_C | 50 mA |
| | Collector power dissipation | P_C | 150 mW |
| Total power dissipation | P_{tot} | 170 mW | |
| Isolation voltage 1 minute | Viso | 3750 | Vrms |
| Operating temperature | T_{opr} | -30 to +100 | °C |
| Storage temperature | T_{stg} | -40 to +125 | °C |
| Soldering temperature 10 seconds | T_{sol} | 260 | °C |

Electro-optical Characteristics

(Ta=25°C)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|--------------------------|--------------------------------------|----------------------------------|--------------------|-----------|------|------|
| Input | Forward voltage | $I_F=20mA$ | — | 1.2 | 1.4 | V |
| | Reverse current | $V_R=4V$ | — | — | 10 | uA |
| | Terminal capacitance | $V=0, f=1kHz$ | — | 30 | 250 | pF |
| Output | Collector dark current | $V_{CE}=20V, I_F=0$ | — | — | 0.1 | uA |
| | Collector-emitter breakdown voltage | $I_C=0.1mA, I_F=0$ | 60 | — | — | V |
| | Emitter-collector breakdown voltage | $I_E=100uA, I_F=0$ | 5 | — | — | V |
| Transfer characteristics | Current transfer ratio | $I_F=5mA, V_{CE}=5V$ | 50 | — | 600 | % |
| | Collector-emitter saturation voltage | $I_F=20mA, I_C=1mA$ | — | 0.1 | 0.3 | V |
| | Isolation resistance | DC500V, 40 to 60%RH | 5×10^{10} | 10^{11} | — | ohm |
| | Floating capacitance | $V=0, f=1MHz$ | — | 0.6 | 1.0 | pF |
| | Response time (Rise) | $V_{CE}=2V, I_C=2mA, R_L=100ohm$ | — | 5 | 20 | us |
| | Response time (Fall) | | — | 4 | 20 | us |

Fig.1 Forward Current vs. Ambient Temperature

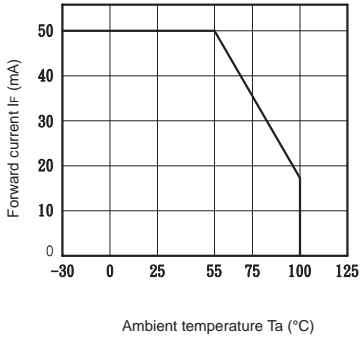


Fig.2 Diode Power Dissipation vs. Ambient Temperature

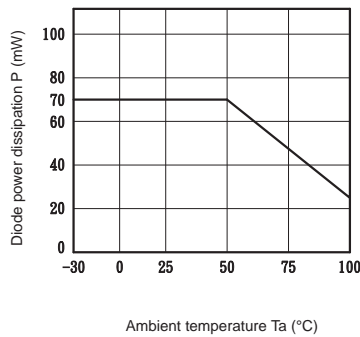


Fig.3 Collector Power Dissipation vs. Ambient temperature

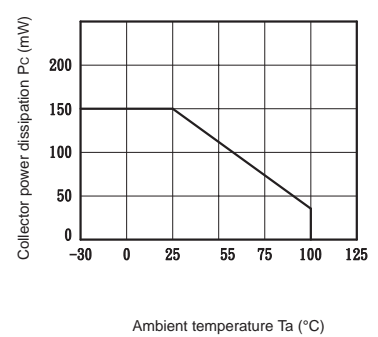


Fig.4 Total Power Dissipation vs. Ambient temperature

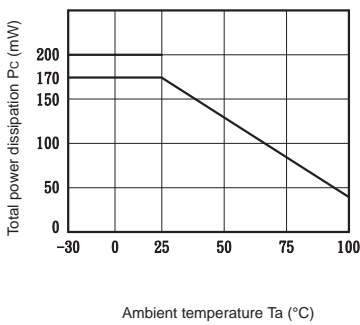


Fig.5 Peak Forward Current vs. Duty Ratio

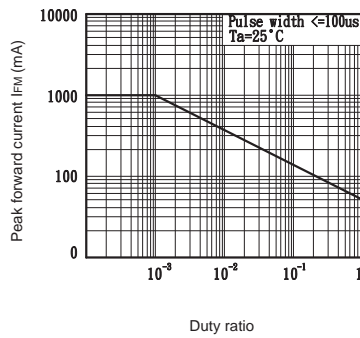


Fig.6 Forward Current vs. Forward Voltage

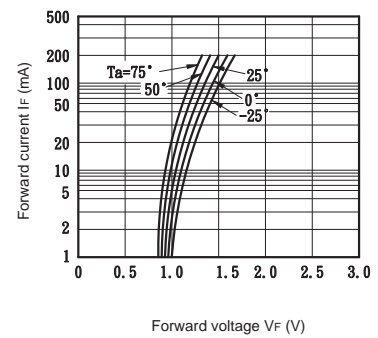


Fig.7 Current Transfer Ratio vs. Forward Current

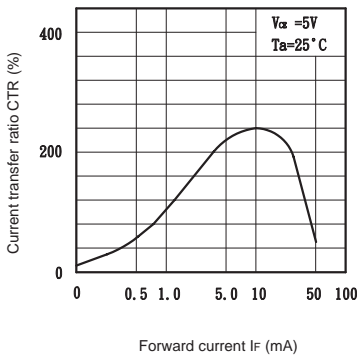


Fig.8 Collector Current vs. Collector-emitter Voltage

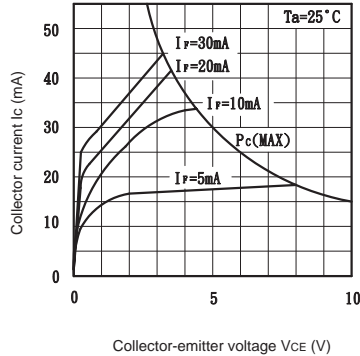


Fig.9 Relative Current Transfer Ratio vs. Ambient Temperature

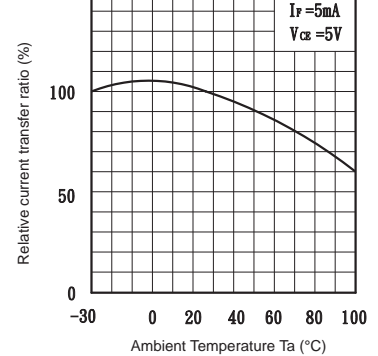


Fig.10 Collector-emitter Saturation Voltage vs. Ambient Temperature

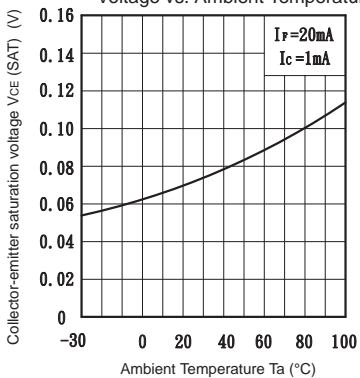


Fig.11 Collector Dark Current vs. Ambient Temperature

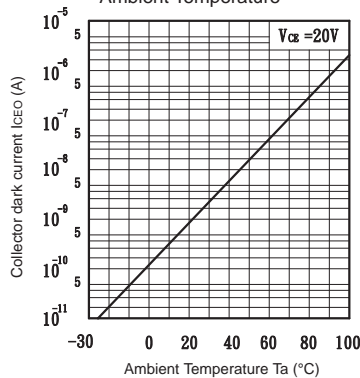


Fig.12 Response Time vs. Load Resistance

