

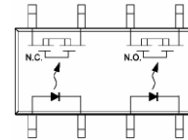
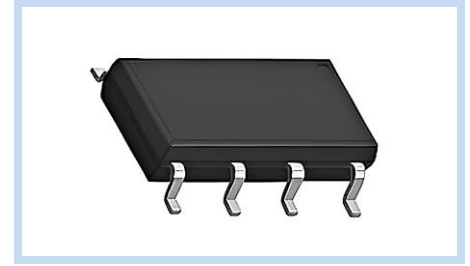
SSR Relay NO+NC/1A+1B AC/DC 400V 0.12A SOP-8

SSRAB2GA12S8

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FEATURE

- Normally Open + Normally Close (1-Form-A/B) Solid State Relay
- AC/DC Output Load Compatible
- Isolation Voltage: 1500 Vrms
- Application: Programmable Controller, Industrial I/O Module, Communication Equipment Protection
- 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	I_{FP}	1	A
Input LED Reverse Voltage	V_R	5	V
Input Power Dissipation	P_{in}	75	mW
Output Load Voltage	V_L	400	V
Output Load Current	I_L	0.12	A
Output Peak Load Current	I_{Peak}	0.6	A
Output Power Dissipation	P_{out}	450	mW
Total Power Dissipation	P_T	500	mW
Isolation Voltage	V_{ISO}	1500	V_{RMS}
Operating Temperature Range	T_{Opr}	-40~+85	°C
Storage Temperature Range	T_{Stg}	-40~+100	°C
Soldering Temperature	T_{SOL}	260	°C

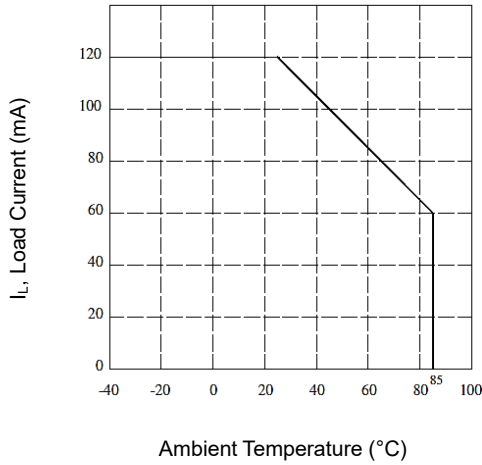
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	$I_F=10mA$	V_F	--	1.2	1.4	V
Operation LED Current	--	$I_{F(On)}$	--	0.5	3.0	mA
Recovery LED Current	--	$I_{F(off)}$	--	0.35	0.5	mA
Recovery LED Voltage	--	$V_{F(off)}$	0.5	--	--	V
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=5mA$ (N.O.), $I_F=0mA$ (N.C.), $I_L=100mA$, Time to flow is within 1 sec	$R_{(On)}$	--	20	50	Ω
Off-State Leakage Current	$I_F=0mA$ (N.O.), $I_F=5mA$ (N.C.), $V_L=400V$	I_{Leak}	--	--	10	μA
Output Capacitance	$I_F=5mA$, $V_L=0$, $f=1MHz$	C_{out}	--	165	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=5mA$, $I_L=100mA$	t_{on}	--	0.23(N.O.)	0.5(N.O.)	ms
			--	0.02(N.C.)	1.0(N.C.)	
Turn-Off Time	$I_F=5mA$, $I_L=100mA$	t_{off}	--	0.03(N.O.)	0.2(N.O.)	ms
			--	0.5(N.C.)	3.0(N.C.)	
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

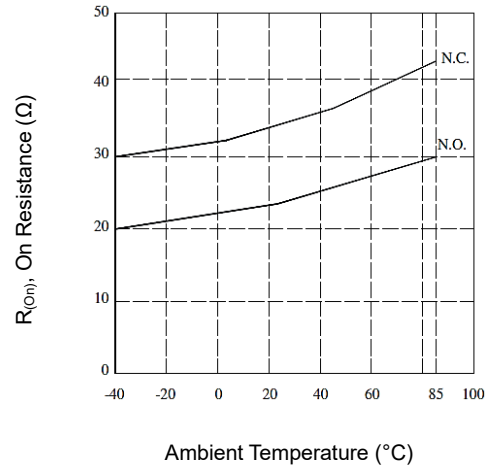
Note: $T_A=25^\circ C$ unless otherwise noted.

