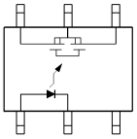
SSR Relay NO-1A
AC/DC 60V 2.5A SMD-6

SSR1A1I2A56S

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	60	V
Output Load Current		I_L	2.5	A
Output Peak Load Current	100ms (1 pulse)	I_{Peak}	4.0	A
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	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

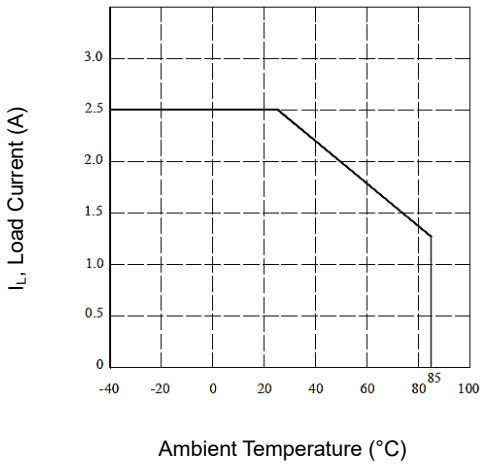
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	I_F=10mA	V_F	--	1.3	1.5	V
Operation LED Current	--	$I_{F(On)}$	--	0.5	5.0	mA
Recovery LED Current	--	$I_{F(Off)}$	--	0.35	0.9	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	$R_{(On)}$	--	0.1	0.2	Ω
Off-State Leakage Current	V_L=Rating	I_{Leak}	--	--	1	μA
Output Capacitance	V_L=0V, f=1MHz	C_{Out}	--	450	--	pF
Transmission Characteristics	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
Turn-On Time	I_F=10mA, I_L=100mA	t_{on}	--	2.0	5.0	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}	$R_{I/O}$	10^{10}	--	--	Ω
I/O Capacitance	f=1MHz	$C_{I/O}$	--	0.8	1.5	pF

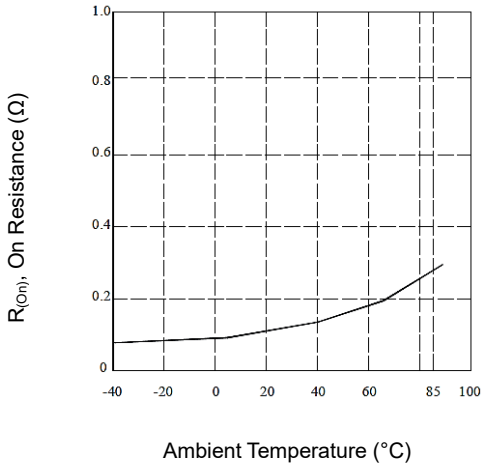
Note: T_A=25˚C unless otherwise noted.

