



DC Input
Photo-Darlington Optocoupler

DESCRIPTION

The SDD450 consists of a Photo Darlington transistor optically coupled to a light emitting diode. Optical coupling between the input LED and output Photo Darlington allows for high isolation levels while maintaining low-level DC signal control capability. The SDD450 provides an optically isolated method of controlling many interface applications such as telecommunications, industrial control and instrumentation circuitry.

FEATURES

- High current transfer ratio (CTR:MIN 600%)
- High input-to-output isolation voltage (3,750 Vrms)
- Ultra-miniature 4 pin SOP package
- High Load Voltage ($V_{ceo} = 300V$ MIN)

APPLICATIONS

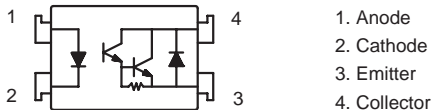
- Home Appliances
- Office Automation Equipment
- Telecom / Datacom
- Power Supplies
- Fax / Modems

OPTIONS/SUFFIXES*

- -TR Tape and Reel

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	-40		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			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.

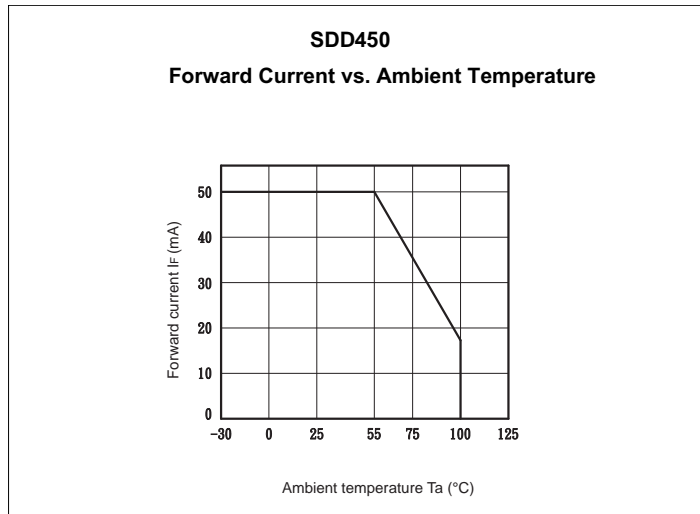
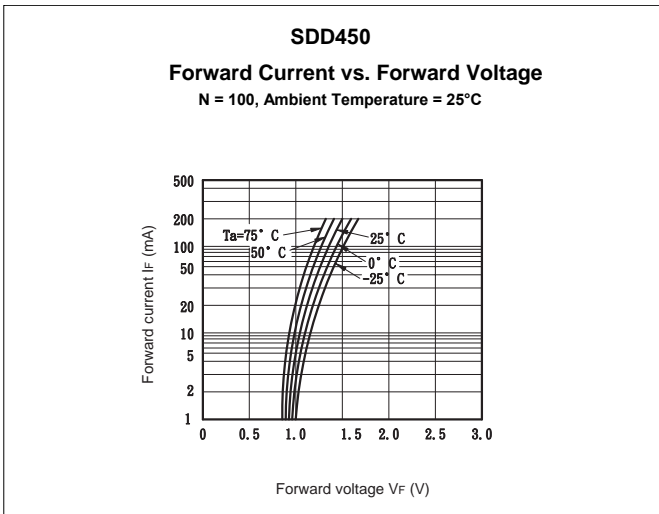
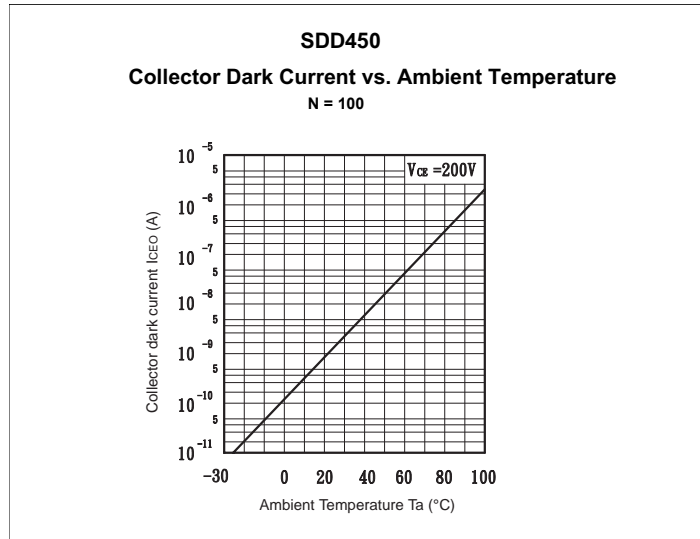
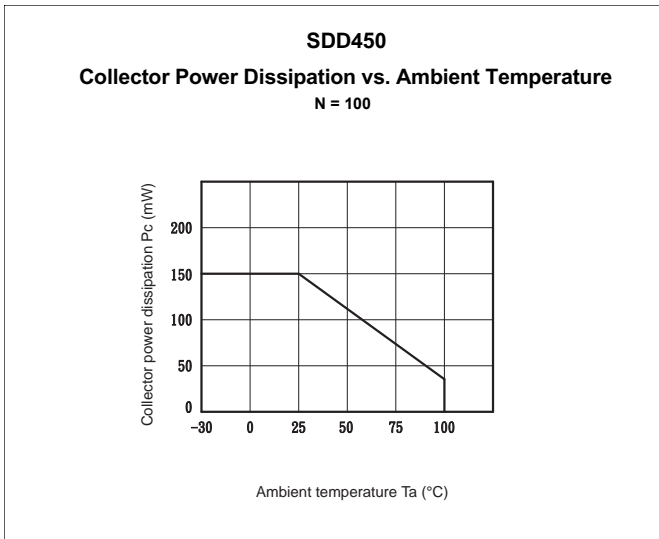
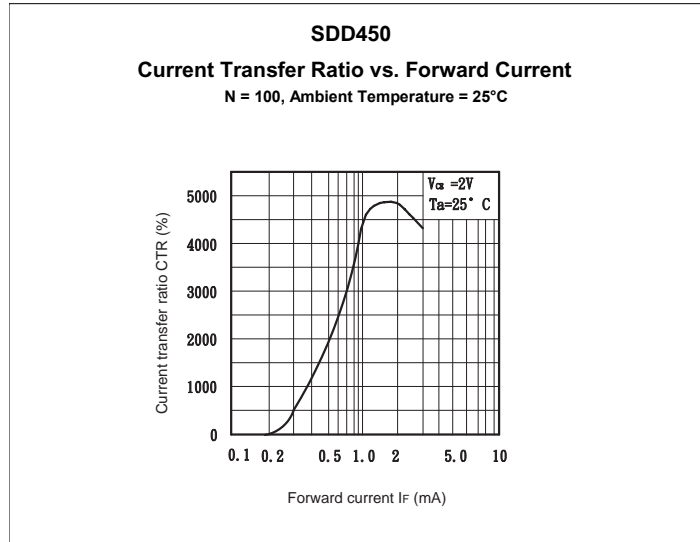
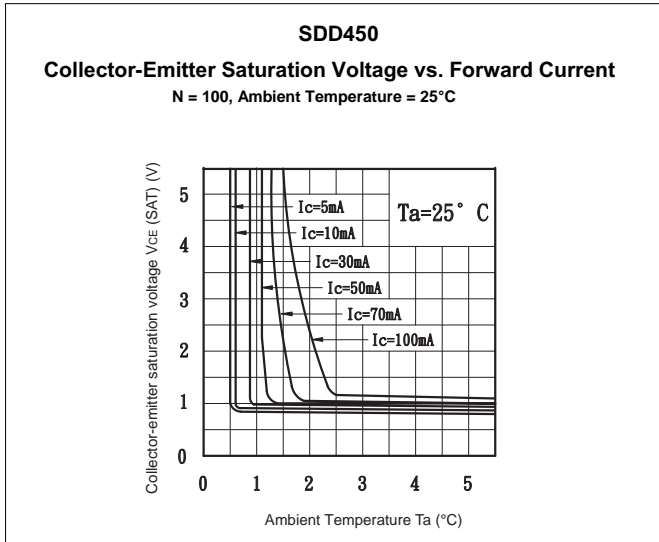
APPROVALS

