

SWISSDIS



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SPECIFICATIONS

SD1029-V00

UL-Approved #E344988

SSR DIP-SMD-6, 400V, 120mA
5kV, Ron = 21.00Ω, Cout = 55.00pF
Operation LED Current IFon max. 1.5mA

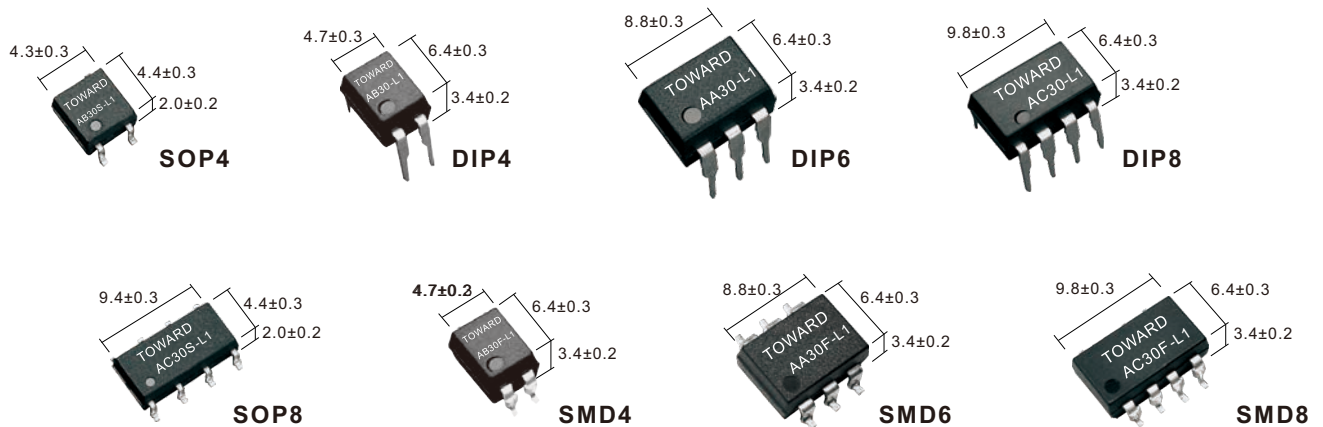
Swissdis # 109466

400V · 1a/2a

Features

- | | |
|---|---------------|
| • Contact Form | 1a / 2a |
| • Load Voltage | 400V Max. |
| • Operation LED Current | 1.5mA Max. |
| • Load Current | 120mA Max. |
| • On-Resistance | 21Ω Typ. |
| • Output Capacitance | 55pF Typ. |
| • Low Off-State Leakage Current | 1.0μA Max. |
| • Suffix -H for DIP/SMD I/O Breakdown Voltage | 5000Vrms Min. |

Outline:(Unit:mm) pitch:2.54 mm



PhotoDMOS-FET Relay
General-Purpose

Terminal Identification

Terminal Identification		
SD1029-Vxx	SD1029-V00	SD1029-Vxx
<p>1: Anode (LED) 2: Cathode (LED) 3,4: Drain (MOS FET)</p>	<p>1: Anode (LED) 2: Cathode (LED) 3: NC 4,6: Drain (MOS FET) 5: Source (MOS FET)</p>	<p>1,3: Anode (LED) 2,4: Cathode (LED) 5,6,7,8: Drain (MOS FET)</p>

Absolute Maximum Ratings

(Ambient Temperature

: 25°C)

Item		Symbol	Value				
			SOP 4/8		DIP 4/8 SMD 4/8		DIP 6 SMD 6
Outline Package			1CH	2CH	1CH	2CH	1CH
Input	Continuous LED Current	I _F	50mA				
	Peak LED Current (f=100 Hz, duty=1%)	I _{FP}	500mA				
	LED Reverse Voltage	V _R	5V				
	Input Power Dissipation	P _{In}	75mW				
Output	Load Voltage	V _L	400V (AC peak or DC)				
	Load Current (mA)	I _L	100	85	120	100	120
	Peak Load Current (1 ms, 1 shot) (mA)	I _{Peak}	600	600	600	600	600
	Output Power Dissipation (mW)	P _{Out}	300	450	450	600	450
Total Power Dissipation (mW)		P _T	350	500	500	650	500
I/O Breakdown Voltage		V _{I/O}	1500	1500	3750	3750	3750
Operating Temperature		T _{Opr}	-40°C ~ +85°C				
Storage Temperature		T _{Stg}	-40°C ~ +100°C				

