

SSR Relay NO-1A

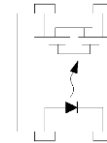
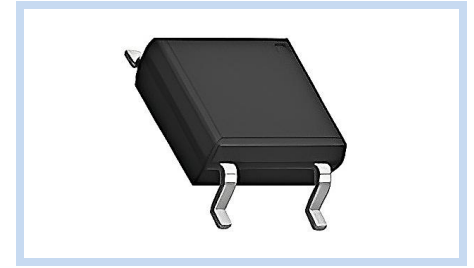
AC/DC 80V 0.08A SOP-4

SSR1A1KA08S4

MERITEK

FEATURE

- Normally Open (1-Form-A) Solid State Relay
- AC/DC Output Load Compatible
- Isolation Voltage: 1500 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	80	V
Output Load Current		I_L	80	mA
Output Peak Load Current	100ms (1 pulse)	I_{Peak}	0.12	A
Output Power Dissipation		P_{Out}	300	mW
Total Power Dissipation		P_T	350	mW
Isolation Voltage	AC for 60sec, RH60%	V_{ISO}	1500	V_{RMS}
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

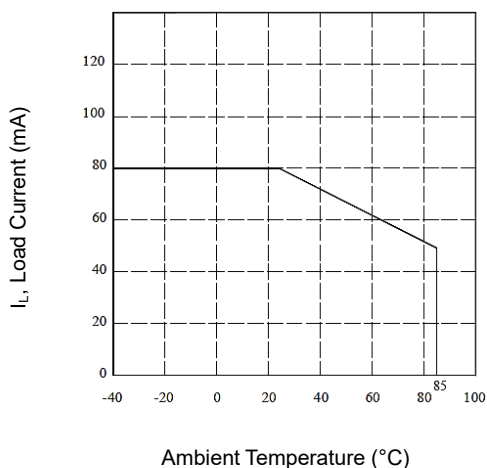
ELECTRICAL CHARACTERISTICS

Input Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	$I_F=10\text{mA}$		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	--		$V_{F(Off)}$	0.7	--	--	V
Output Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=5\text{mA}$, $I_L=\text{Rating}$, Time to flow is within 1sec		$R_{(On)}$	--	35	50	Ω
Off-State Leakage Current	$V_L=\text{Rating}$		I_{Leak}	--	--	10	nA
Output Capacitance	$V_L=0\text{V}$, $f=1\text{MHz}$		C_{Out}	--	3	--	pF
Coupled Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=5\text{mA}$, $I_L=80\text{mA}$		t_{on}	--	0.03	0.2	ms
Turn-Off Time			t_{off}	--	0.05	0.2	
Input-Output Isolation Resistance	$V_{IO}=500\text{V}_{DC}$		R_{IO}	10^9	--	--	Ω
Input-Output Capacitance	$f=1\text{MHz}$		C_{IO}	--	0.8	1.5	pF

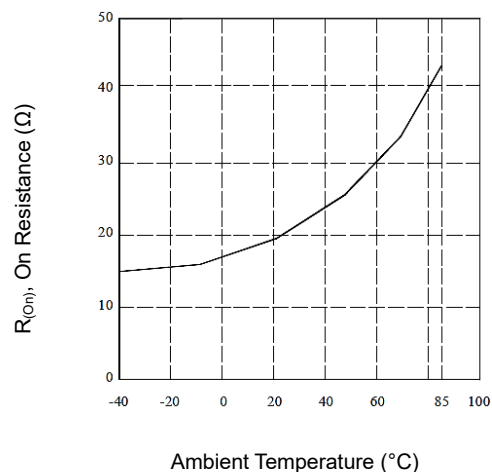
Note: $T_A=25^\circ\text{C}$ unless otherwise noted.

