

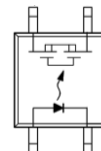
SSR Relay NO-1A AC/DC 60V 0.4A SOP-4

SSR1A1IA40S4

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	60	V
Output Load Current		I_L	400	mA
Output Peak Load Current	100ms (1 pulse)	I_{Peak}	1.0	A
Output Power Dissipation		P_{out}	450	mW
Total Power Dissipation		P_T	500	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

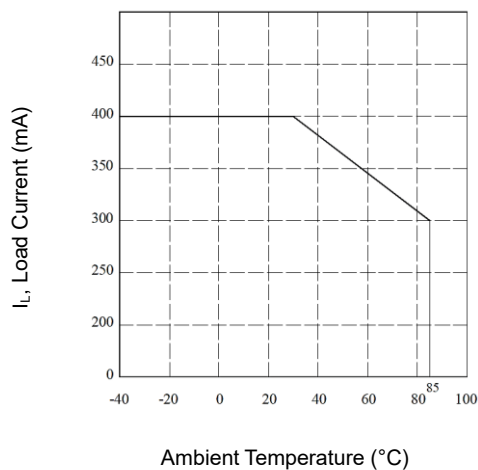
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	I _F =10mA	V _F	--	1.2	1.4	V
Operation LED Current	--	I _{F(On)}	--	0.5	2.0	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 =5mA, I _L =100mA, Time to flow is within 1 sec	R _(On)	--	1.0	1.4	Ω
Off-State Leakage Current	V _L =Rating	I _{Leak}	--	0.2	1	μA
Output Capacitance	V _L =0, f=1MHz	C _{Out}	--	115	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	I _F =5mA, I _L =100mA	t _{on}	--	0.5	0.8	ms
Turn-Off Time		t _{off}	--	0.35	0.5	ms
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance	V _{IO} =500V _{DC}	R _{I/O}	10 ¹⁰	--	--	Ω
I/O Capacitance	f=1MHz	C _{I/O}	--	0.8	1.5	pF

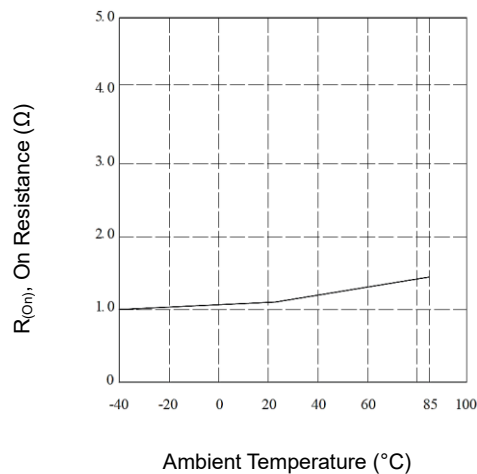
Note: $T_A=25^\circ\text{C}$ unless otherwise noted.

CHARACTERISTIC CURVES

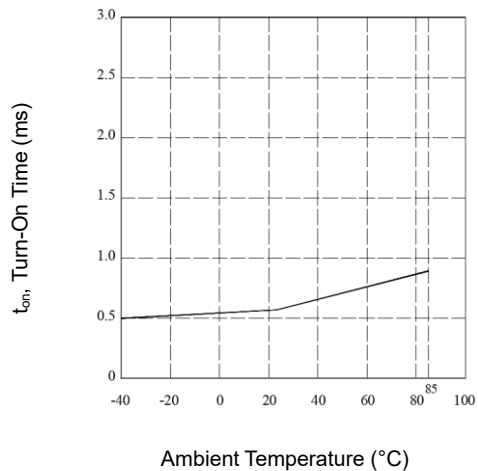
Load Current vs. Temperature



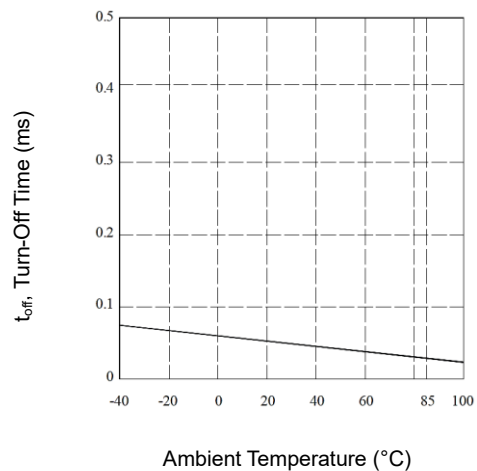
On Resistance vs. Temperature



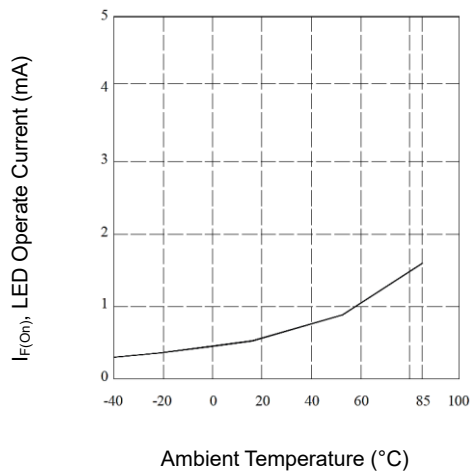
Turn-On Time vs. Temperature



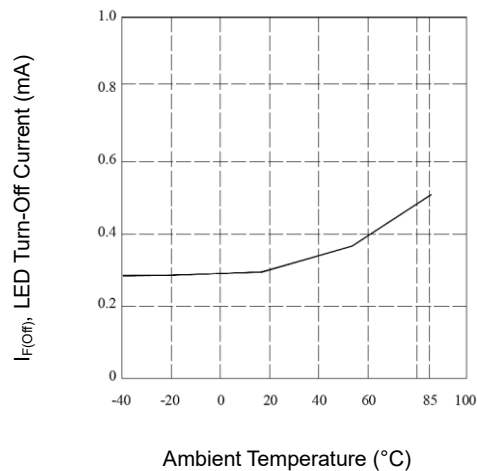
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