CHARACTERISTIC CURVES

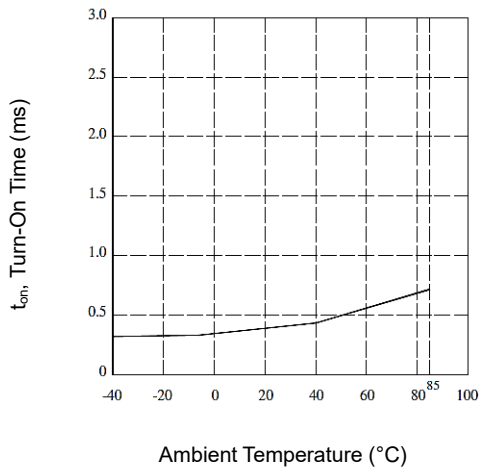
Load Current vs. Temperature



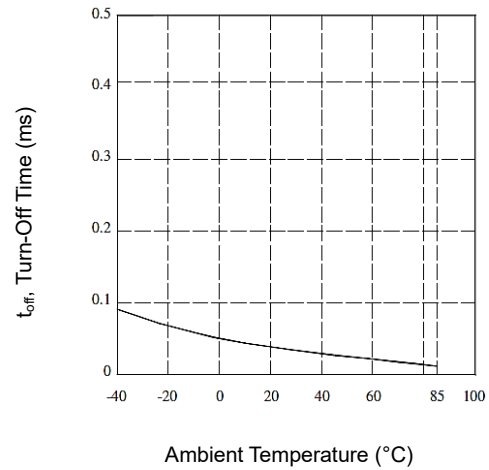
On Resistance vs. Temperature



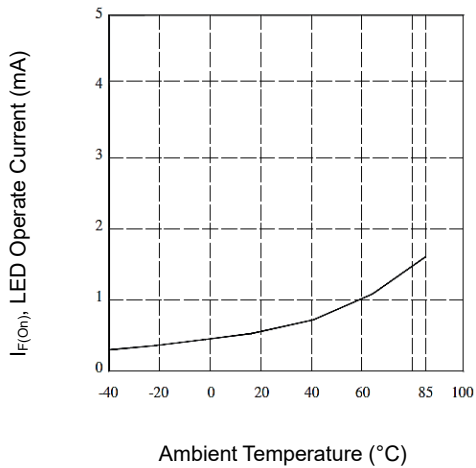
Turn-On Time vs. Temperature



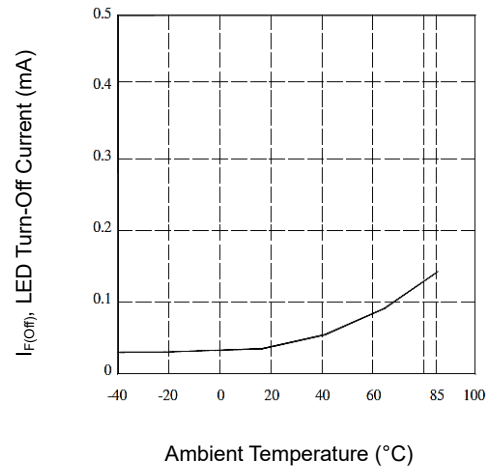
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature



LED Turn-Off Current vs. Temperature



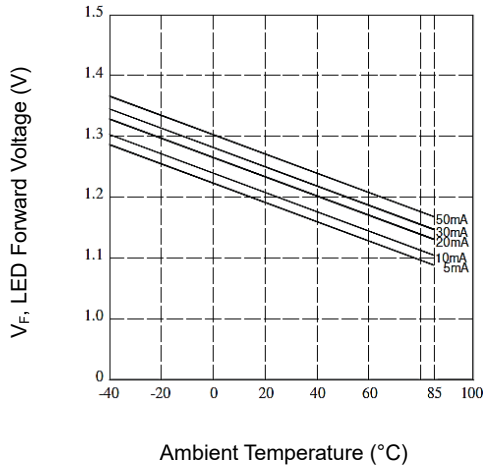
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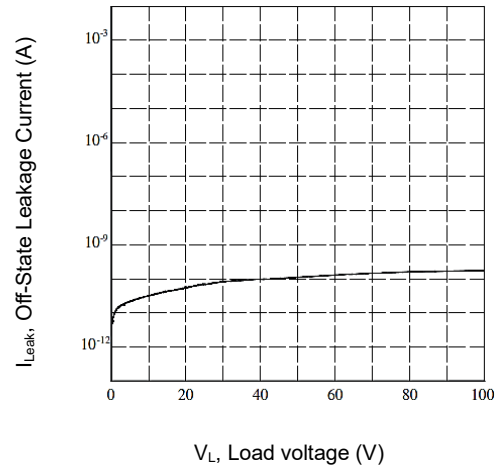
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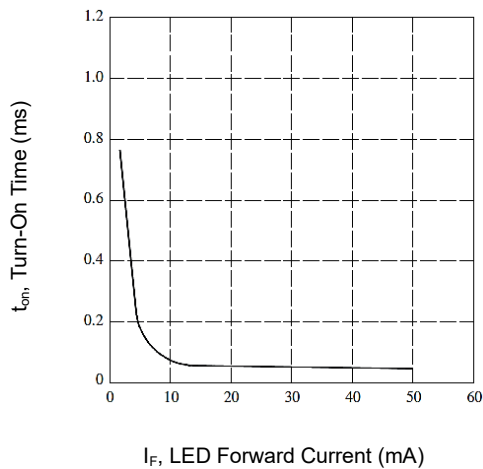
LED Forward Voltage vs. Temperature



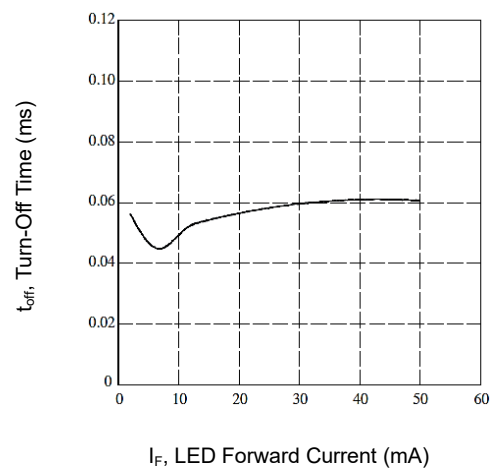
Off-State Leakage Current vs. Load Voltage



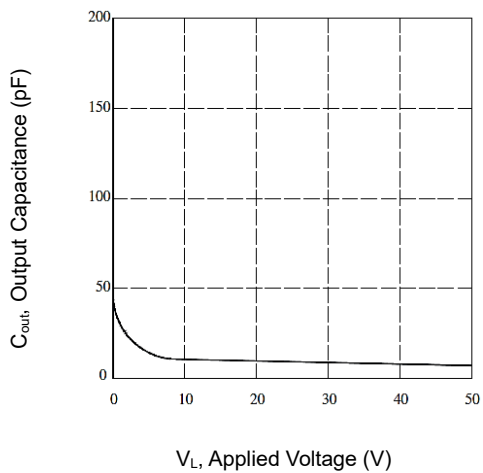
LED Forward Current vs. Turn-On Time



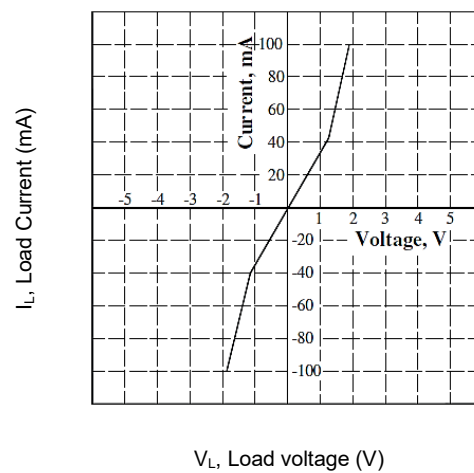
LED Forward Current vs. Turn-Off Time



Applied Voltage vs. Output Capacitance



V-I Characteristics of Output MOS



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DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	1.80	2.20
b	0.30	0.50
D	9.20	9.60
E	6.40	7.20
E1	4.20	4.60
e	2.54	
e1	5.08	
L	0.46	0.86
X	0.80	
X1	7.62	
Y	1.20	
Y1	7.20	

Note:
1,3.LED Anode; 2,4.LED Cathode; 5,6. Drain (MOSFET) 1A; 7,8. Drain (MOSFET) 1B

