

SSR Relay NO-1A

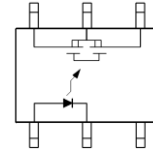
AC/DC 1500V 0.045A SMD-6

SSR1A15A046S

MERITEK

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 (Suffix-A)	AC	I_L	45	mA
Output Load Current (Suffix-B)	DC		50	
Output Load Current (Suffix-C)	DC		75	
Output Peak Load Current	100ms (1 pulse)	I_{Peak}	180	mA
Output Power Dissipation		P_{out}	450	mW
Total Power Dissipation		P_T	500	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

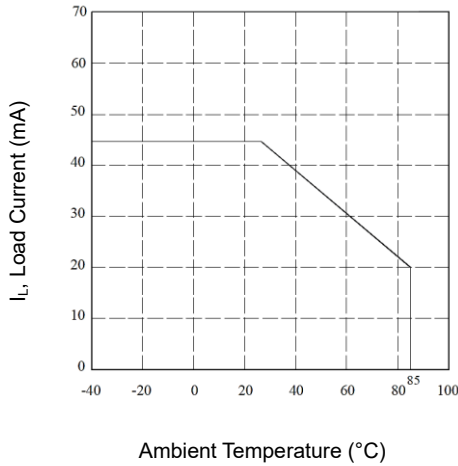
ELECTRICAL CHARACTERISTICS

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	--	$I_{F(Off)}$	--	0.35	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	$R_{(On)}$	--	130	200	Ω
	$I_F=10mA, I_L \leq 5mA$		--	220	300	
Off-State Leakage Current	$V_L=$ Rating	I_{Leak}	--	--	10	μA
Output Capacitance	$V_L=0V, f=1MHz$	C_{Out}	--	58	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=10mA, I_L=$ Rating	t_{on}	--	0.3	1.0	ms
Turn-Off Time		t_{off}	--	0.03	0.2	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	1.5	pF

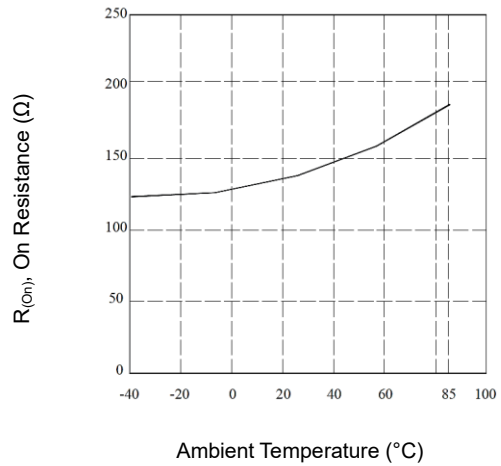
Note: $T_A=25^\circ C$ unless otherwise noted.