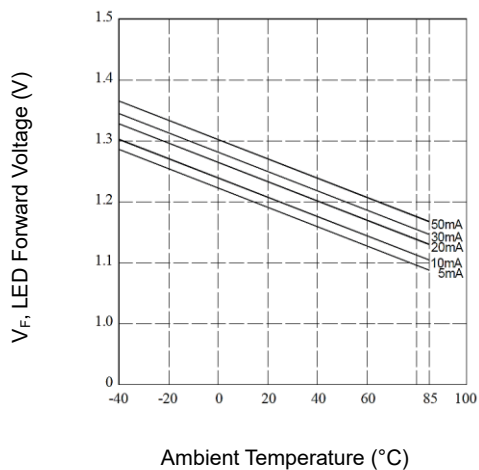


LED Turn-Off Current vs. Temperature

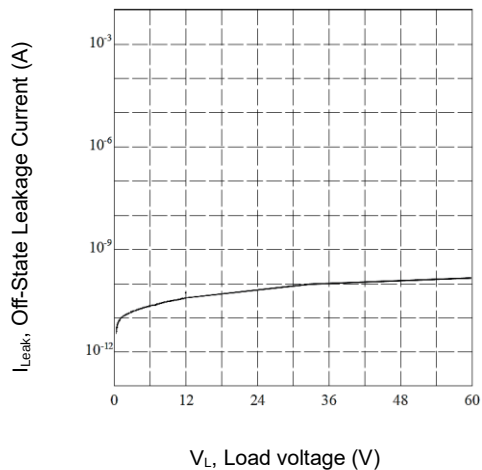


CHARACTERISTIC CURVES

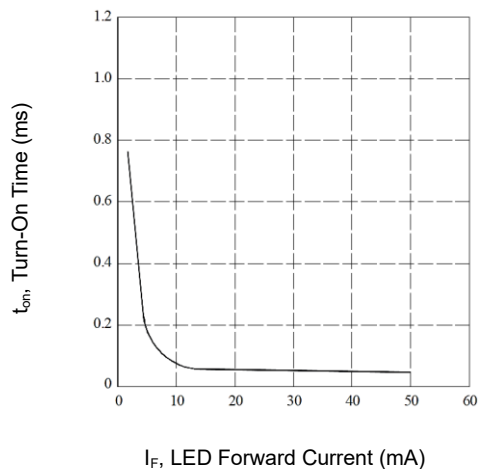
LED Forward Voltage vs. Temperature



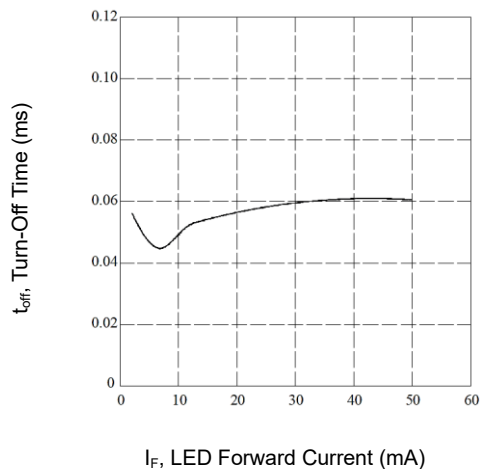
Off-State Leakage Current vs. Load Voltage



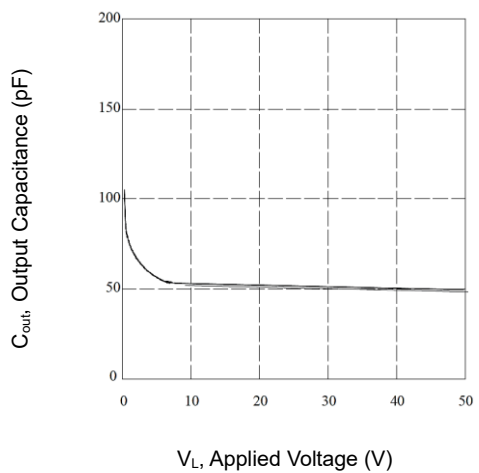
LED Forward Current vs. Turn-On Time



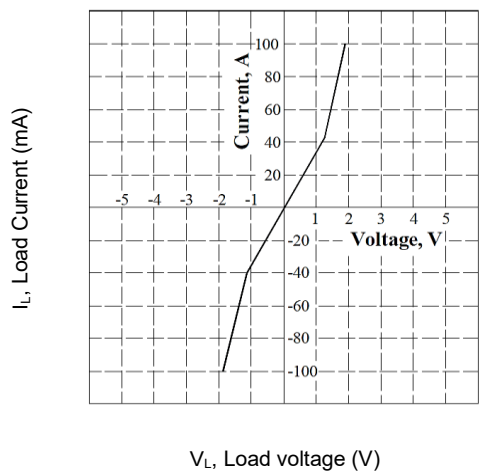
LED Forward Current vs. Turn-Off Time



Applied Voltage vs. Output Capacitance



V-I Characteristics of Output MOS



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DIMENSIONS

Item	Min (mm)	Max (mm)
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)

