

SSR Relay NO-1A

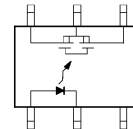
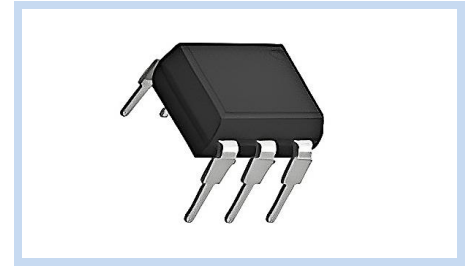
AC/DC 60V 0.5A DIP-6

SSR1A1IA50TD6

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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	$f=100\text{Hz, duty}=1\%$	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	60	V
Output Load Current		I_L	0.5	A
Output Power Dissipation		P_{out}	300	mW
Total Power Dissipation		P_T	350	mW
Isolation Voltage	AC for 60sec, RH60%	V_{ISO}	3750	V_{RMS}
Isolation Voltage (Suffix V)			5000	V_{RMS}
Operating Temperature Range		T_{Opr}	-40~+125	°C
Storage Temperature Range		T_{Stg}	-40~+135	°C
Soldering Temperature	For 10 sec	T_{SOL}	260	°C

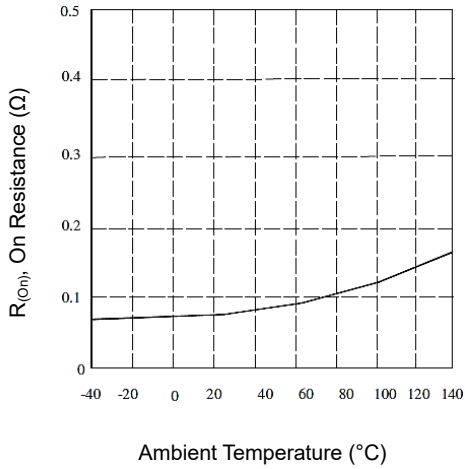
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	$I_F=10\text{mA}$	V_F	--	1.3	1.5	V
Operation LED Current	--	$I_{F(On)}$	--	3	10	mA
Recovery LED Current	--	$I_{F(Off)}$	--	0.35	0.5	mA
Recovery LED Voltage	--	$V_{F(Off)}$	0.7	--	--	V
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=10\text{mA, } I_L=\text{Rating,}$ Time to flow is within 1 sec	$R_{(On)}$	--	0.17	0.5	Ω
Off-State Leakage Current	$V_L=\text{Rating}$	I_{Leak}	--	--	10	μA
Output Capacitance	$V_L=0\text{V, } f=1\text{MHz}$	C_{Out}	--	300	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=10\text{mA, } I_L=\text{Rating}$	t_{on}	--	1.2	5.0	ms
Turn-Off Time		t_{off}	--	0.05	0.5	ms
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance	$V_{IO}=500\text{V}_{DC}$	R_{IO}	10^{10}	--	--	Ω
I/O Capacitance	$f=1\text{MHz}$	C_{IO}	--	1.0	1.5	pF

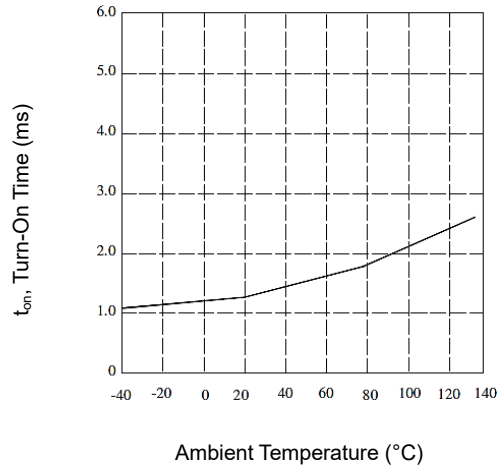
Note: $T_A=25^\circ\text{C}$ unless otherwise noted.