CHARACTERISTIC CURVES

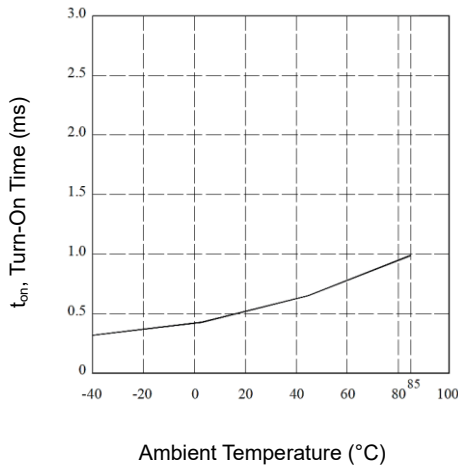
Load Current vs. Temperature



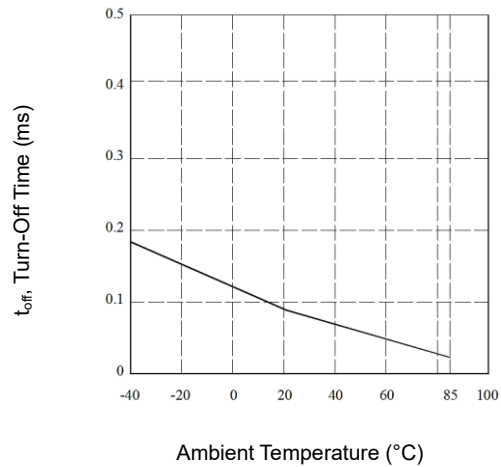
On Resistance vs. Temperature



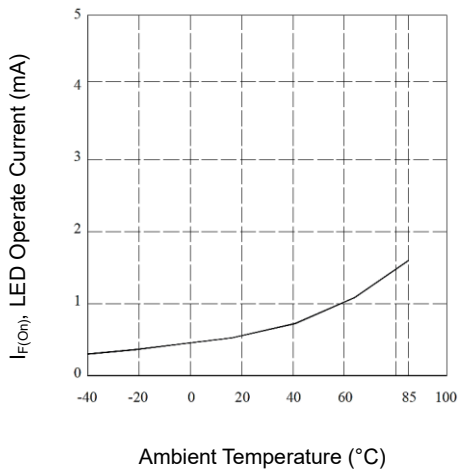
Turn-On Time vs. Temperature



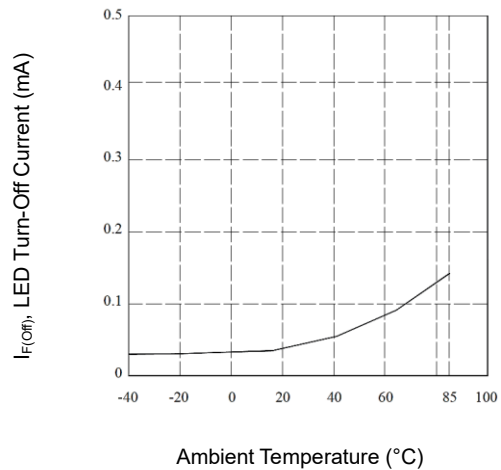
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

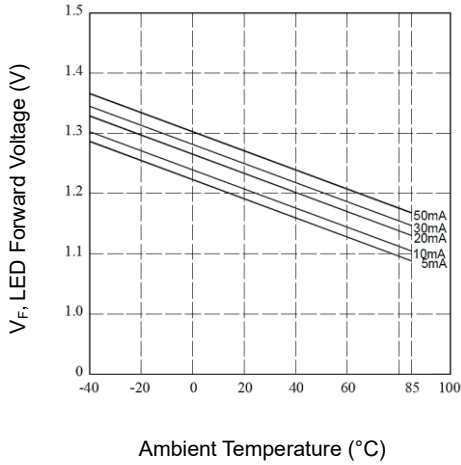


LED Turn-Off Current vs. Temperature

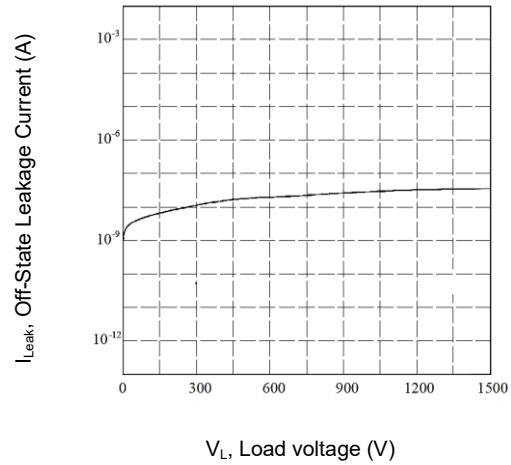


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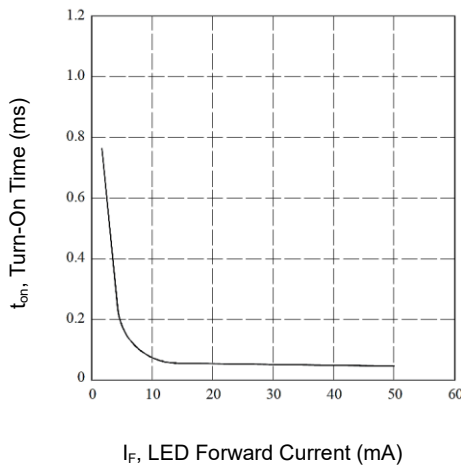
LED Forward Voltage vs. Temperature



