SOLID STATE OPTRONICS

SDD800




DC Input
Optocoupler

DESCRIPTION

The SDD800 is composed of two distinct optically isolated optocouplers in one compact 8 PDIP package. Each optocoupler consists of a Photo Darlington transistor optically coupled to an AlGaAs LED. Optical coupling between the input LED and output Photo Darlington allows for high isolation levels while maintaining low-level DC signal control capability. The SDD800 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

FEATURES

- Two isolated optocouplers in one compact 8 pin DIP package
- High Load Voltage (Vceo = 300V MIN)
- High current transfer ratio (600-9000%)
- High input-to-output isolation package (5,000 Vrms)

APPLICATIONS

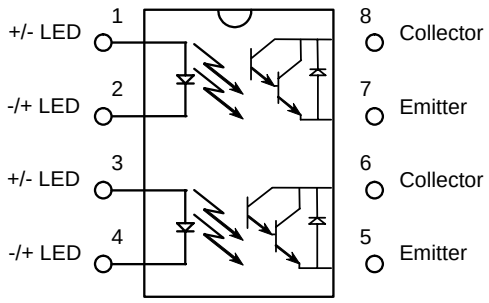
- Home Appliances
- Office Automation Equipment
- Telecom / Datacom
- Power Supplies
- Fax / Modems

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	ºC	-55		125
Operating Temperature	ºC	-40		100
Continuous Forward Current	mA			50
Peak Forward Current	A			1
Reverse Voltage	V			6
Output 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 / C-UL Approved, File # E201932
- VDE Approved, License # 40011227

ELECTRICAL CHARACTERISTICS - 25°C

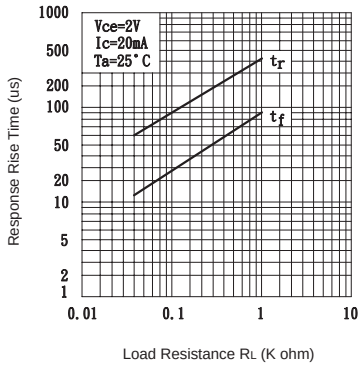
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.4	If = 20mA
Peak Forward Voltage	V			3.5	Ifm = 0.5A
Reverse Current	μA			10	Vr = 4V
Terminal Capacitance	pF		30		V = 0, f = 1kHz
OUTPUT SPECIFICATIONS					
Collector-Emitter Breakdown Voltage	V	300			Ic = 10uA
Emitter-Collector Voltage	V	0.1			Ie = 10uA
Dark Current	μA			1	Vce = 200V, If = 0
Floating Capacitance	pF		0.6	1	Vce = 0V, f = 1.0MHz
Saturation Voltage (Collector - Emitter)	V			1.5	If = 20mA, Ic = 5mA
Current Transfer Ratio	%	600		9000	If = 1mA, Vce = 2V
Rise Time	μs		60		Ic = 20mA, Vce = 2V, RL = 100 ohms
Fall Time	μs		50		Ic = 20mA, Vce = 2V, RL = 100 ohms
COUPLED SPECIFICATIONS					
Isolation Voltage	V	5000			T = 1 minute
Isolation Resistance	GΩ	50			DC 500V
Cut off Frequency	kHz		7		Ic = 2mA, Vcc = 5V, RL = 100 ohms