CHARACTERISTIC CURVES

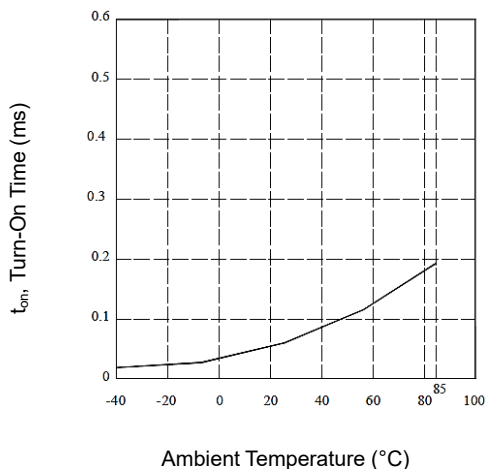
Load Current vs. Temperature



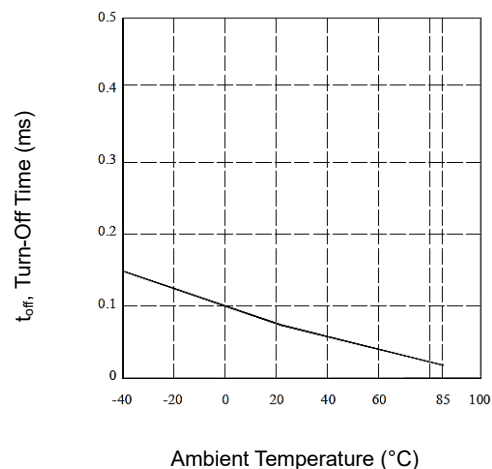
On Resistance vs. Temperature



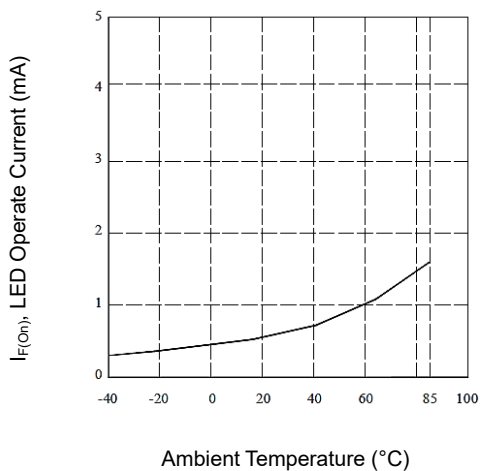
Turn-On Time vs. Temperature



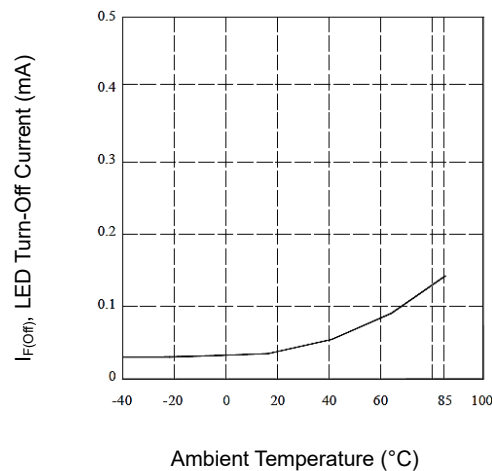
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

