

DC Input Optocoupler

#### DESCRIPTION

The SDT450 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 SDT450 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

#### FEATURES

- Ultra miniature 4-pin small outline package
- High input-to-output isolation package (3,750 Vrms)
- CTR Range: 50%-600%

### **APPLICATIONS**

- Home Appliances
- Office Automation Equipment

ABSOLUTE MAXIMUM RATINGS\*

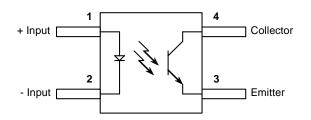
- Vending Machines
- Digital logic inputs
- Power Supplies

#### **OPTIONS/SUFFIXES\***

• -TR Tape and Reel

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

#### SCHEMATIC DIAGRAM



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PARAMETER	UNIT	MIN	ТҮР	MAX
Storage Temperature	°C	-55		125
Operating Temperature	°C	-40		100
Input Forward Current	mA			50
Input Peak Forwad Current	A			1
Reverse Input Voltage	V			6
Total Power Dissipation	mW			170

\*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 / C-UL Approved File #E201932



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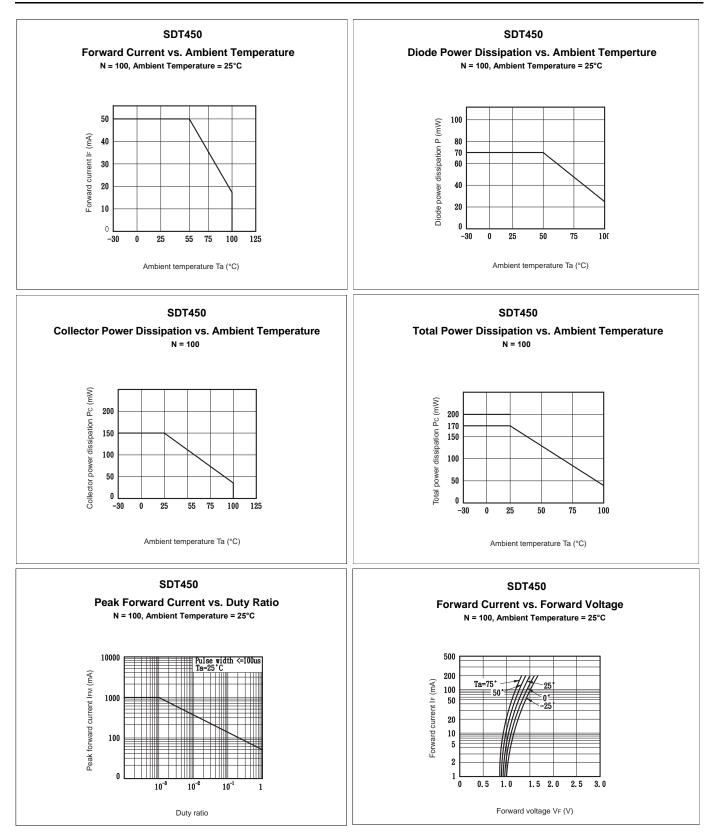
### ELECTRICAL CHARACTERISTICS - 25°C

PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
FARAWETER			TIF	WIAA	TEST CONDITIONS
INPUT SPECIFICATIONS					
Forward Voltage	V		1.2	1.4	lf = 20mA
Reverse Current	μA			10	Vr = 4V
Terminal Capacitance	рF		30	250	V = 0, f = 1KHz
OUTPUT SPECIFICATIONS					
Collector-Emitter Breakdown Voltage	V	60			lc = 10uA, lf = 0
Emitter-Collector Breakdown Voltage	V	5			lf = 100uA, lf = 0
Collector Dark Current	μA			0.1	Vce = 20V, If = 0
Floating Capacitance	рF		0.6	1	V= 0V, f = 1.0 MHz
Vce Saturation Voltage	V		0.1	0.3	If = 20mA, Ic = 1mA
Current Transfer Ratio	%	50		600	If = 5mA, Vce = 5V
Rise Time	μs		5	20	Ic= 2mA, Vce =2V, RL = 100ohms
Fall Time	μS		4	20	Ic= 2mA, Vce = 2V, RL = 100 ohms
COUPLED SPECIFICATIONS					
Isolation Voltage	V	3750			T = 1 minute
Isolation Resistance	GΩ	50			DC500V
CTR CLASSIFICATION					
-A	%	80		160	
-В	%	130		260	
-C	%	200		400	
-D	%	300		600	
-E	%	50		600	



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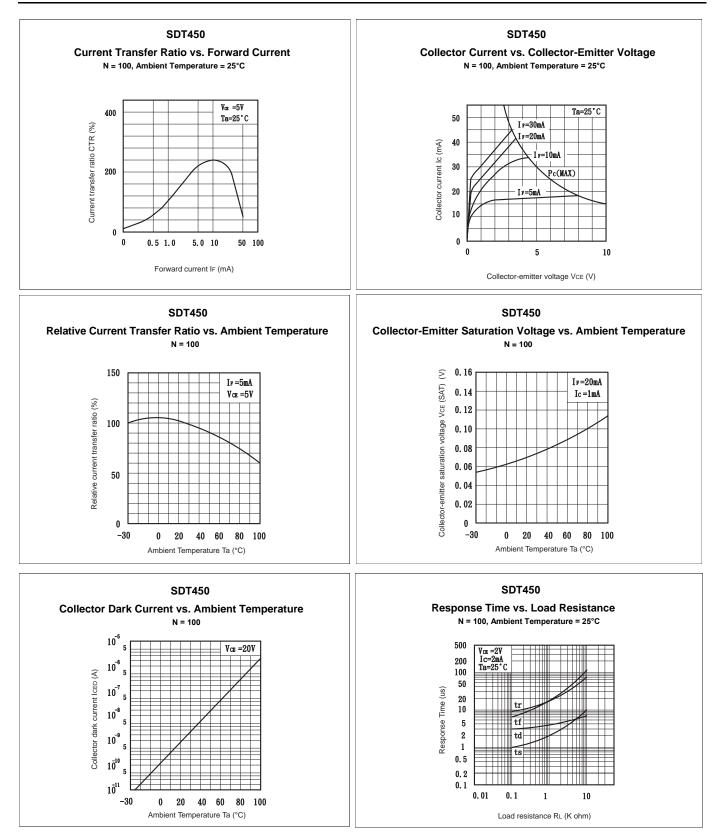
### PERFORMANCE DATA





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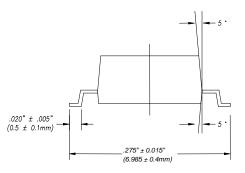




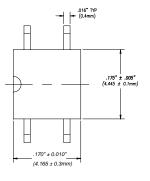
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#### MECHANICAL DIMENSIONS

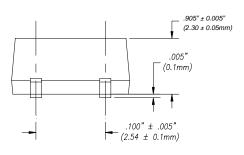
### 4 PIN SMALL OUTLINE PACKAGE







TOP VIEW



BACK VIEW



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