- UL / C-UL Approved, File #E201932

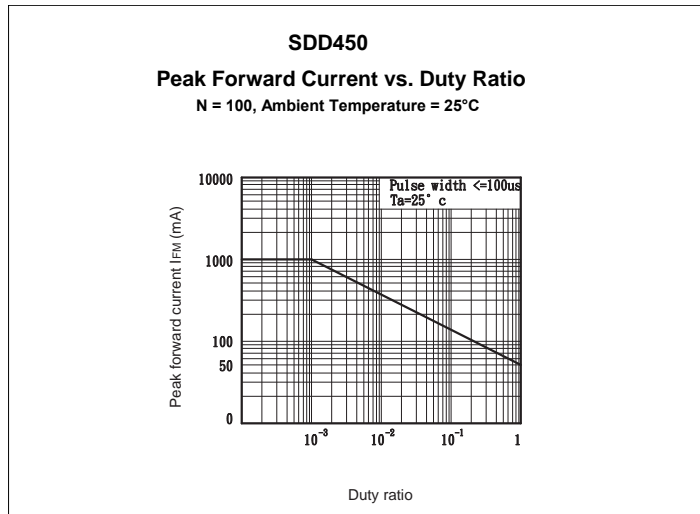
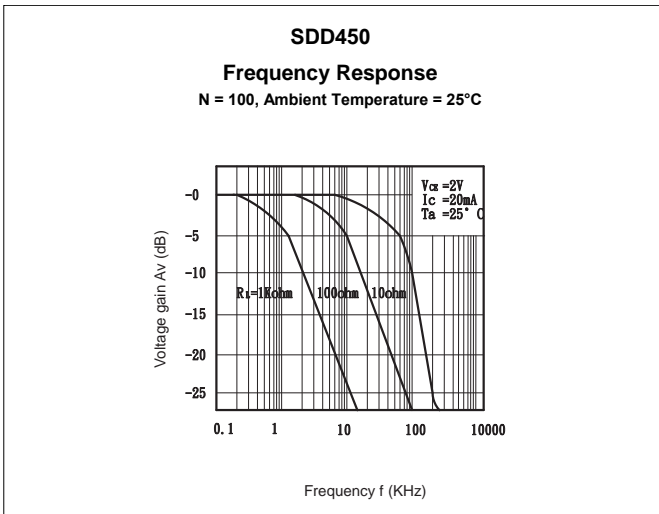
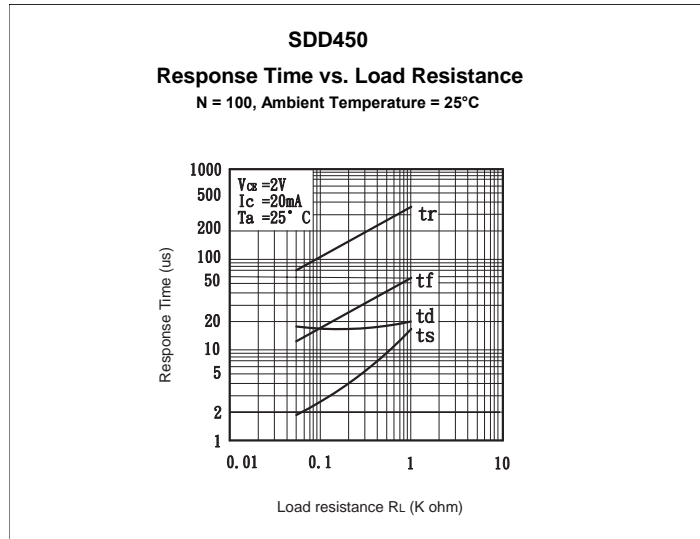