Electrical Specifications LED

(Ambient Temperature

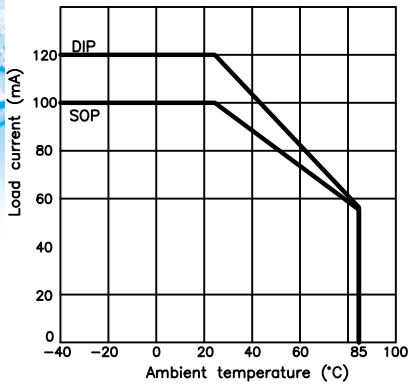
: 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	LED Forward Voltage	V _F	1.0	1.37	1.5	V	I _F =10mA
	Operation LED Current	I _{F On}		0.7	1.5	mA	**Tested at 70 degree C
	Recovery LED Voltage	V _{F Off}	0.5	1.0		V	
Output	On-Resistance Drain to Drain	R _{On}		21	30	Ω	I _F =5mA, I _L =Rating Time to flow is within 1sec.
	Off-State Leakage Current	I _{Leak}			1.0	μA	V _L =400V
	Output Capacitance	C _{Out}		55		pF	V _L =0V, f=1MHz
Transmission	Turn-On Time	T _{On}		0.1	0.5	ms	I _F =5mA I _L =Rating (for SOP type)
	Turn-Off Time	T _{Off}		0.05	0.2	ms	
	Turn-On Time	T _{On}		0.1	1.0	ms	I _F =10mA, I _L =Rating (for DIP/SMD type)
	Turn-Off Time	T _{Off}		0.05	0.5	ms	
Coupled	I/O Insulation Resistance	R _{I/O}	10 ⁹			Ω	
	I/O Capacitance	C _{I/O}		1.3		pF	f=1MHz

