

SSR Relay NC-1B

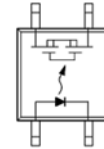
AC/DC 60V 0.5A SMD-4

SSR1B1IA504S

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FEATURE

- Normally Close (1-Form-B) 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	60	V
Output Load Current		I _L	500	mA
Output Peak Load Current	100ms (1 pulse)	I _{Peak}	600	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	
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	--	1.2	1.5	V
Operation LED Current		--	$I_{F(On)}$	--	0.5	5.0	mA
Recovery LED Current		--	$I_{F(Off)}$	0.1	0.4	--	mA
Recovery LED Voltage		--	$V_{F(Off)}$	0.5	--	--	V
Output Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance		$I_F=0A, I_L=100mA$, Time to flow is within 1 sec	$R_{(On)}$	--	1	3	Ω
Off-State Leakage Current		$V_L=Rating$	I_{Leak}	--	--	1	μA
Output Capacitance		$V_L=0V, f=1MHz$	C_{Out}	--	165	--	pF
Transmission Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time		$I_F=10mA, I_L=100mA$	t_{on}	--	0.5	3.0	ms
Turn-Off Time			t_{off}	--	0.25	1.0	ms
Coupled Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance		$V_{IO}=500V_{DC}$	R_{IO}	10^{10}	--	--	Ω
I/O Capacitance		f=1MHz	C_{IO}	--	0.8	--	pF

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

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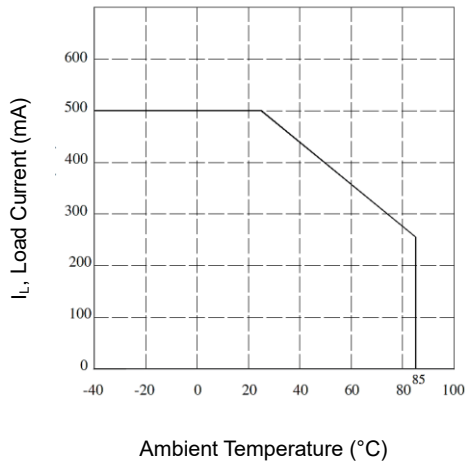
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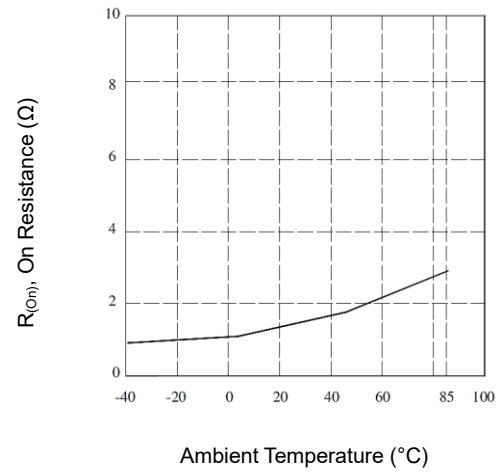
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CHARACTERISTIC CURVES

