



## 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 (CTR:MIN 50% at  $I_f=5\text{mA}$   $V_{ce}=5\text{V}$ )

## 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, laser beam printers, etc.

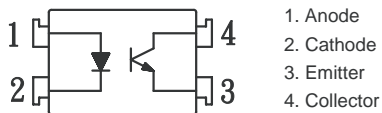
## OPTIONS/SUFFIXES

- -H 0.4" Lead Spacing Option
- -S Surface Mount Option
- -TR Tape and Reel Option

## 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

## SCHEMATIC DIAGRAM



## APPROVALS

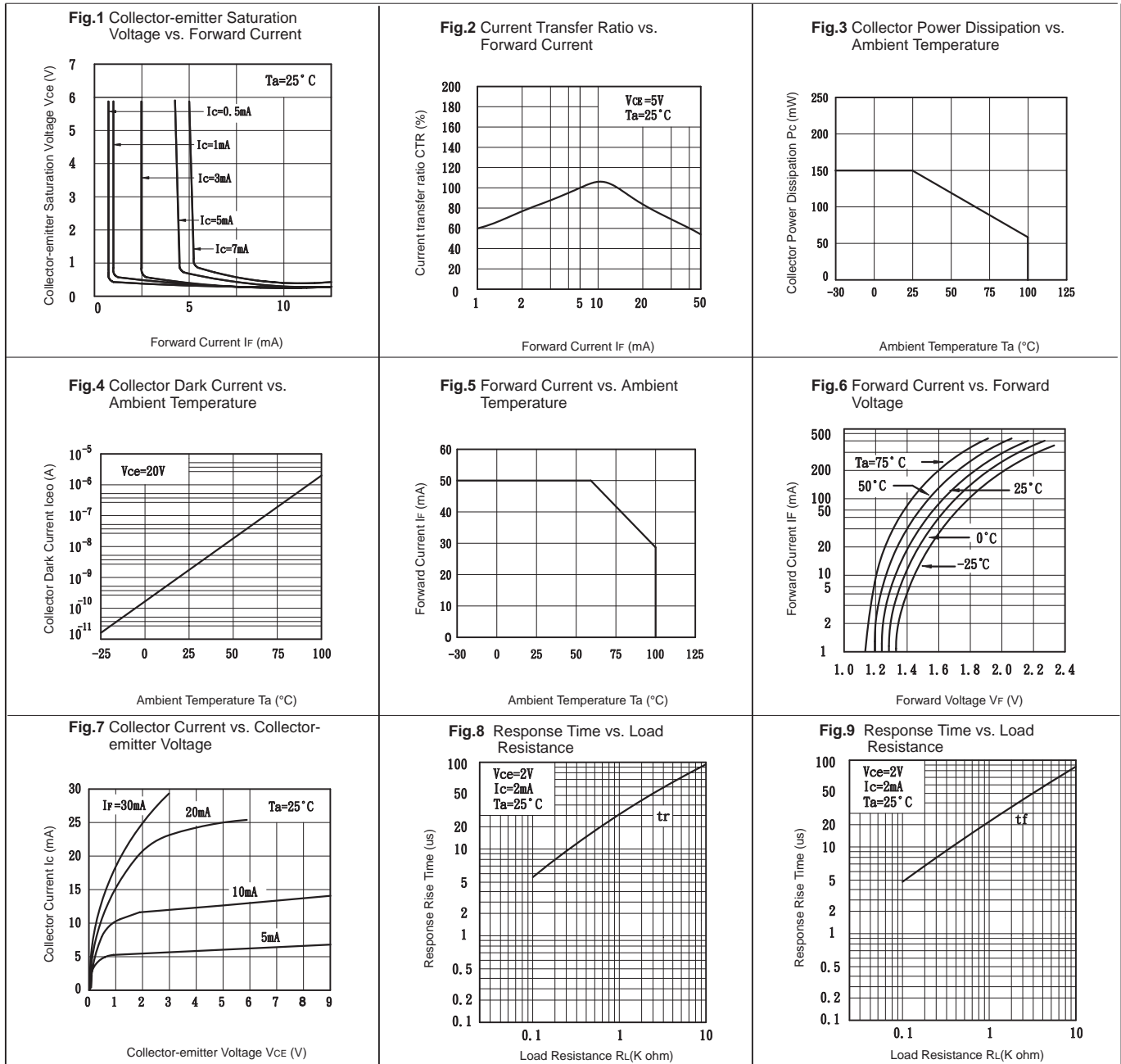
- UL and C-UL Approved, File #E201932
- VDE Approved , License #40011227


**ELECTRICAL CHARACTERISTICS - 25°**

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



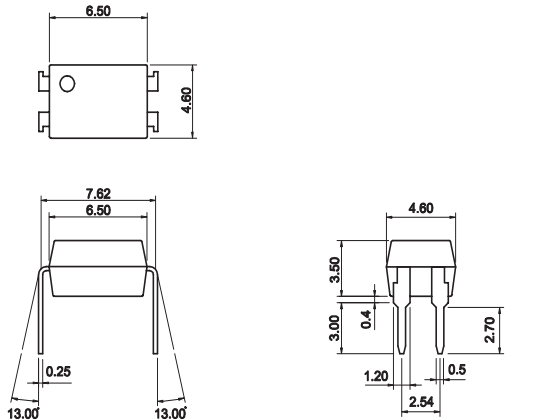
PERFORMANCE DATA





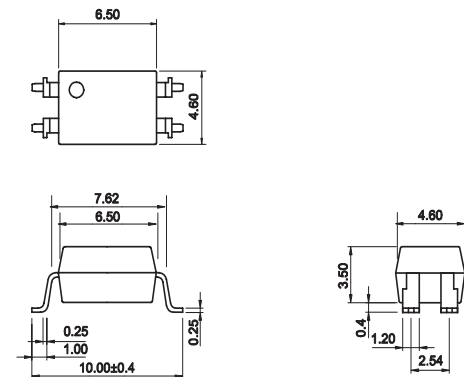
**MECHANICAL DIMENSIONS (Unit in: mm)**

**4 PIN DUAL IN-LINE PACKAGE (SDT400)**



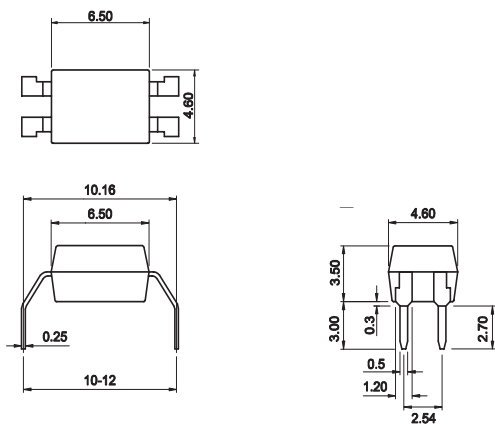
TOLERANCE :  $\pm 0.2$ mm

**4 PIN SURFACE MOUNT DEVICE (SDT400-S)**



TOLERANCE :  $\pm 0.2$ mm

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



TOLERANCE :  $\pm 0.2$ mm