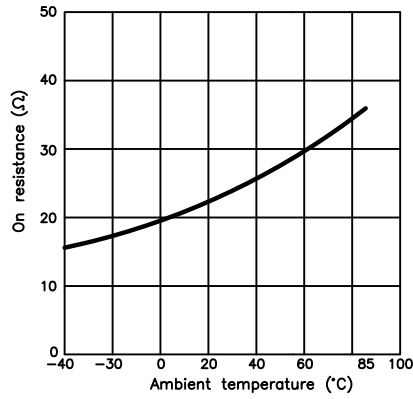
SD1029 Series

PhotoDMOS Relay

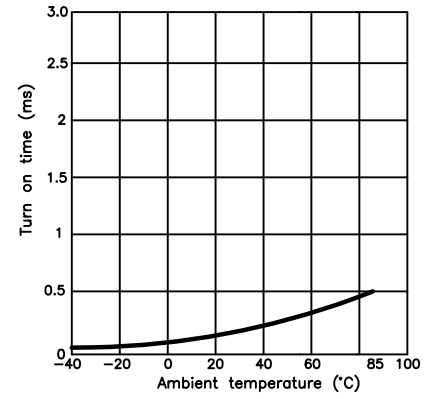
Load current Vs. Ambient temperature



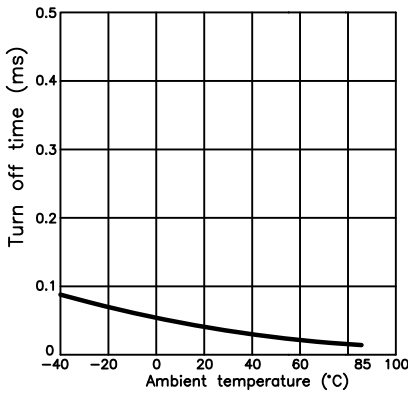
On resistance Vs. Ambient temperature



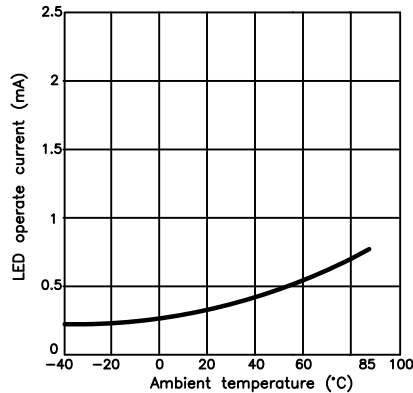
Turn on time Vs. Ambient temperature



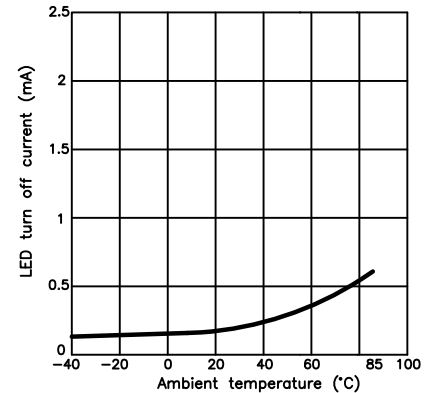
Turn off time Vs. Ambient temperature



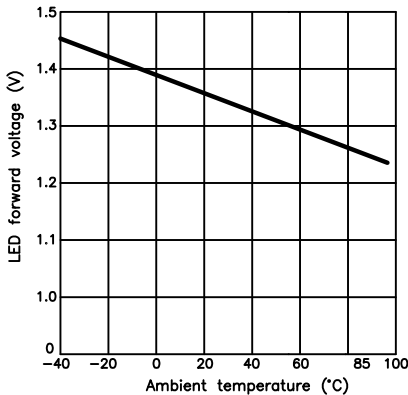
LED operate current Vs. Ambient temperature



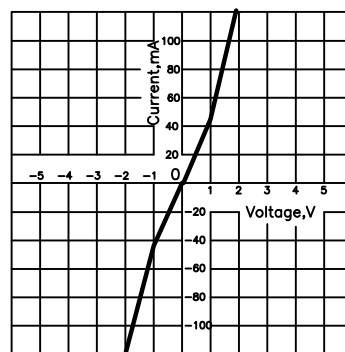
LED Turn off current Vs. Ambient temperature



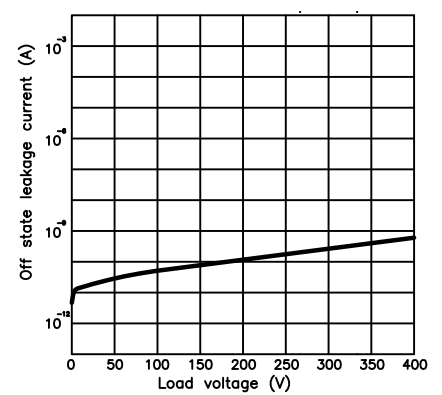
LED forward voltage Vs. Ambient temperature



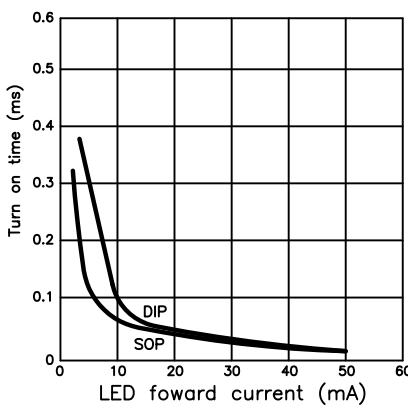
Voltage Vs. current characteristics of output at MOS portion