CHARACTERISTIC CURVES

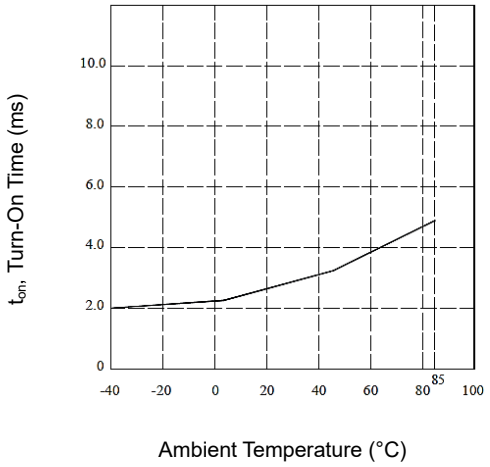
Load Current vs. Temperature



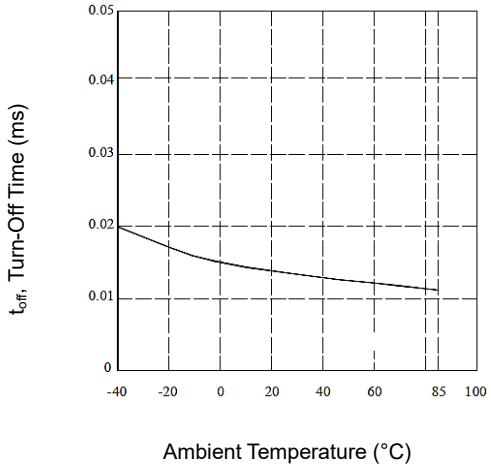
On Resistance vs. Temperature



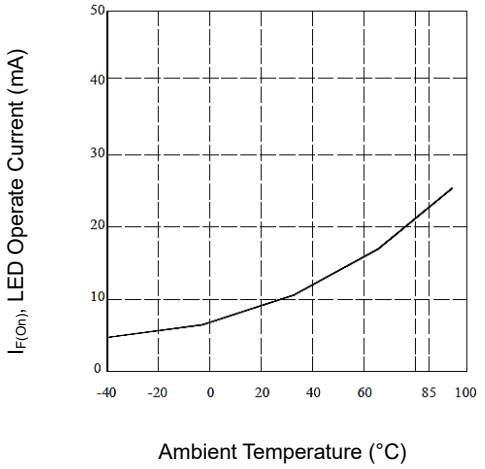
Turn-On Time vs. Temperature



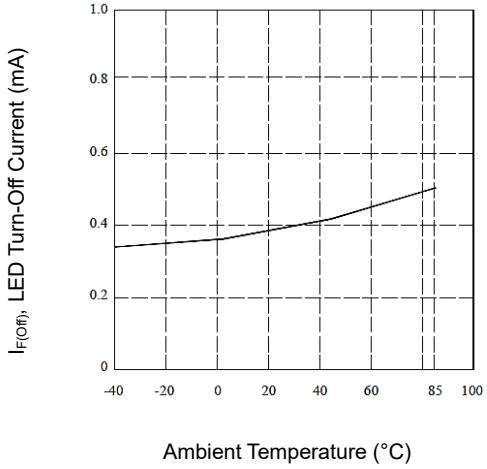
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