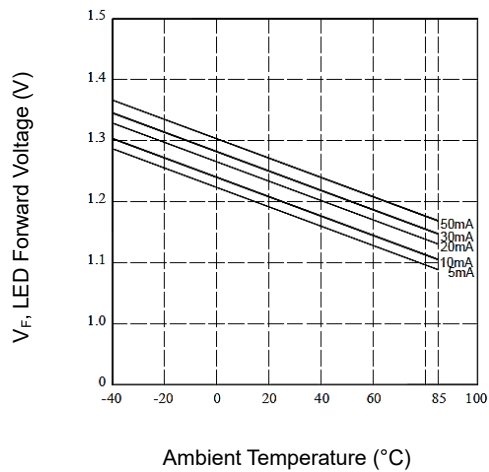


LED Turn-Off Current vs. Temperature

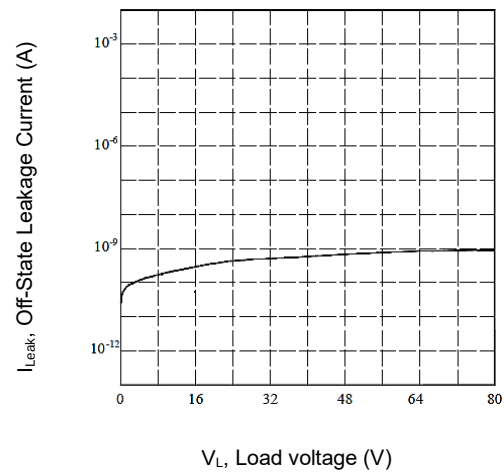


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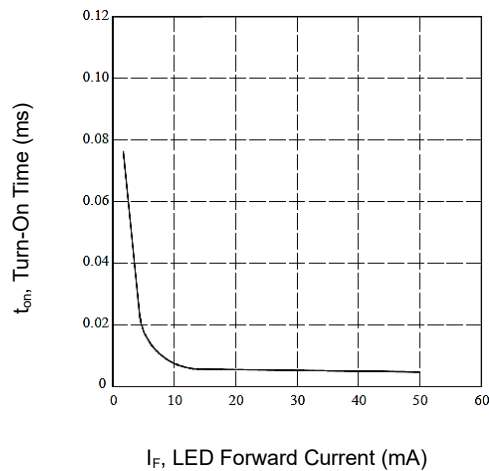
LED Forward Voltage vs. Temperature



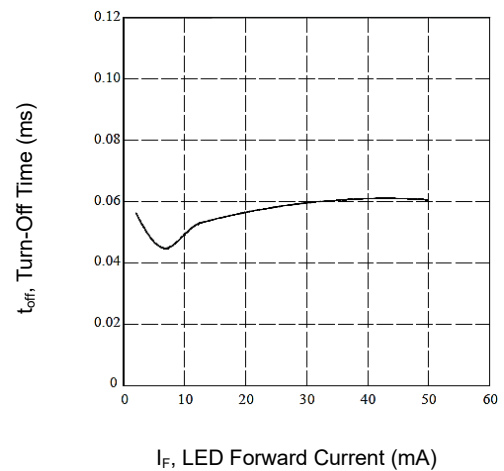
Off-State Leakage Current vs. Load Voltage



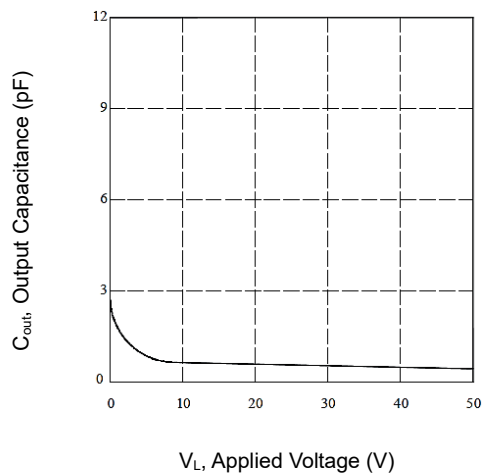
LED Forward Current vs. Turn-On Time



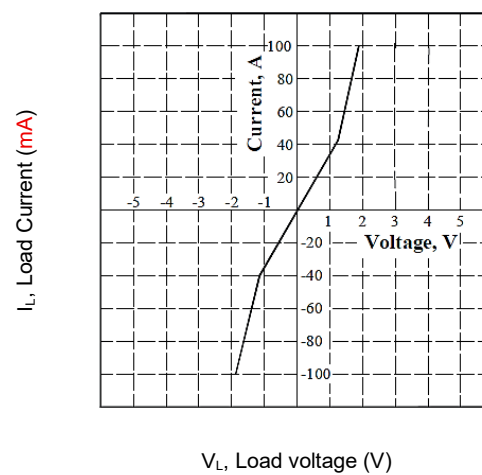
LED Forward Current vs. Turn-Off Time



Applied Voltage vs. Output Capacitance



V-I Characteristics of Output MOS



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DIMENSIONS

Item	Min (mm)	Max (mm)
A1	0.00	0.20
A2	1.80	2.20
b	0.30	0.50
D	4.10	4.50
E	6.40	7.20
E1	4.20	4.60
e	2.54	
L	0.46	0.86
X	0.80	
X1	2.54	
Y	1.20	
Y1	7.20	
z	0.93	

Note:

1.LED Anode; 2.LED Cathode; 3,4.Drain (MOSFET)