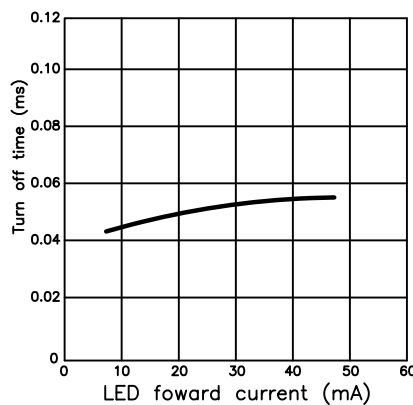
Off state leakage current



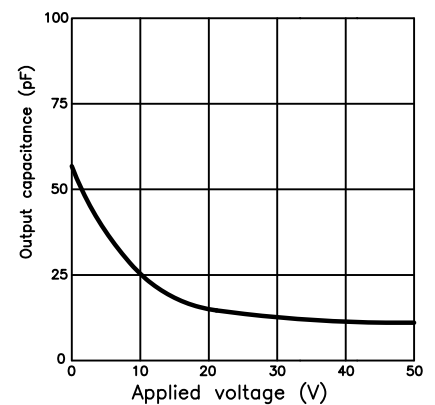
LED forward current Vs. turn on time characteristics



LED forward current Vs. turn off time characteristics



Applied voltage Vs. output capacitance characteristics


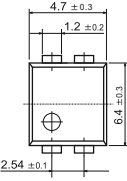
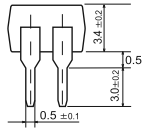
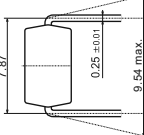
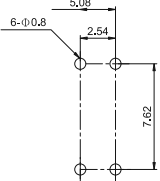

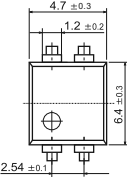
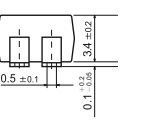
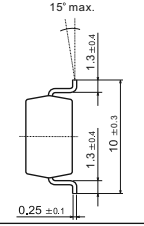
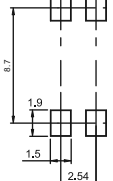

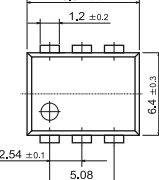
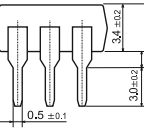
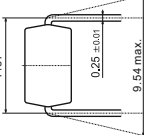
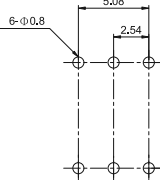

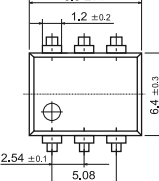
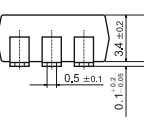
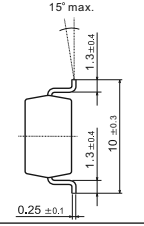
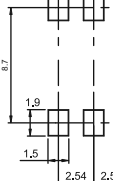

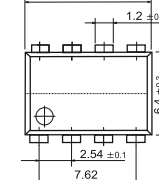
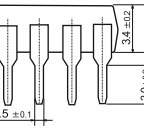
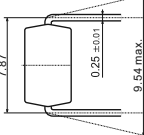
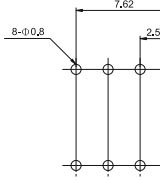

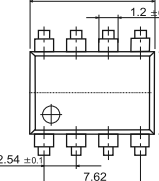
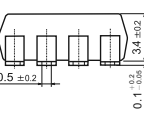
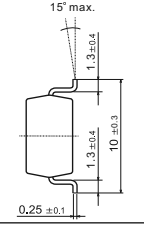
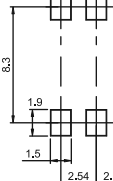

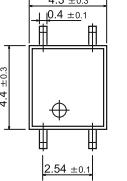
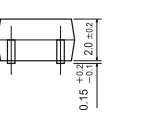
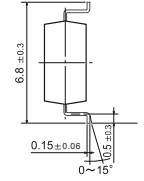
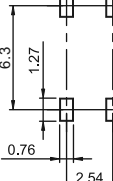

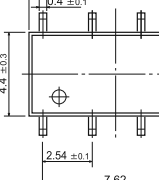
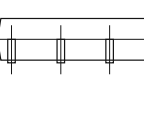
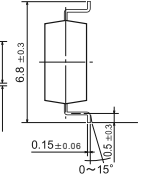
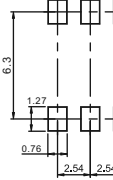