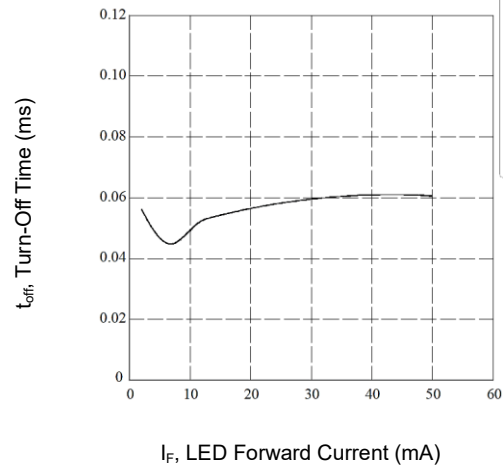
Off-State Leakage Current Vs. Load Voltage



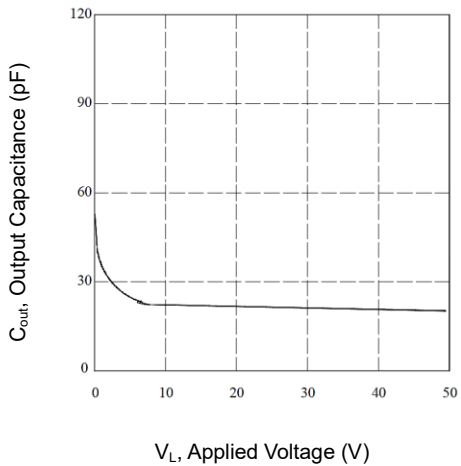
LED Forward Current Vs. Turn-On Time



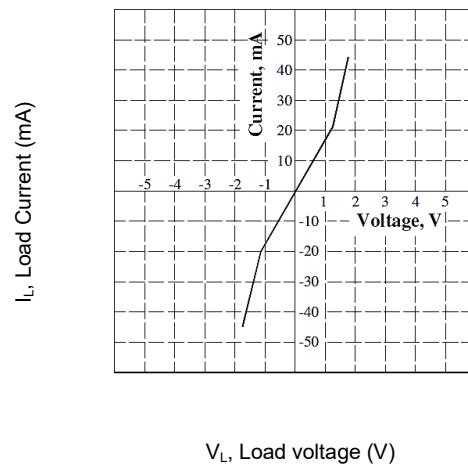
LED Forward Current Vs. Turn-Off Time



Applied Voltage Vs. Output Capacitance



V-I Characteristics of Output MOS



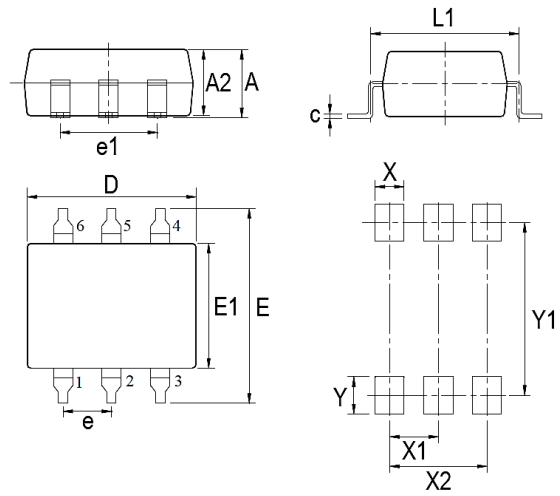
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DIMENSIONS

Item	Min (mm)	Max (mm)
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)