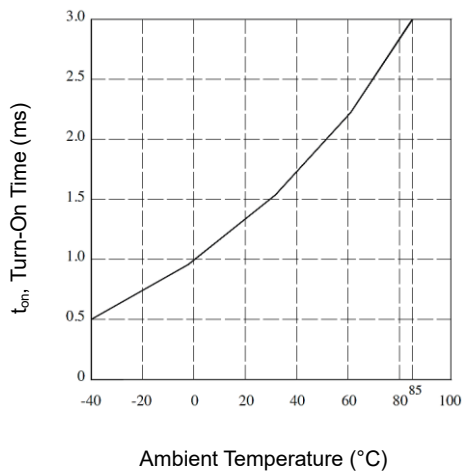
Load Current vs. Temperature



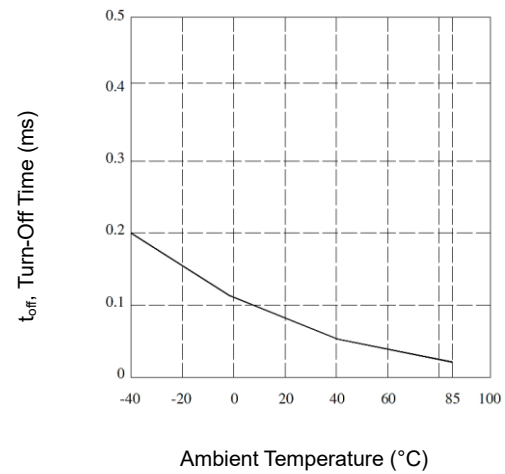
On Resistance vs. Temperature



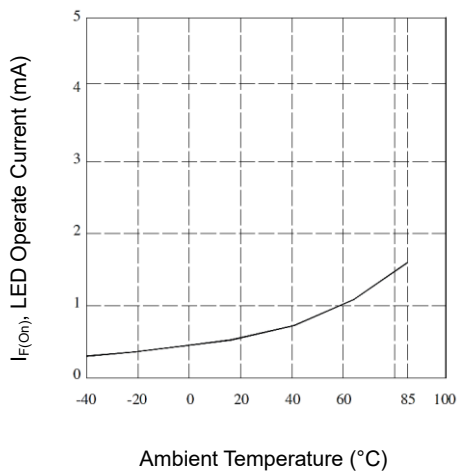
Turn-On Time vs. Temperature



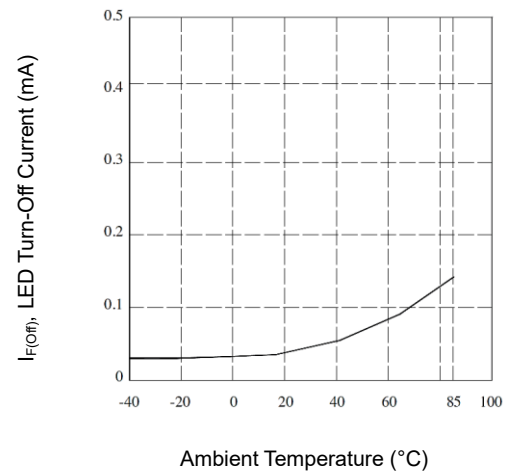
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature



LED Turn-Off Current vs. Temperature



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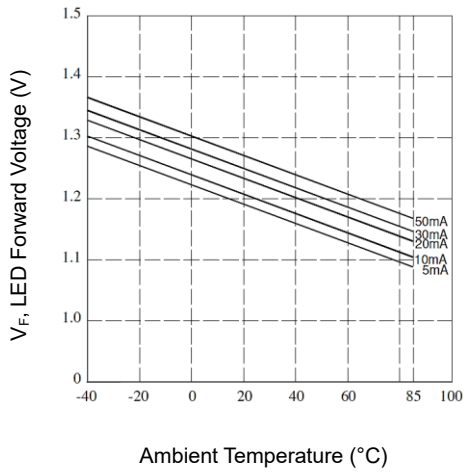
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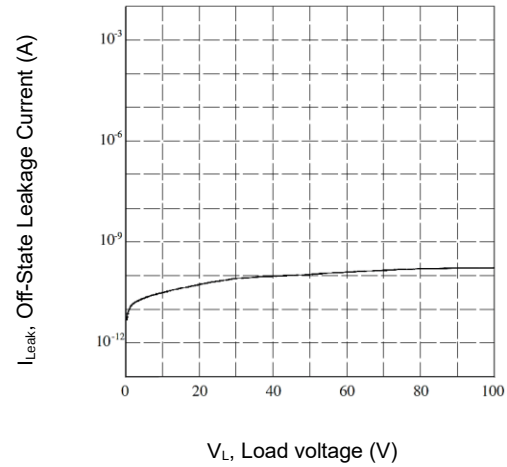
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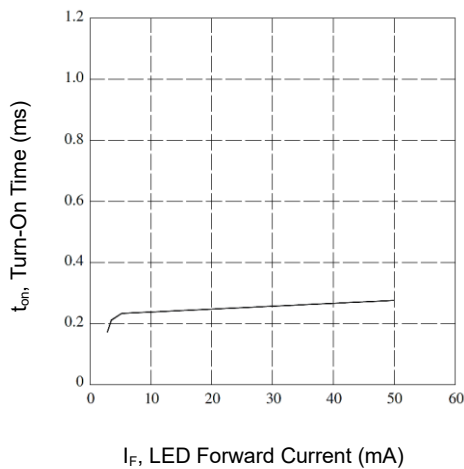
LED Forward Voltage vs. Temperature



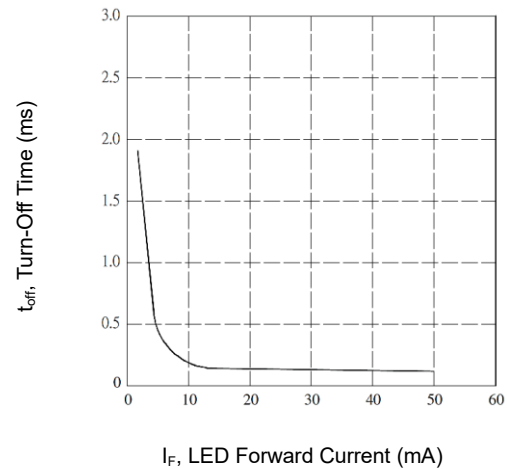
Off-State Leakage Current Vs. Load Voltage



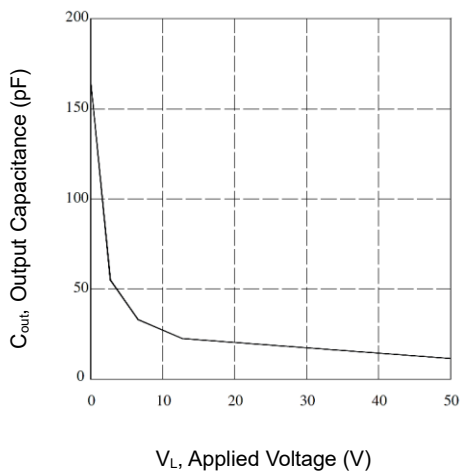
LED Forward Current Vs. Turn-On Time



LED Forward Current Vs. Turn-Off Time



Applied Voltage Vs. Output Capacitance



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DIMENSIONS

Item	Min (mm)	Max (mm)
A	3.30	3.70
A2	3.20	3.60
c	0.25	
D	4.50	4.90
E	9.80	10.20
E1	6.20	6.60
e	2.54	
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; 3,4.Drain (MOSFET)

