



DESCRIPTION

The SDT400 consists of a phototransistor optically coupled to a light emitting diode. Optical coupling between the input LED and output phototransistor allows for high isolation levels while maintaining low-level DC signal control capability. The SDT400 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

FEATURES

- High input-to-output isolation package (5000 Vrms)
- Low input power consumption
- High stability
- Miniature 4 pin DIP package
- CTR Range 50-600%

APPLICATIONS

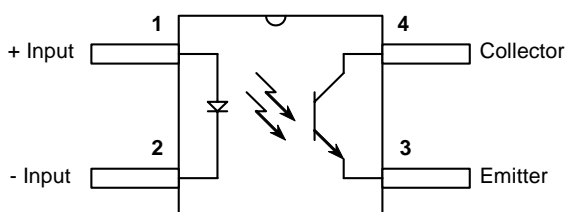
- Registers, copiers, Automatic Vending Machines
- System appliances, measuring instruments
- Computer terminals, PLCs
- Telecommunications, telephones
- Home Appliances
- Digital logic inputs
- Microprocessor inputs
- Switching power supply

OPTIONS/SUFFIXES*

- -H .04" (10.16mm) lead spacing (VDE0884)
- -S Surface Mount Option
- -TR Tape and Reel Option

NOTE: Suffixes listed above are not included in marking on device for part number identification.

SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS*

| PARAMETER | UNIT | MIN | TYP | MAX |
|-------------------------------|------|-----|-----|-----|
| Storage Temperature | °C | -55 | | 125 |
| Operating Temperature | °C | -40 | | 100 |
| Input Forward Current | mA | | | 50 |
| Input Peak Forward Current | A | | | 1 |
| Reverse Input Control Voltage | V | | | 6 |
| Total Power Dissipation | mW | | | 200 |

*The values indicated are absolute stress ratings. Functional operation of the device is not implied at these or any conditions in excess of those defined in electrical characteristics section of this document. Exposure to Absolute Ratings may cause permanent damage to the device and may adversely affect reliability.