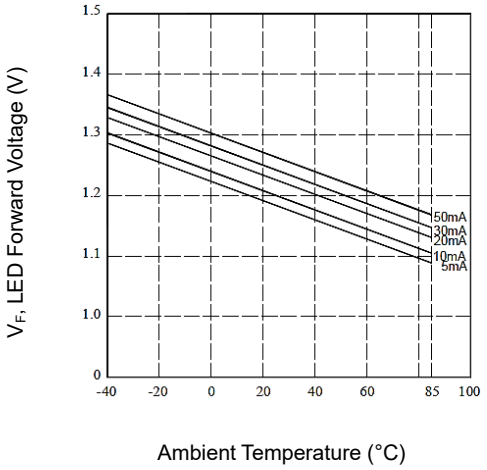


LED Turn-Off Current vs. Temperature

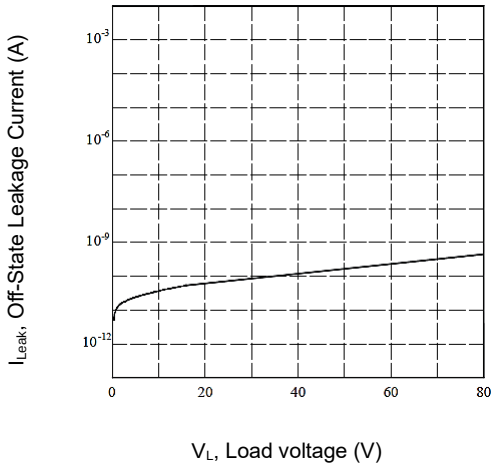


CHARACTERISTIC CURVES

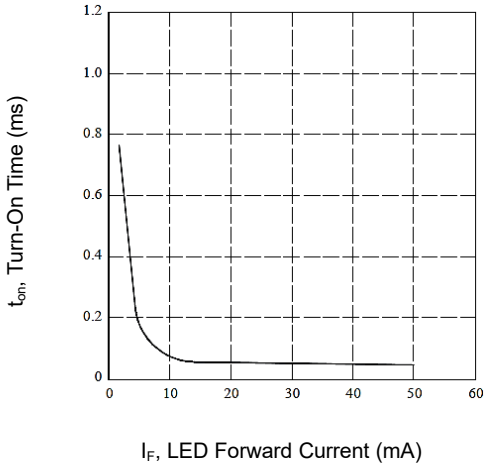
LED Forward Voltage vs. Temperature



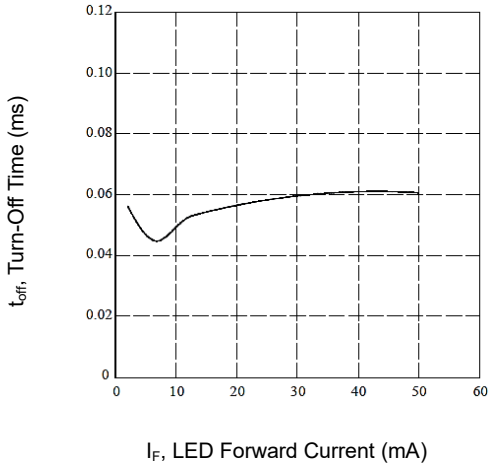
Off-State Leakage Current vs. Load Voltage



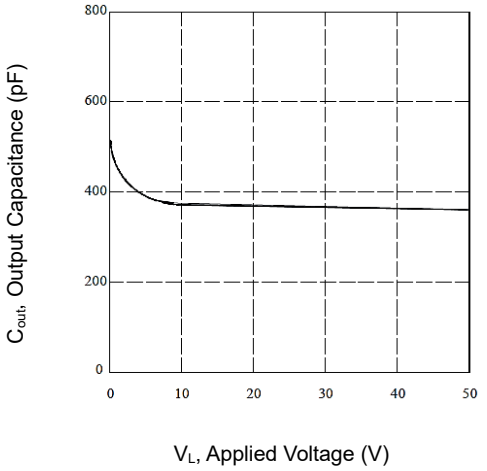
LED Forward Current vs. Turn-On Time



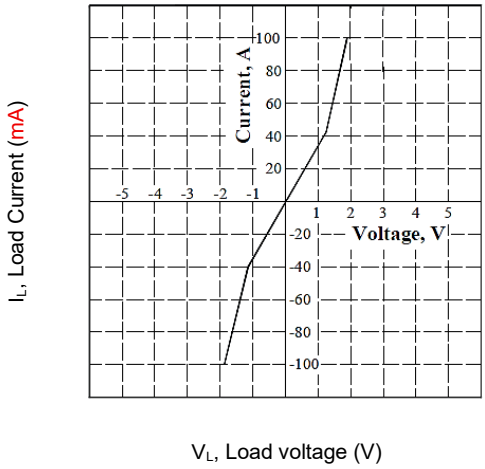
LED Forward Current vs. Turn-Off Time



Applied Voltage vs. Output Capacitance

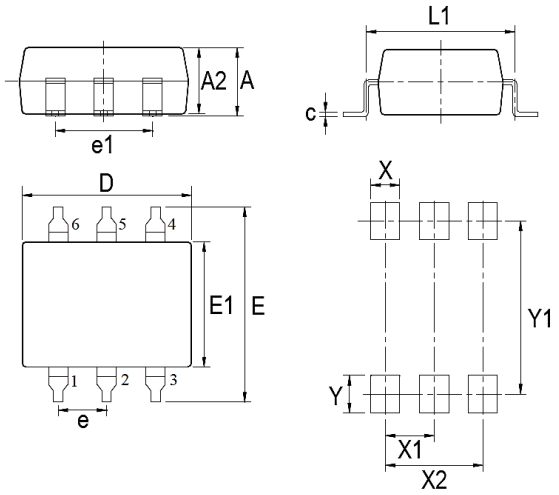


V-I Characteristics of Output MOS



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)