PhotoDMOS-FET Relay
General Purpose

Load Connecting Method

Type	Load	Connection	Feature
4pin	AC or DC		Control bi-directional signal
6pin	A AC or DC		Control bi-directional signal
	B DC		On-Resistance is 1/2 of A-connection
			2-Make-contacts (Source Common)
C DC		On-Resistance is 1/2 of B-connection	
8pin	AC or DC		2 input and 2 output
			1 input and 2 output

Package & PC Board Pattern

Package	Dimensions			PC Board pattern
 <p>DIP4</p>	 <p>4.7 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1</p>	 <p>3.4 ±0.2 0.5 3.0 ±0.2 0.5 ±0.1</p>	 <p>7.87 0.25 ±0.01 9.54 max.</p>	 <p>6-0.8 5.08 2.54 7.62</p> <p>(Bottom View)</p>
 <p>SMD4</p>	 <p>4.7 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1</p>	 <p>0.5 ±0.1 0.1 ±0.05 3.4 ±0.2</p>	 <p>15' max. 1.3 ±0.4 1.3 ±0.4 10 ±0.3 0.25 ±0.1</p>	 <p>8.7 1.9 1.5 2.54</p> <p>(Top View)</p>
 <p>DIP6</p>	 <p>8.8 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1 5.08</p>	 <p>3.4 ±0.2 0.5 ±0.1 3.0 ±0.2</p>	 <p>7.87 0.25 ±0.01 9.54 max.</p>	 <p>6-0.8 5.08 2.54 7.62</p> <p>(Bottom View)</p>
 <p>SMD6</p>	 <p>8.8 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1 5.08</p>	 <p>0.5 ±0.1 0.1 ±0.05 3.4 ±0.2</p>	 <p>15' max. 1.3 ±0.4 1.3 ±0.4 10 ±0.3 0.25 ±0.1</p>	 <p>8.7 1.9 1.5 2.54 2.54</p> <p>(Top View)</p>
 <p>DIP8</p>	 <p>9.8 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1 7.62</p>	 <p>3.4 ±0.2 0.5 ±0.1 3.0 ±0.2</p>	 <p>7.87 0.25 ±0.01 9.54 max.</p>	 <p>8-0.8 7.62 2.54 7.62</p> <p>(Bottom View)</p>
 <p>SMD8</p>	 <p>9.8 ±0.3 1.2 ±0.2 6.4 ±0.3 2.54 ±0.1 7.62</p>	 <p>0.5 ±0.2 0.1 ±0.05 3.4 ±0.2</p>	 <p>15' max. 1.3 ±0.4 1.3 ±0.4 10 ±0.3 0.25 ±0.1</p>	 <p>8.3 1.9 1.5 2.54 2.54 2.54</p> <p>(Top View)</p>
 <p>SOP4</p>	 <p>4.3 ±0.3 0.4 ±0.1 4.4 ±0.3 2.54 ±0.1</p>	 <p>0.15 ±0.2 2.0 ±0.2 0.15 ±0.06</p>	 <p>6.8 ±0.3 0.15 ±0.06 0.15 ±0.06 15'</p>	 <p>6.3 1.27 0.76 2.54</p> <p>(Top View)</p>
 <p>SOP8</p>	 <p>9.4 ±0.3 0.4 ±0.1 4.4 ±0.3 2.54 ±0.1 7.62</p>	 <p>0.15 ±0.2 2.0 ±0.2 0.15 ±0.06</p>	 <p>6.8 ±0.3 0.15 ±0.06 0.15 ±0.06 15'</p>	 <p>6.3 1.27 0.76 2.54 2.54 2.54</p> <p>(Top View)</p>

Packing Specifications

Package Type	Tape shape & dimensions	Reel shape & dimensions	Quantity
4 Pin SOP			1000 pcs
8 Pin SOP			1000 pcs
4 Pin SMD			1000 pcs
6 Pin SMD			1000 pcs
8 Pin SMD			1000 pcs

PhotoMOS-FET Relay