

# SSR Relay NO-1A

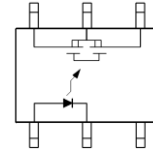
## AC/DC 1500V 0.025A SMD-6

SSR1A15A026S

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### FEATURE

- Normally Open (1-Form-A) Solid State Relay
- AC/DC Output Load Compatible
- Isolation Voltage: 3750/5000 Vrms
- Application: Telecommunications, Measuring and Testing Equipment, Industrial Control, Security Systems
- In Accordance with Safety Class UL 1577 Standard



### MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Input Continuous LED Current		$I_F$	50	mA
Input Peak LED Current	f=100Hz, duty=1%	$I_{FP}$	1	A
Input LED Reverse Voltage		$V_R$	5	V
Input Power Dissipation		$P_{in}$	75	mW
Output Load Voltage	AC peak or DC	$V_L$	1500	V
Output Load Current	AC (Test condition A)	$I_L$	25	mA
	DC (Test condition B)		30	
	DC (Test condition C)		50	
Output Peak Load Current	100ms (1 pulse)	$I_{Peak}$	100	mA
Output Power Dissipation		$P_{out}$	360	mW
Total Power Dissipation		$P_T$	410	mW
Isolation Voltage	AC for 60sec, RH60%	$V_{ISO}$	3750	$V_{RMS}$
Isolation Voltage (Suffix-V)			5000	
Operating Temperature Range		$T_{Opr}$	-40~+85	°C
Storage Temperature Range		$T_{Stg}$	-40~+100	°C
Soldering Temperature	For 10 sec	$T_{sol}$	260	°C

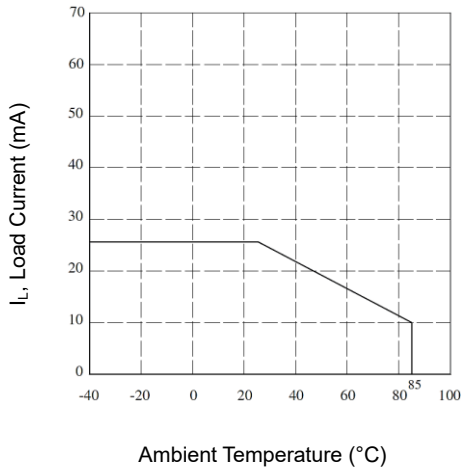
### ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	$I_F=10mA$	$V_F$	--	1.3	1.5	V
Operation LED Current	--	$I_{F(on)}$	--	0.8	5.0	mA
Recovery LED Current	--	$I_{F(off)}$	--	0.5	0.8	mA
Recovery LED Voltage	--	$V_{F(off)}$	0.7	--	--	V
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=10mA, I_L=$ Rating, Time to flow is within 1 sec	$R_{(on)}$	--	260	290	$\Omega$
	$I_F=10mA, I_L \leq 5mA$		--	370	420	
Off-State Leakage Current	$V_L=$ Rating	$I_{Leak}$	--	--	10	$\mu A$
Output Capacitance	$V_L=0V, f=1MHz$	$C_{out}$	--	35	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=10mA, I_L=$ Rating	$t_{on}$	--	0.1	0.5	ms
Turn-Off Time		$t_{off}$	--	0.06	0.1	ms
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance	$V_{IO}=500V_{DC}$	$R_{IO}$	$10^{10}$	--	--	$\Omega$
I/O Capacitance	f=1MHz	$C_{IO}$	--	0.8	1.5	pF

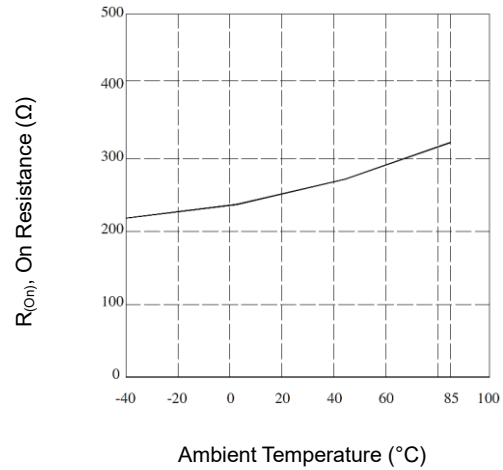
Note:  $T_A=25^\circ C$  unless otherwise noted.