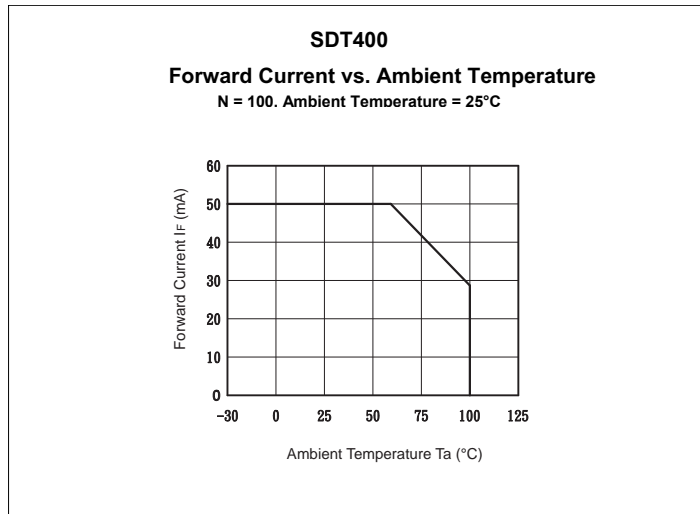
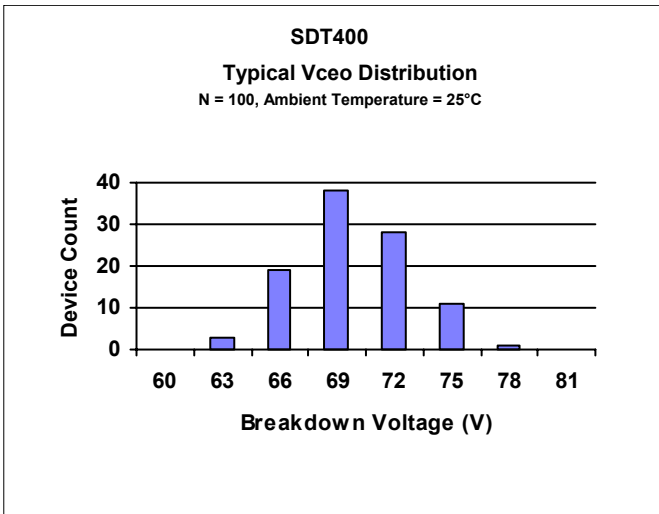
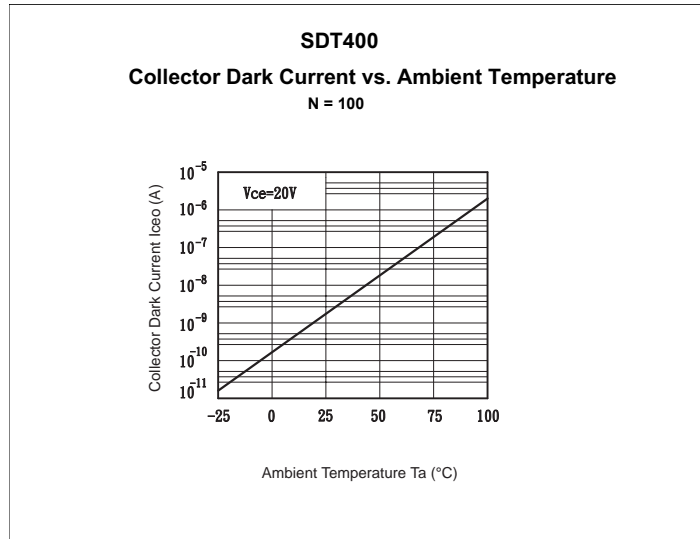
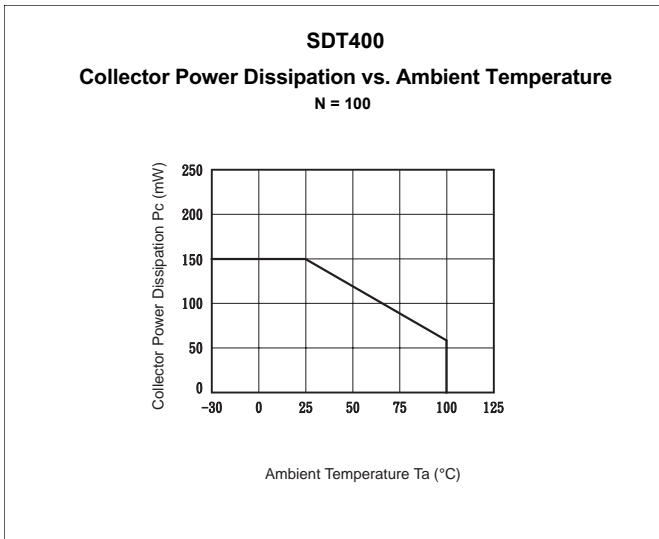
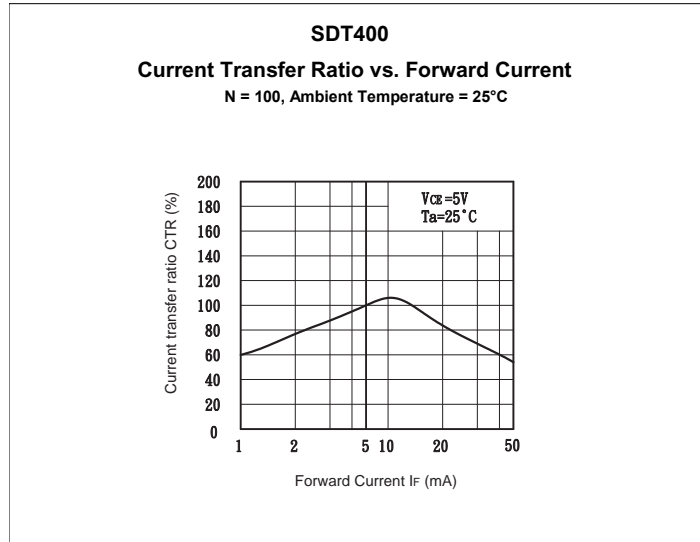
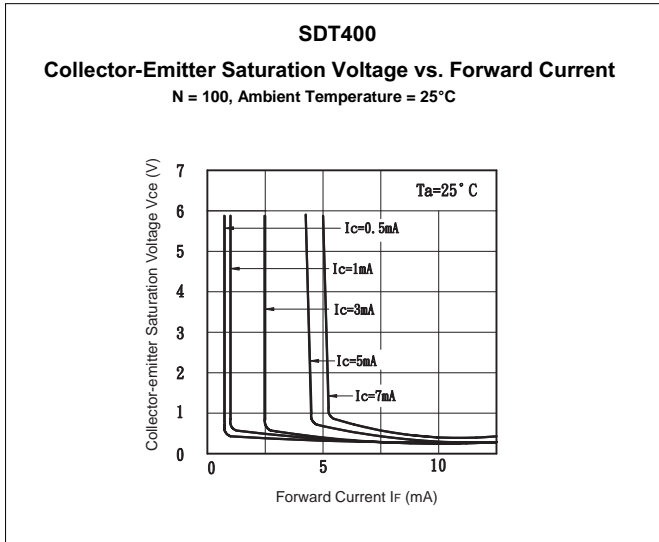
APPROVALS

