

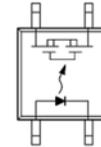
# SSR Relay NO-1A AC/DC 60V 3A SMD-4

SSR1A1I3A04S

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	$I_{FP}$	1	A
Input LED Reverse Voltage	$V_R$	5	V
Input Power Dissipation	$P_{in}$	75	mW
Output Load Voltage	$V_L$	60	V
Output Load Current	$I_L$	3.0	A
Output Peak Load Current	$I_{Peak}$	5.0	A
Output Power Dissipation	$P_{out}$	400	mW
Total Power Dissipation	$P_T$	500	mW
Isolation Voltage	$V_{ISO}$	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	$T_{SOL}$	260	°C

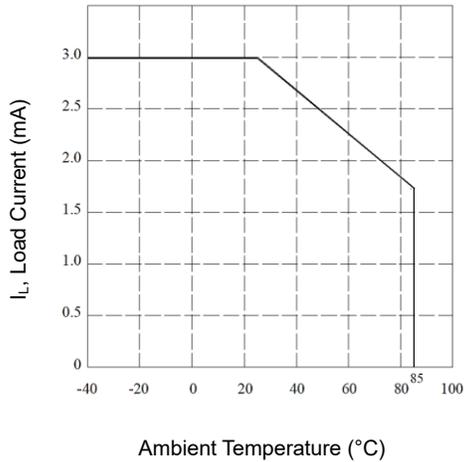
## ELECTRICAL CHARACTERISTICS

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	0.35	--	mA
Recovery LED Voltage	--	$V_{F(Off)}$	0.7	--	--	V
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=10mA, I_L=100mA$ , Time to flow is within 1 sec	$R_{(On)}$	--	0.06	0.1	$\Omega$
Off-State Leakage Current	$V_L=Rating$	$I_{Leak}$	--	--	1.0	$\mu A$
Output Capacitance	$V_L=0V, f=1MHz$	$C_{Out}$	--	150	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=10mA, I_L=100mA$	$t_{on}$	--	1.5	3.0	ms
Turn-Off Time		$t_{off}$	--	0.1	0.3	ms
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance	$V_{IO}=500V_{DC}$	$R_{IO}$	$10^{10}$	--	--	$\Omega$
I/O Capacitance	$f=1MHz$	$C_{IO}$	--	0.8	1.5	pF

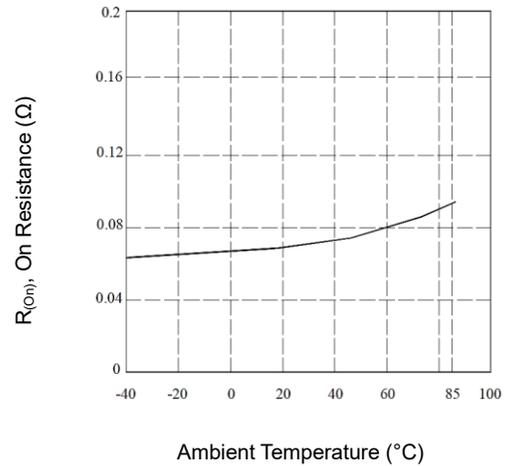
Note:  $T_A=25^\circ C$  unless otherwise noted.