**CHARACTERISTIC CURVES**

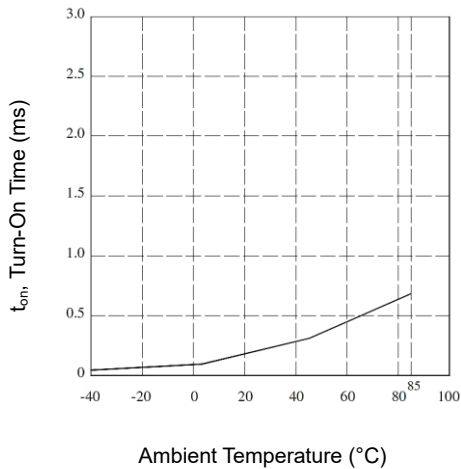
**Load Current vs. Temperature**



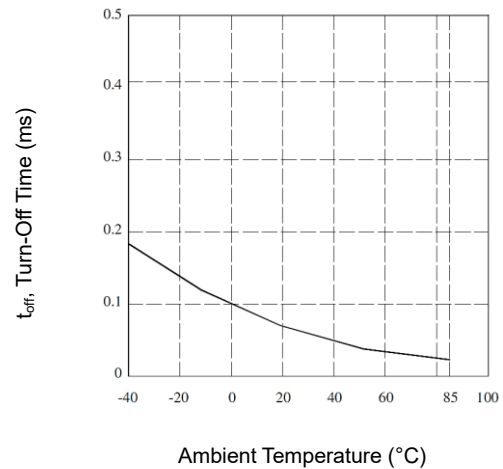
**On Resistance vs. Temperature**



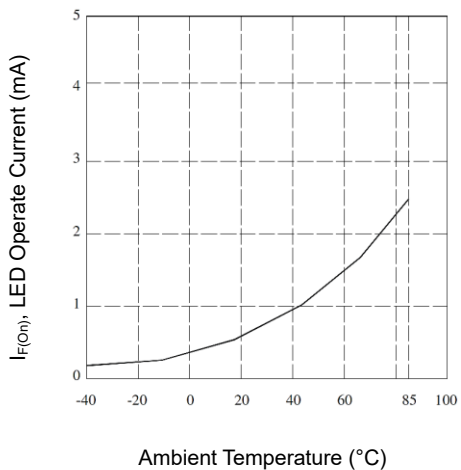
**Turn-On Time vs. Temperature**



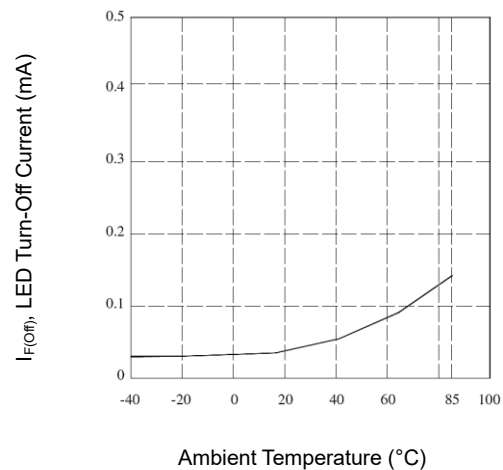
**Turn-Off Time vs. Temperature**



**LED Operate Current vs. Temperature**

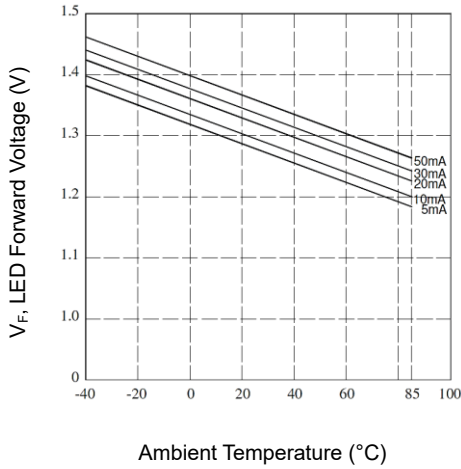


**LED Turn-Off Current vs. Temperature**

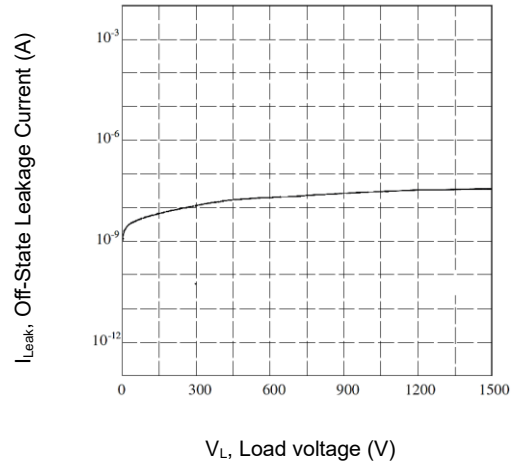


**CHARACTERISTIC CURVES**

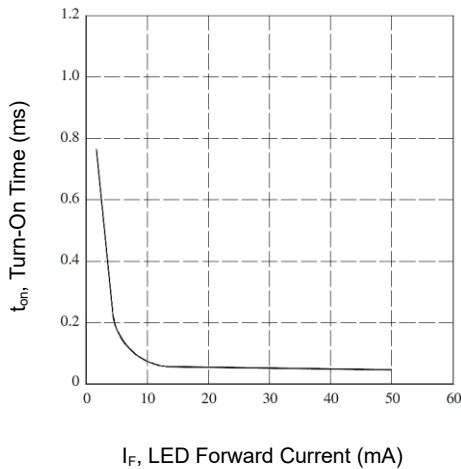
**LED Forward Voltage vs. Temperature**



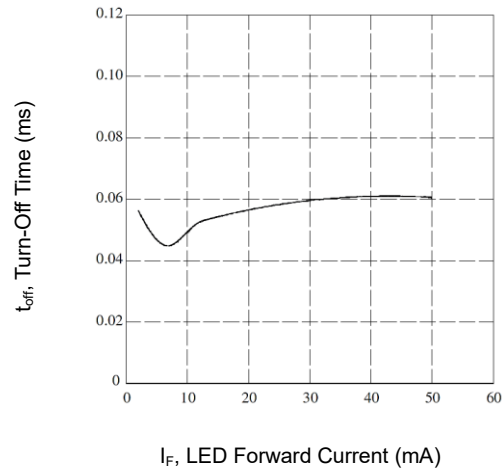
