

SSR Relay NO-1A

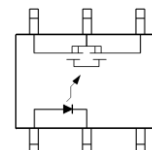
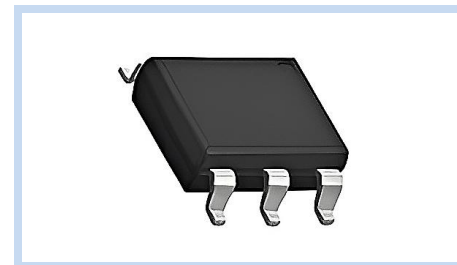
AC/DC 40V 4.5A SMD-6

SSR1A1G4A56S

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	40	V
Output Load Current (Suffix-A)	AC	I _L	4.5	A
Output Load Current (Suffix-B)	DC		5.0	
Output Load Current (Suffix-C)	DC		7.0	
Output Peak Load Current	300μs (1 pulse)	I _{Peak}	9.5	A
Output Power Dissipation		P _{out}	500	mW
Total Power Dissipation		P _T	550	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

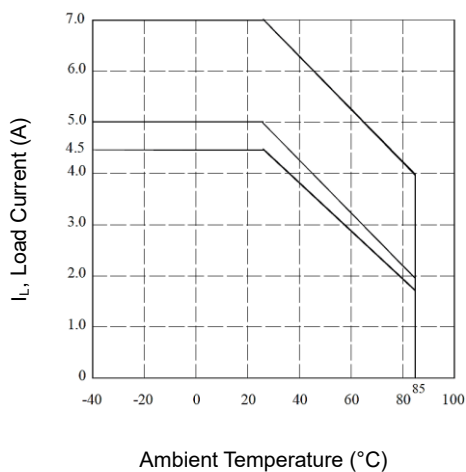
ELECTRICAL CHARACTERISTICS

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)}	--	1.0	3.0	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)	--	0.033	0.05	Ω
Off-State Leakage Current	V _L =Rating	I _{Leak}	--	--	1	μA
Output Capacitance	V _L =0V, f=1MHz	C _{Out}	--	690	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	I _F =10mA, I _L = Rating	t _{on}	--	1.5	5.0	ms
Turn-Off Time		t _{off}	--	0.05	2.0	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}	--	1.0	1.5	pF

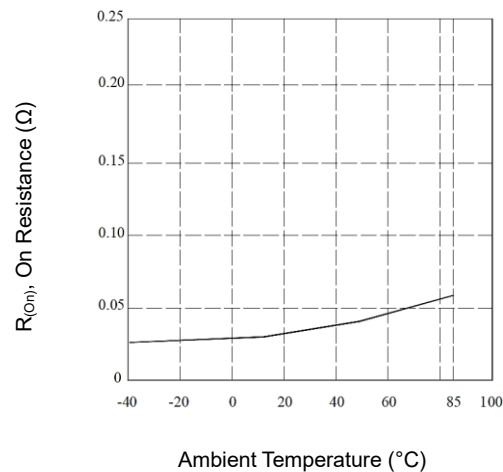
Note: $T_A=25^{\circ}C$ unless otherwise noted.

CHARACTERISTIC CURVES

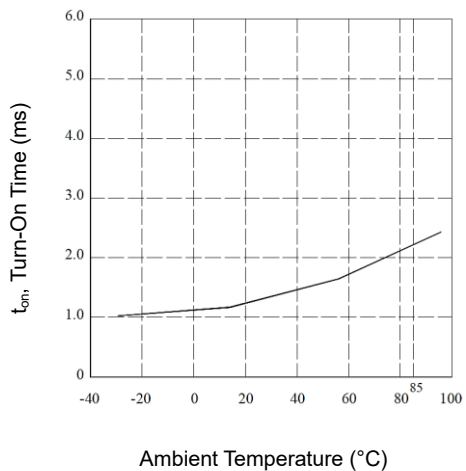
Load Current vs. Temperature



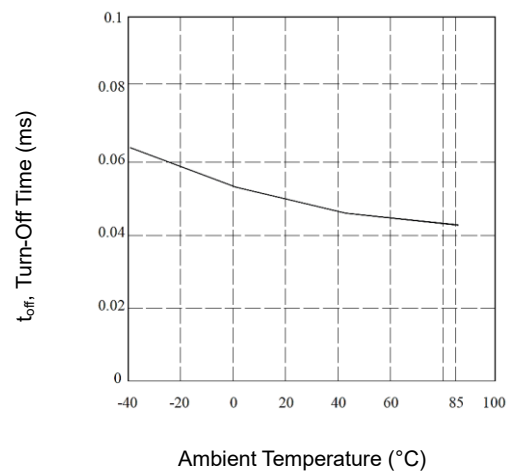
On Resistance vs. Temperature



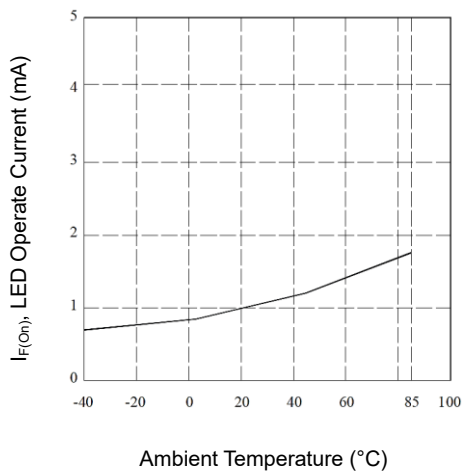
Turn-On Time vs. Temperature



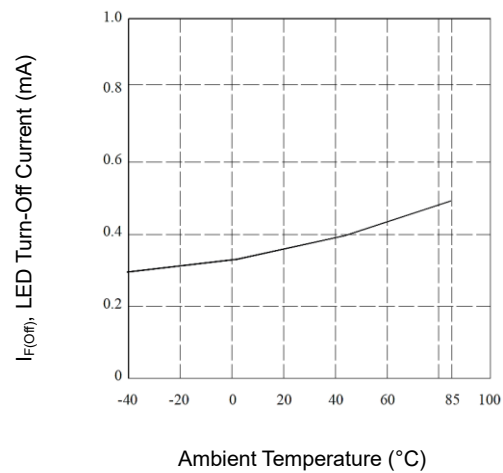
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