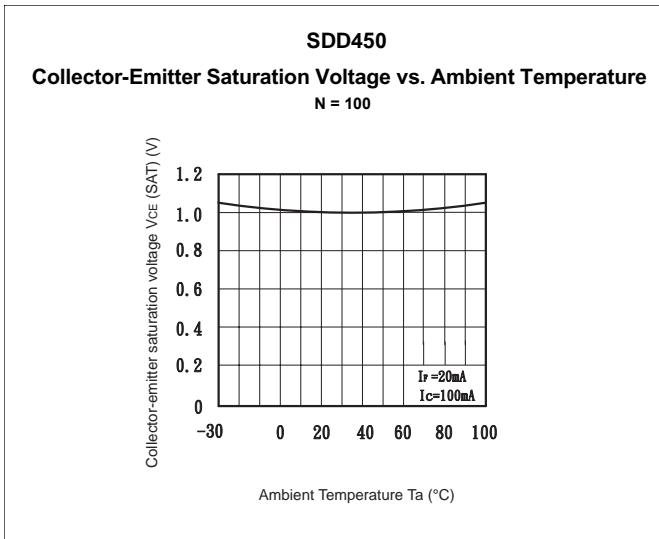
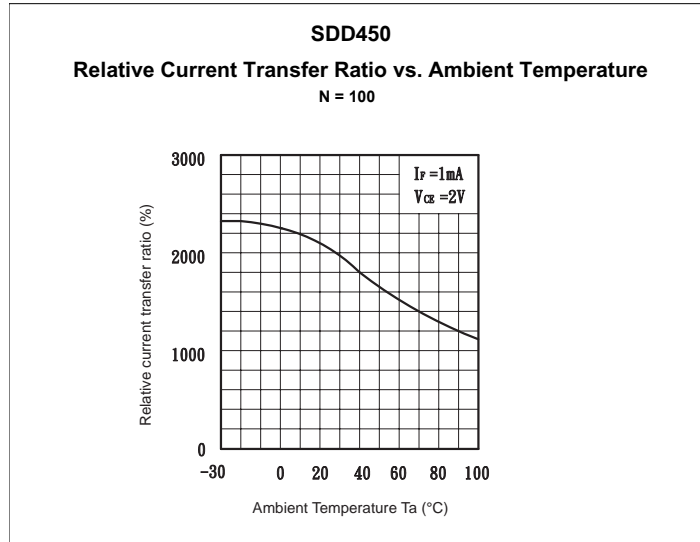
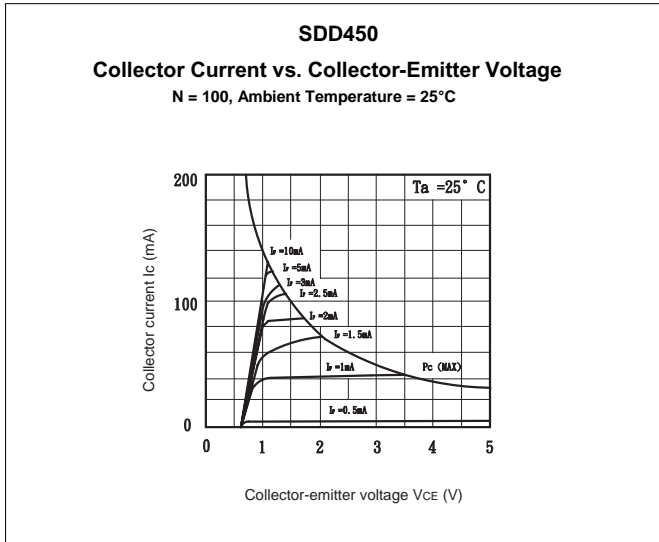
ELECTRICAL CHARACTERISTICS - 25°C

PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
Input Forward Voltage	V		1.2	1.4	If = 10mA
Peak Forward Voltage	V			3.5	Ifm = 0.5A
Reverse Current	μ A			10	Vr = 4V
Terminal Capacitance	p F		30		V = 0, f = 1KHz
OUTPUT SPECIFICATIONS					
Collector-Emitter Breakdown Voltage	V	300			Ic = 10uA
Dark Current	μ A			1	Vce = 10V, If = 0
Floating Capacitance	p F		0.6	1	Vce = 0V, f = 1.0MHz
Saturation Voltage	V			1	If = 20mA, Ic = 1mA
Current Transfer Ratio	%	600	1600	7500	If = 1mA, Vce = 2V
Rise Time	μ s		60	300	Ic = 2mA, Vce = 2V, RL = 100 ohms
Fall Time	μ s		50	250	Ic = 2mA, Vce = 2V, RL = 100 ohms
COUPLED SPECIFICATIONS					
Isolation Voltage	V	3750			T = 1 minute
Isolation Resistance	G Ω	50			
Cut-off Frequency	k H z		7		Ic = 2mA, Vcc = 5V, RL = 100 ohms

PERFORMANCE DATA

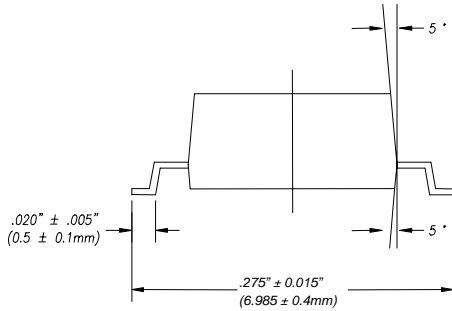


PERFORMANCE DATA

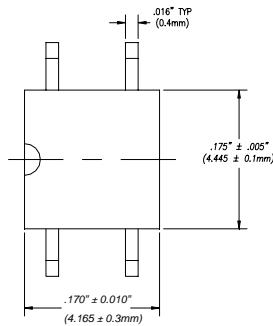


MECHANICAL DIMENSIONS

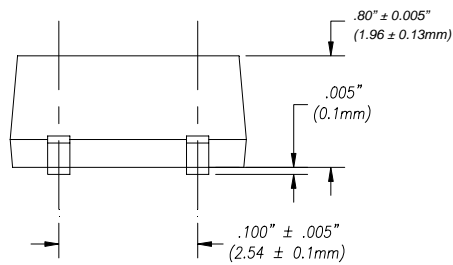
4 PIN SMALL OUTLINE PACKAGE



END VIEW



TOP VIEW



BACK VIEW

DISCLAIMER

Solid State Optronics (SSO) makes no warranties or representations with regards to the completeness and accuracy of this document. SSO reserves the right to make changes to product description, specifications at any time without further notice. SSO shall not assume any liability arising out of the application or use of any product or circuit described herein. Neither circuit patent licenses nor indemnity are expressed or implied. Except as specified in SSO's Standard Terms & Conditions, SSO disclaims liability for consequential or other damage, and we make no other warranty, expressed or implied, including merchantability and fitness for particular use.

LIFE SUPPORT POLICY

SSO does not authorize use of its devices in life support applications wherein failure or malfunction of a device may lead to personal injury or death. Users of SSO devices in life support applications assume all risks of such use and agree to indemnify SSO against any and all damages resulting from such use. Life support devices are defined as devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when used properly in accordance with instructions for use can be reasonably expected to result in significant injury to the user, or (d) a critical component in any component of a life support device or system whose failure can be reasonably expected to cause failure of the life support device or system, or to affect its safety or effectiveness.