**Off-State Leakage Current Vs. Load Voltage**



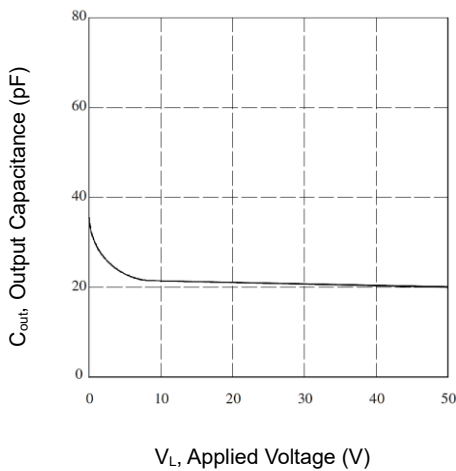
**LED Forward Current Vs. Turn-On Time**



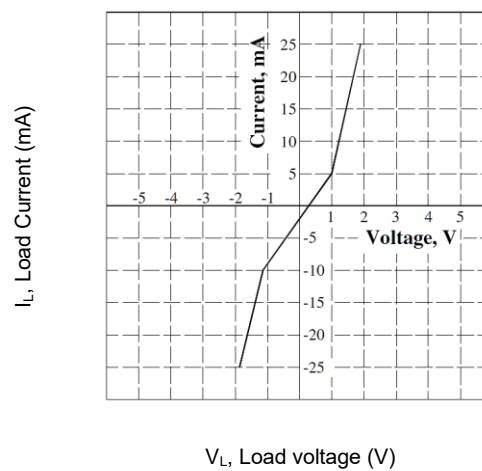
**LED Forward Current Vs. Turn-Off Time**



**Applied Voltage Vs. Output Capacitance**



**V-I Characteristics of Output MOS**



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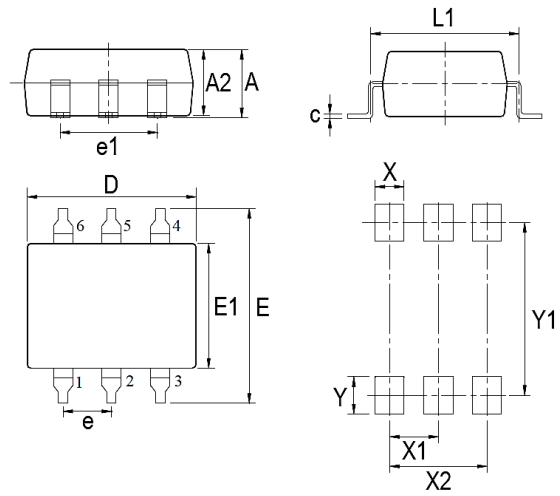
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### DIMENSIONS

Item	Min (mm)	Max (mm)
A	3.30	3.70
A2	3.20	3.60
c	0.25	
D	8.60	9.00
E	9.80	10.20
E1	6.20	6.60
e	2.54	
e1	5.08	
L1	7.42	7.82
X	1.50	
X1	2.54	
Y	1.90	
Y1	8.60	8.80



Note:

1.LED Anode; 2.LED Cathode; 4.Drain (MOSFET); 5.Source (MOSFET); 6.Drain (MOSFET)