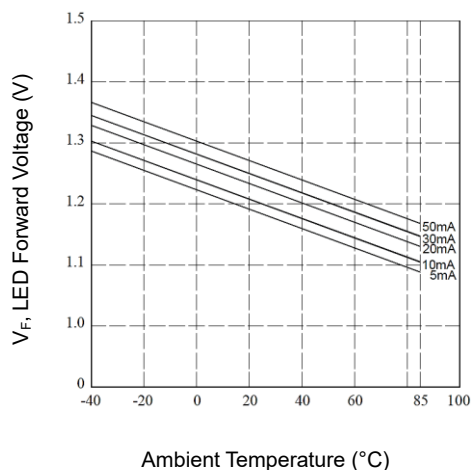


LED Turn-Off Current vs. Temperature

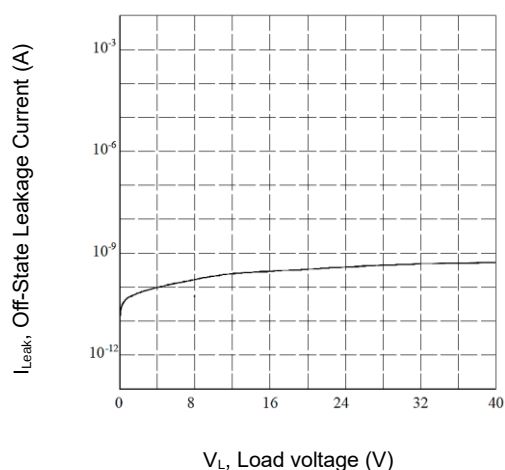


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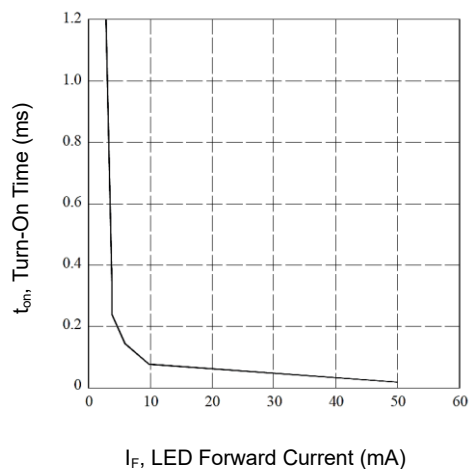
LED Forward Voltage vs. Temperature



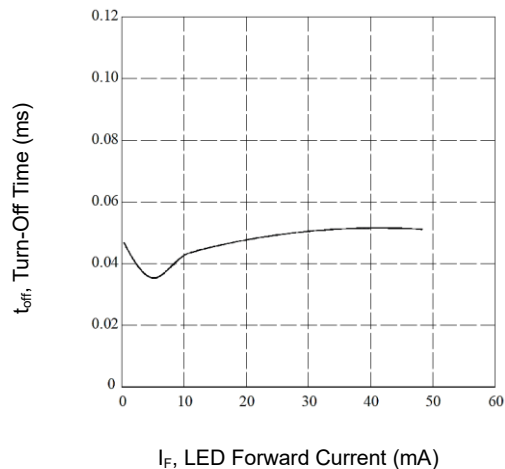
Off-State Leakage Current vs. Load Voltage



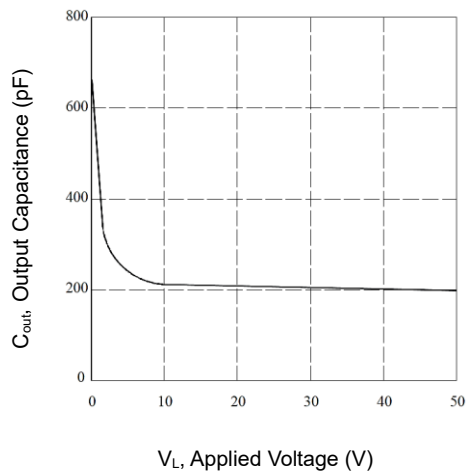
LED Forward Current vs. Turn-On Time



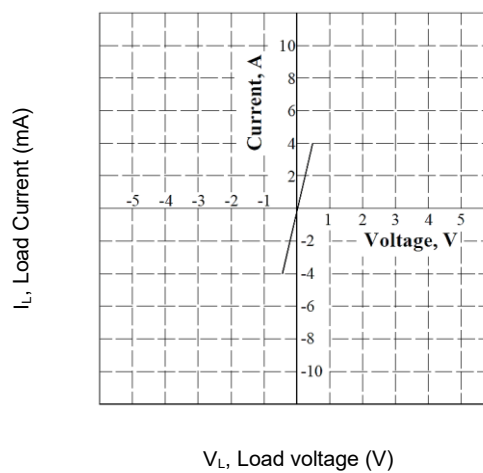
LED Forward Current vs. Turn-Off Time



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	
X2	5.08	
Y	1.90	
Y1	8.60	8.80

Note:

1.LED Anode; 2.LED Cathode; 4.Drain (MOSFET); 5.Source (MOSFET); 6.Drain (MOSFET)

