



DESCRIPTION

The SDT600 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 SDT600 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

FEATURES

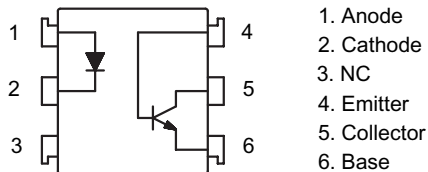
- High input-to-output isolation package (5000 Vrms)
- Low input power consumption
- High stability
- 6 Pin DIP Package w/output Base Connection
- CTR range 50-600%

OPTIONS/SUFFIXES*

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

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

SCHEMATIC DIAGRAM



APPLICATIONS

- Switch mode power supplies
- Copiers, registers, vending machines
- Computer terminals, PLCs
- Telecom / Datacom
- Home appliances
- Digital logic inputs

ABSOLUTE MAXIMUM RATINGS*

PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	°C	-55		125
Operating Temperature	°C	-40		100
Continuous Input Current	mA			50
Transient Input Current	A			1
Reverse Input Control Voltage	V			6
Output Power Dissipation	mW			500

*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
- VDE Approved, Lic 40011227

ELECTRICAL CHARACTERISTICS - 25°C

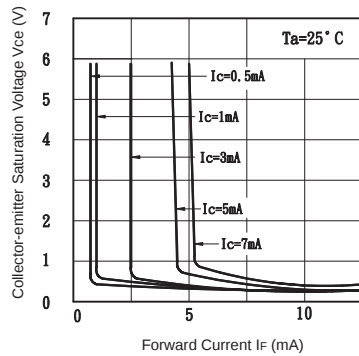
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
Forward Voltage	V		1.2	1.4	If = 20mA
Reverse Current	μ A			10	Vr = 4V
OUTPUT SPECIFICATIONS					
Collector-Emitter Breakdown Voltage	V	60			Ic = 10uA
Emitter-Collector Breakdown Voltage	V	6			Ie = 10uA
Dark Current	μ A			0.1	Vce = 20V
Floating Capacitance	p F		0.6	1	V = 0V, f=1.0MHz
Saturation Voltage	V		0.1	0.3	If = 20mA, Ic = 1mA
Current Transfer Ratio	%	60		600	If = 2mA, Vce = 5V
Rise Time	μ s		5		Ic = 2mA, Vcc = 5V, Rc = 100 ohms
Fall Time	μ s		4		Ic = 2mA, Vcc = 5V, 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	%	60		600	

PERFORMANCE DATA

SDT600

Collector-Emitter Saturation Voltage vs. Forward Current

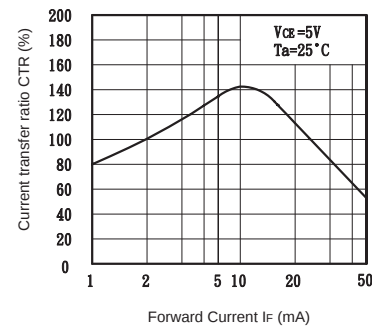
N = 100, Ambient Temperature = 25°C



SDT600

Current Transfer Ratio vs. Forward Current

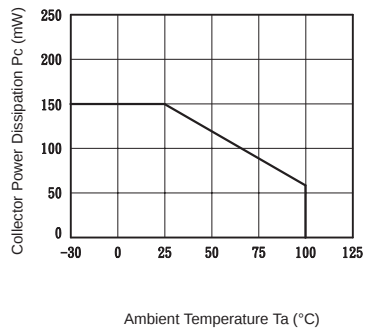
N = 100, Ambient Temperature = 25°C



SDT600

Collector Power Dissipation vs. Ambient Temperature

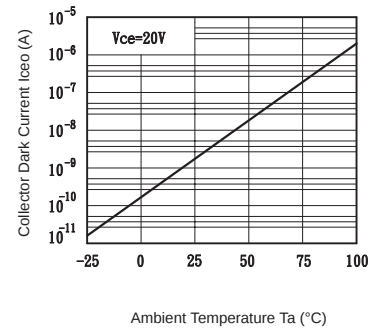
N = 100



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Collector Dark Current vs. Ambient Temperature