**CHARACTERISTIC CURVES**

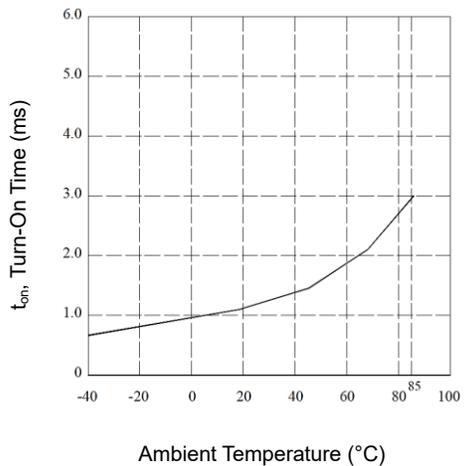
**Load Current vs. Temperature**



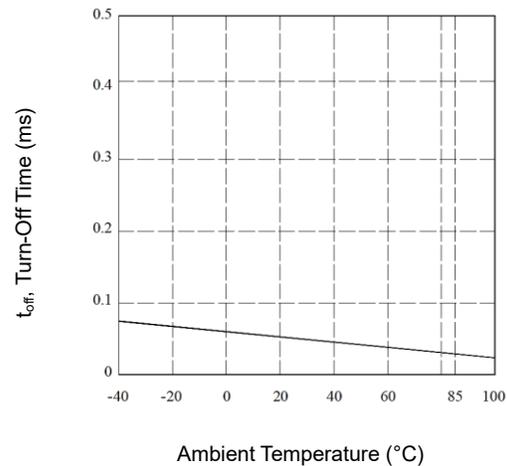
**On Resistance vs. Temperature**



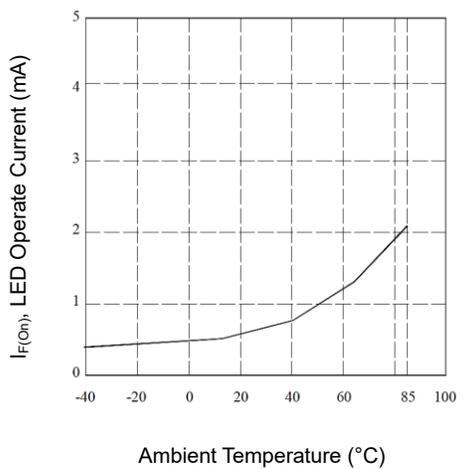
**Turn-On Time vs. Temperature**



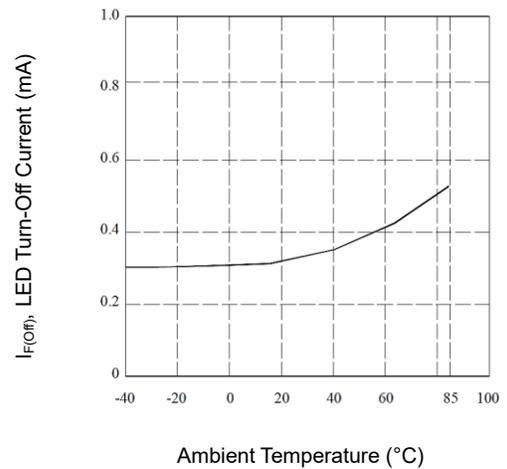
**Turn-Off Time vs. Temperature**



**LED Operate Current vs. Temperature**

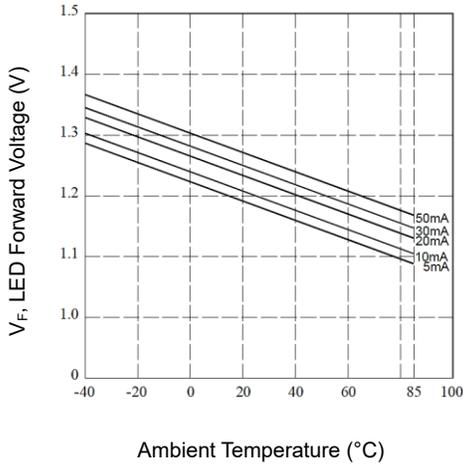


**LED Turn-Off Current vs. Temperature**

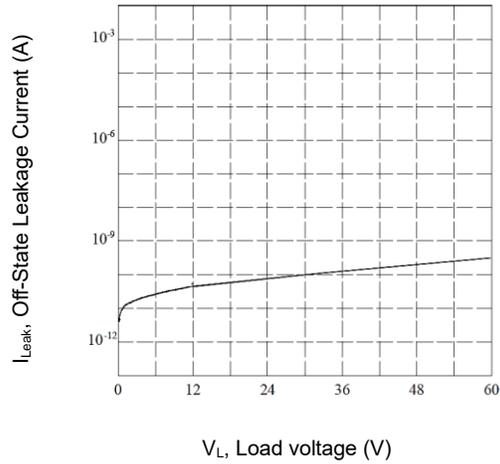


**CHARACTERISTIC CURVES**

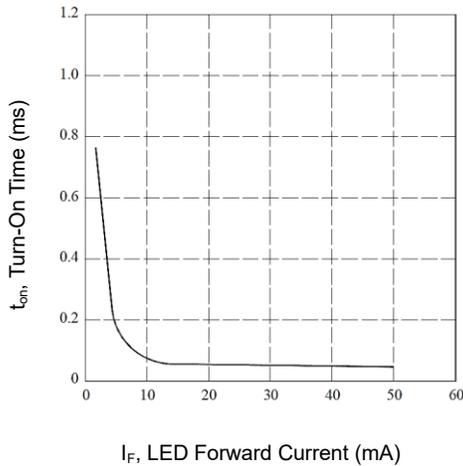
**LED Forward Voltage vs. Temperature**



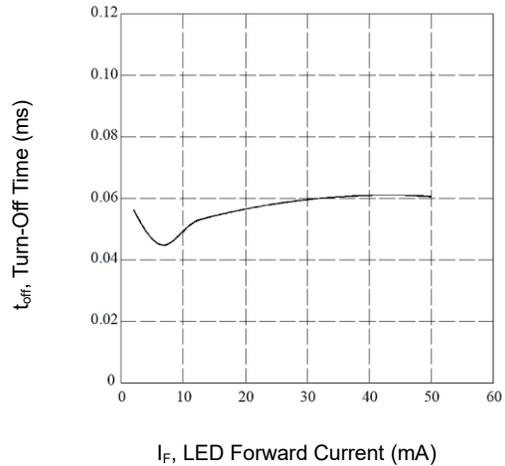
**Off-State Leakage Current vs. Load Voltage**



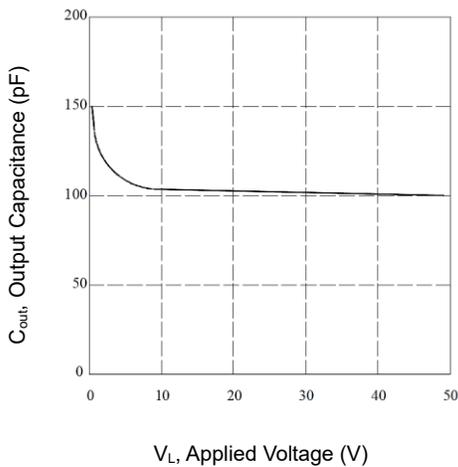
**LED Forward Current vs. Turn-On Time**



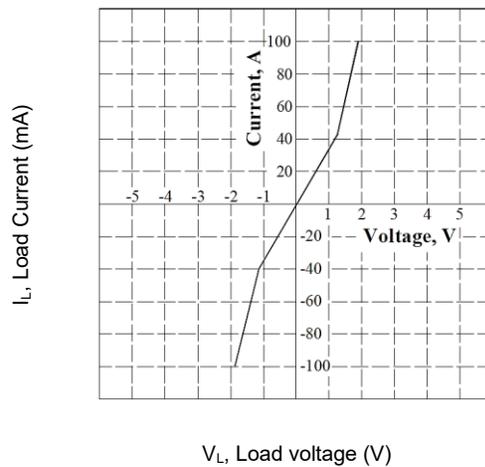
**LED Forward Current vs. Turn-Off Time**



**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	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)