CHARACTERISTIC CURVES

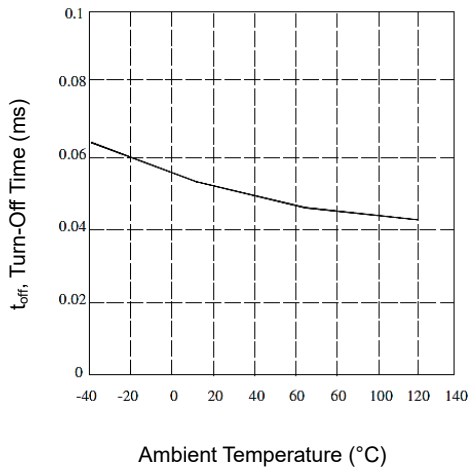
On Resistance vs. Temperature



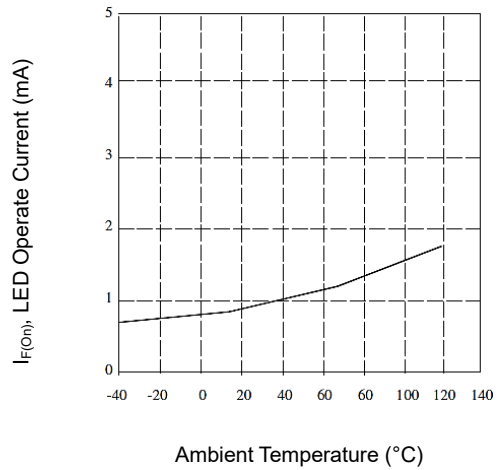
Turn-On Time vs. Temperature



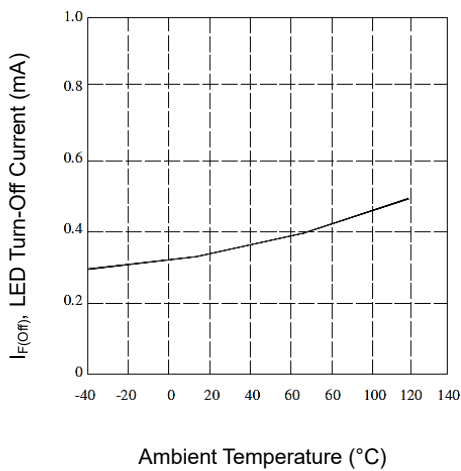
Turn-Off Time vs. Temperature



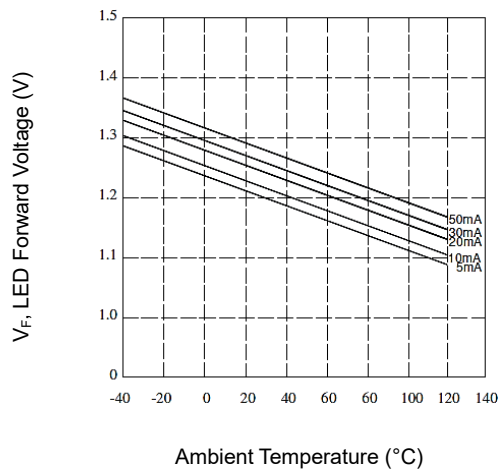
LED Operate Current vs. Temperature



LED Turn-Off Current vs. Temperature



LED Forward Voltage vs. Temperature



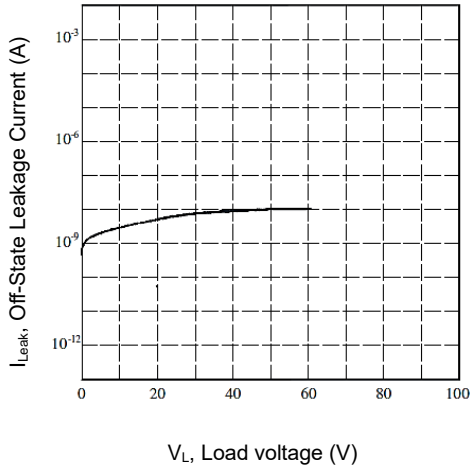
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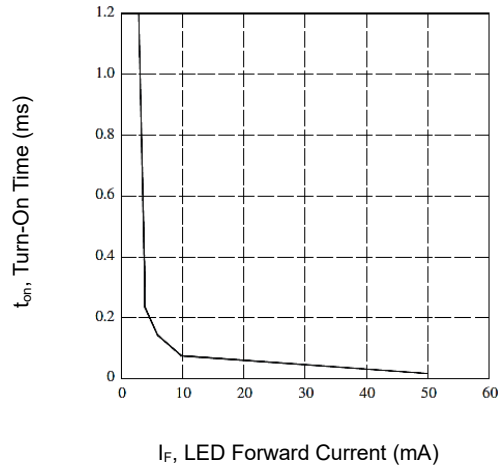
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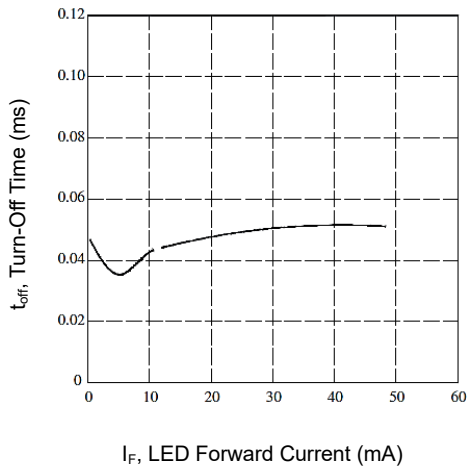
Off-State Leakage Current vs. Load Voltage



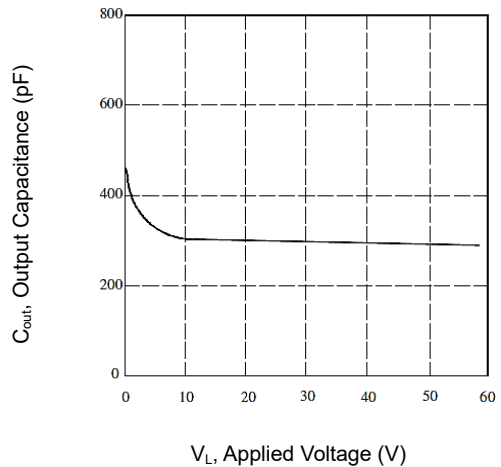
LED Forward Current vs. Turn-On Time



LED Forward Current vs. Turn-Off Time



Applied Voltage vs. Output Capacitance



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DIMENSIONS

Item	Min (mm)	Max (mm)
A	6.70	7.10
A1	3.20	3.60
A2	3.70	4.10
b	0.27	0.67
c	0.25	
D	8.60	9.00
E1	6.20	6.60
e	2.54	
e1	5.08	
L1	7.42	7.82
X	2.54	
X1	5.08	
Y	7.62	

Note:

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