PERFORMANCE DATA

SDD800

Response Time vs. Load Resistance

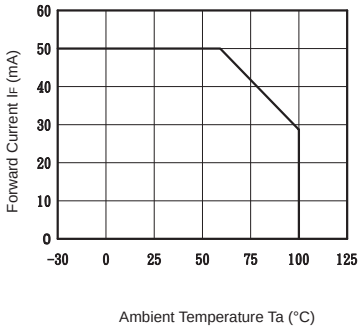
N = 100, Ambient Temperature = 25°C



SDD800

Forward Current vs. Ambient Temperature

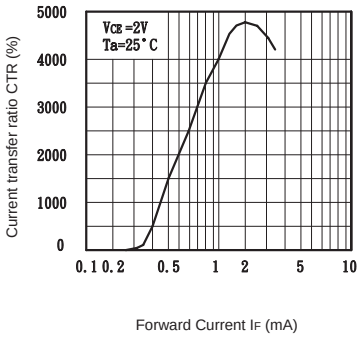
N = 100



SDD800

Current Transfer Ratio vs. Forward Current

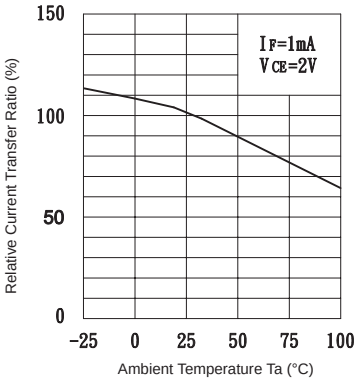
N = 100, Ambient Temperature = 25ºC



SDD800

Relative Current Transfer Ratio vs. Ambient Temperature

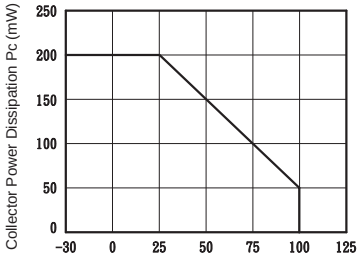
N = 100



SDD800

Collector Power Dissipation vs. Ambient Temperature

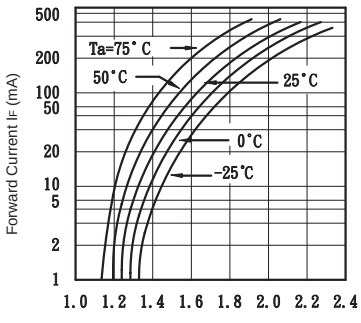
N = 100



SDD800

Forward Current vs. Forward Voltage

N = 100, Ambient Temperature = 25ºC

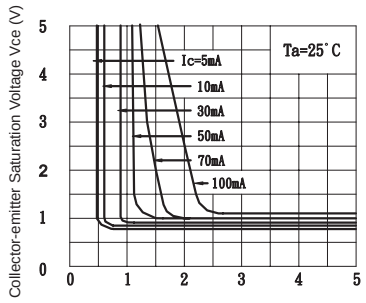


PERFORMANCE DATA

SDD800

Collector - Emitter Saturation Voltage vs. Forward Current

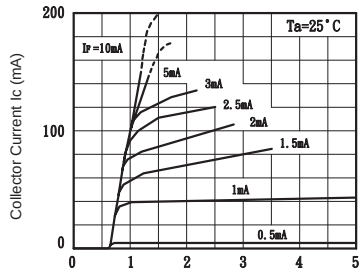
N = 100, Ambient Temperature = 25°C



SDD800

Collector Current vs. Collector-Emitter Voltage

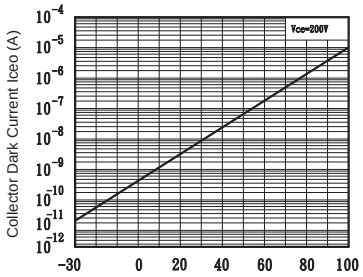
N = 100, Ambient Temperature = 25°C



SDD800

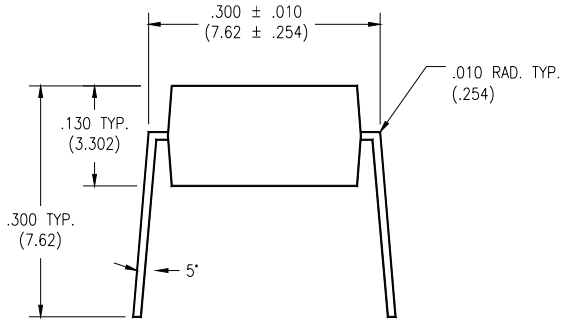
Collector Dark Current vs. Ambient Temperature

N = 100

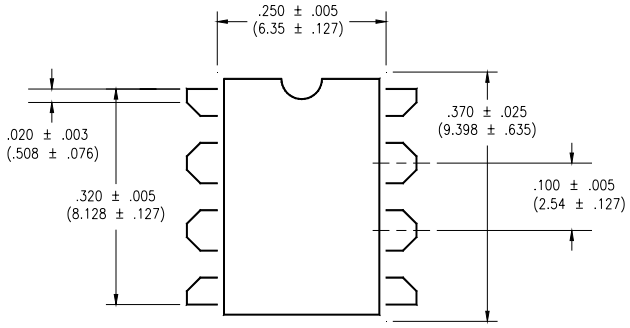


MECHANICAL DIMENSIONS

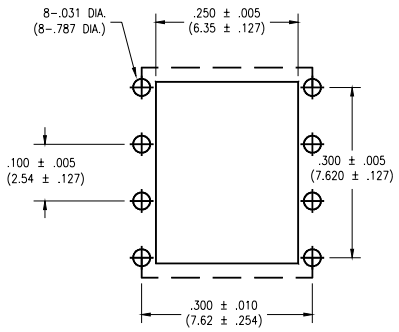
8 PIN DUAL IN-LINE PACKAGE



END VIEW

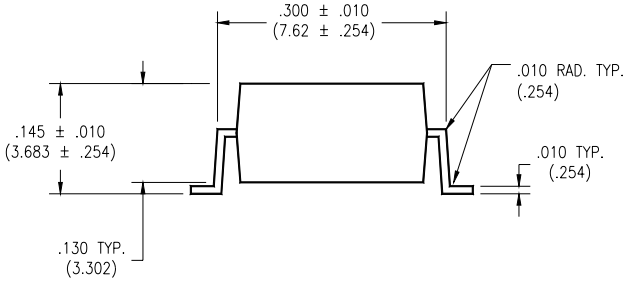


TOP VIEW

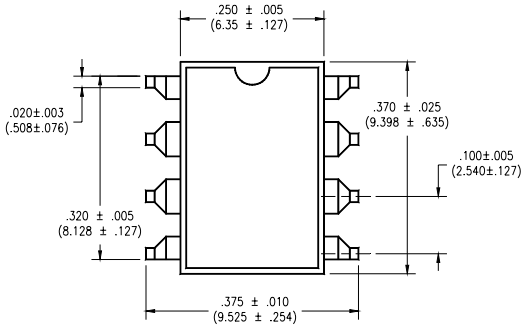


BOTTOM VIEW/
BOARD PATTERN

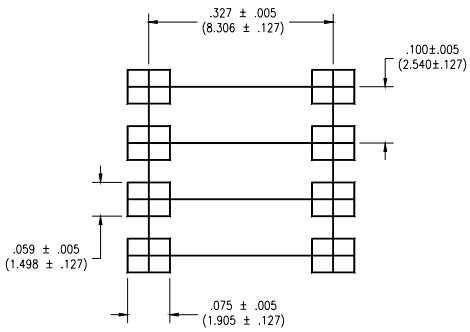
8 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
BOARD PATTERN

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