- UL and C-UL Approved, File #E201932
- VDE Approved, Lic # 40011227

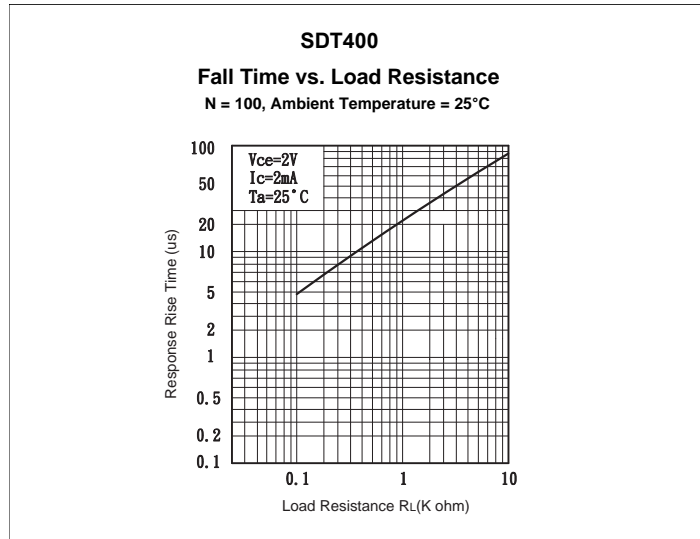
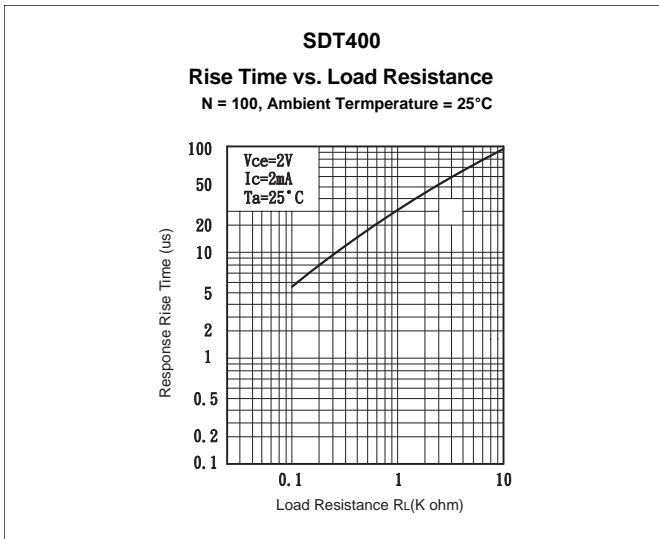
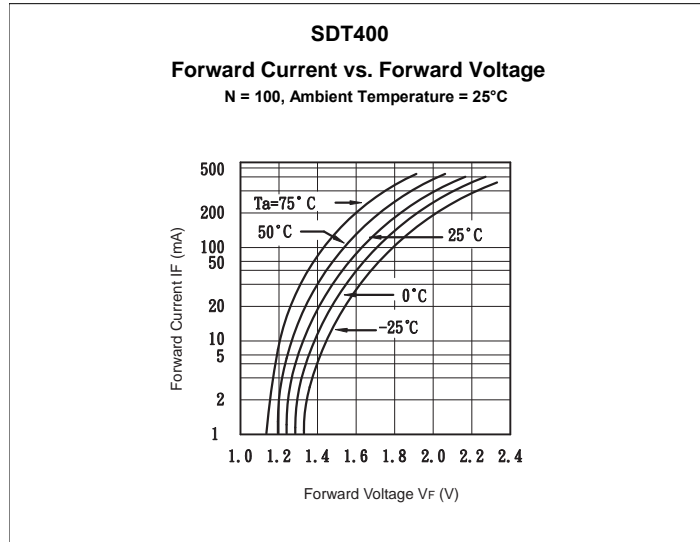
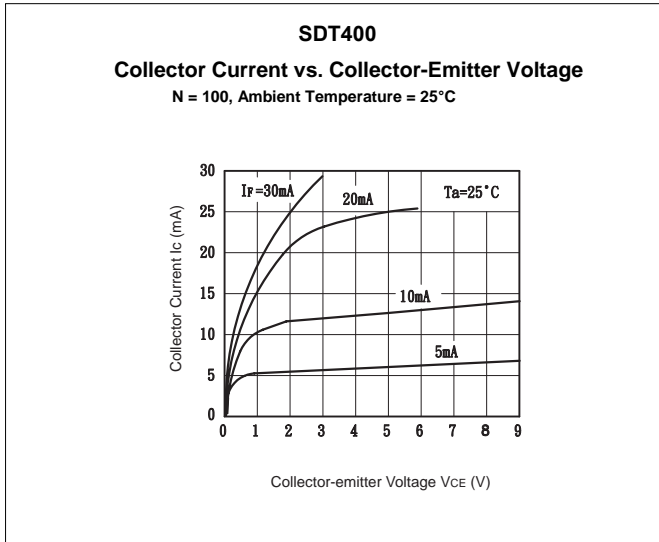
ELECTRICAL CHARACTERISTICS - 25°C