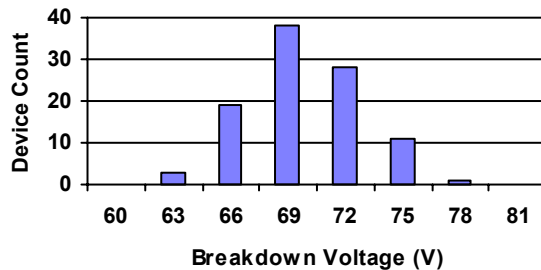
N = 100



SDT600

Typical Vceo Distribution

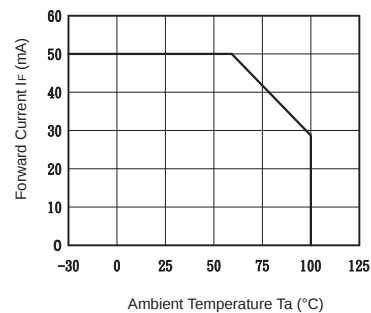
N = 100, Ambient Temperature = 25°C



SDT600

Forward Current vs. Ambient Temperature

N = 100, Ambient Temperature = 25°C

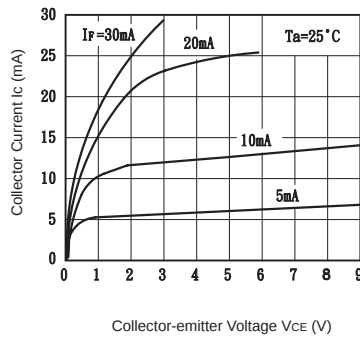


PERFORMANCE DATA

SDT600

Collector Current vs. Collector-Emitter Voltage

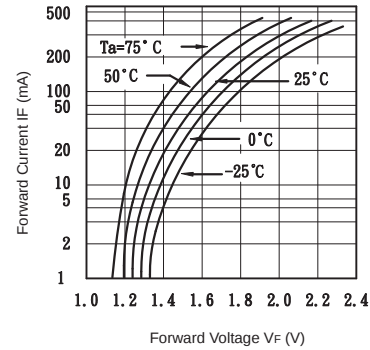
N = 100, Ambient Temperature = 25°C



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Forward Current vs. Forward Voltage

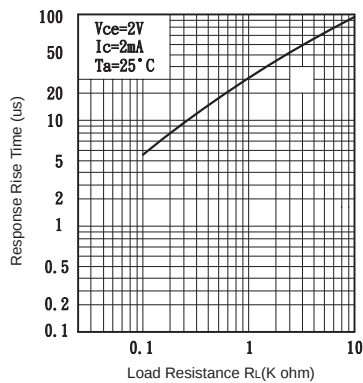
N = 100, Ambient Temperature = 25°C



SDT600

Rise Time vs. Load Resistance

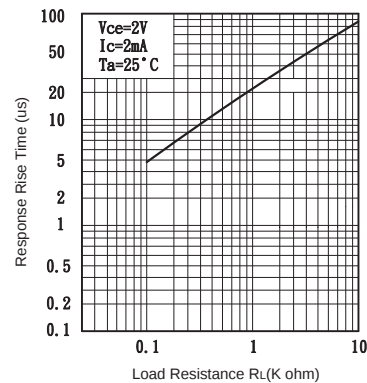
N = 100, Ambient Temperature = 25°C



SDT600

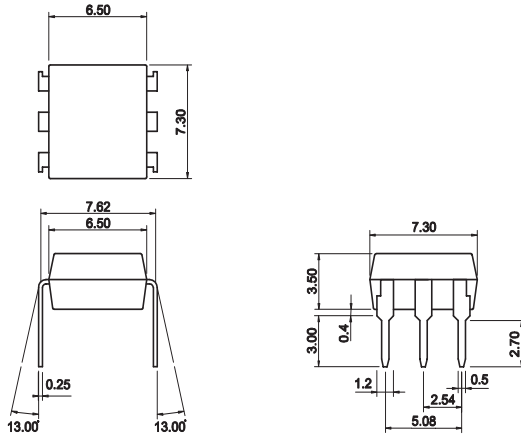
Fall Time vs. Load Resistance

N = 100, Ambient Temperature = 25°C

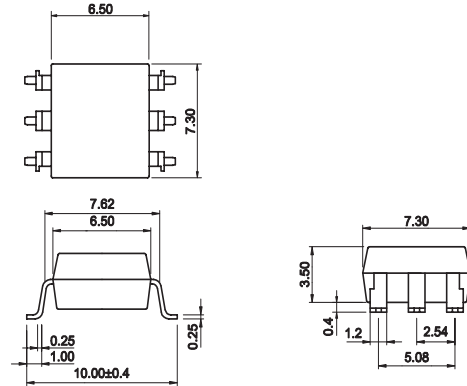


MECHANICAL DIMENSIONS (in mm)

6 PIN DUAL IN-LINE PACKAGE (SDT600)

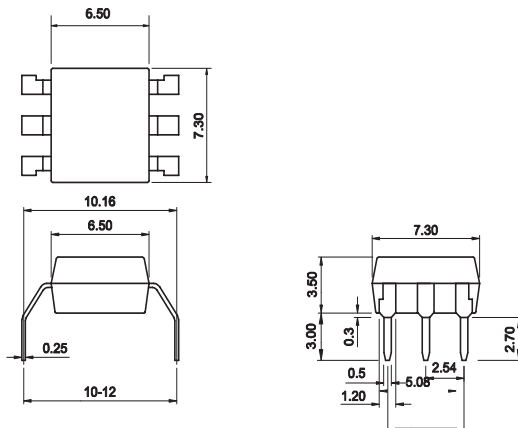


6PIN SURFACE MOUNT DEVICE (SDT600-S)



TOLERANCE :+ 0.25mm

6 PIN H TYPE WITH 0.4" LEAD SPACING (SDT600-H)



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