| PARAMETER | UNIT | MIN | TYP | MAX | TEST CONDITIONS |
|-------------------------------------|------|------|-----|-----|-----------------------------------|
| INPUT SPECIFICATIONS | | | | | |
| Forward Voltage | V | | 1.2 | 1.4 | If = 20mA |
| Reverse Current | μ A | | | 10 | Vr = 4V |
| OUTPUT SPECIFICATIONS | | | | | |
| Collector-Emitter Breakdown Voltage | V | 60 | | | Ic = 10uA |
| Emitter-Collector Breakdown Voltage | V | 6 | | | Ie = 10uA |
| Dark Current | μ A | | | 0.1 | Vce = 20V |
| Floating Capacitance | p F | | 0.6 | 1 | V = 0, f=1MHz |
| Saturation Voltage | V | | 0.1 | 0.2 | If = 20mA, Ic = 1mA |
| Current Transfer Ratio | % | 50 | | 600 | If = 5mA, Vce = 5V |
| Rise Time | μ s | | 4 | | Ic = 2mA, Vcc = 2V, Rc = 100 ohms |
| Fall Time | μ s | | 3 | | Ic = 2mA, Vcc = 2V, Rc = 100 ohms |
| COUPLED SPECIFICATIONS | | | | | |
| Isolation Voltage | V | 5000 | | | T = 1 minute |
| Isolation Resistance | G Ω | 50 | | | |
| CTR CLASSIFICATION | | | | | |
| -A | % | 60 | | 160 | |
| -B | % | 130 | | 260 | |
| -C | % | 200 | | 400 | |
| -D | % | 300 | | 600 | |
| -E | % | 50 | | 600 | |

PERFORMANCE DATA

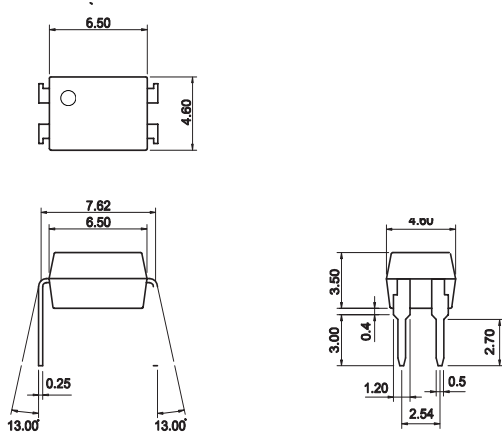


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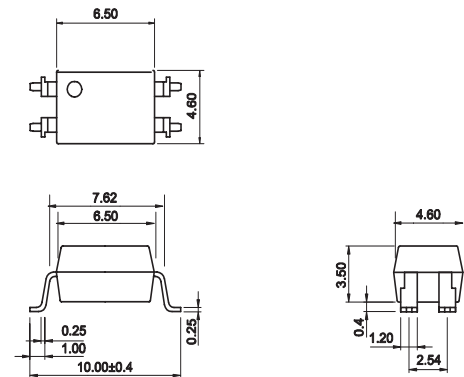
MECHANICAL DIMENSIONS

4 PIN DUAL IN-LINE PACKAGE (SDT400)



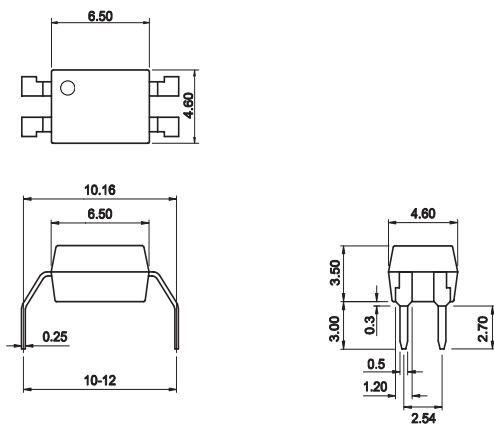
TOLERANCE : $\pm 0.2\text{mm}$

4 PIN SURFACE MOUNT DEVICE (SDT400-S)



TOLERANCE : $\pm 0.2\text{mm}$

4 PIN H TYPE WITH 0.4" LEAD SPACING (SDT400-H)



TOLERANCE : $\pm 0.2\text{mm}$

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