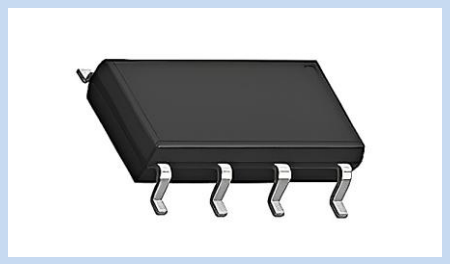
SSR Relay NO-1Ax2 AC/DC 60V 0.4A SOP-8 Low Leakage

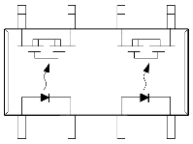
SSR2A1IA40IS8

MERITEK

FEATURE

- Normally Open (2-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=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	0.4	A
Output Peak Load Current	100ms (1 pulse)	I_{Peak}	1	A
Output Power Dissipation		P_{out}	300	mW
Total Power Dissipation		P_T	350	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

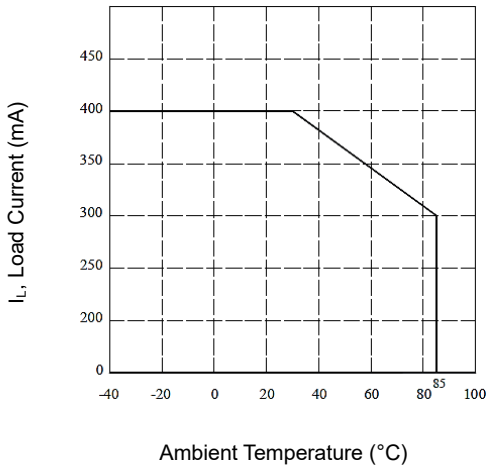
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	I_F=10mA	V_F	--	1.2	1.5	V
Operation LED Current	--	$I_{F(On)}$	--	0.5	3.0	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=5mA, I_L=100mA, Time to flow is within 1 sec	$R_{(On)}$	--	0.8	1.5	Ω
Off-State Leakage Current	V_L=Rating	I_{Leak}	--	1	10	nA
Output Capacitance	V_L=0V, f=1MHz	C_{Out}	--	28	--	pF
Transmission Characteristics	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
Turn-On Time	I_F=5mA, I_L=100mA	t_{on}	--	0.25	0.35	ms
Turn-Off Time		t_{off}	--	0.02	0.05	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

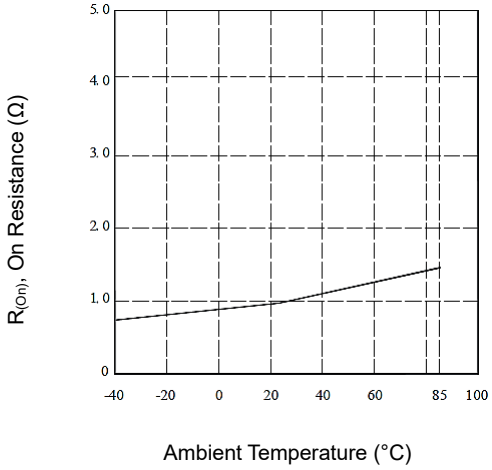
Note: T_A=25˚C unless otherwise noted.

CHARACTERISTIC CURVES

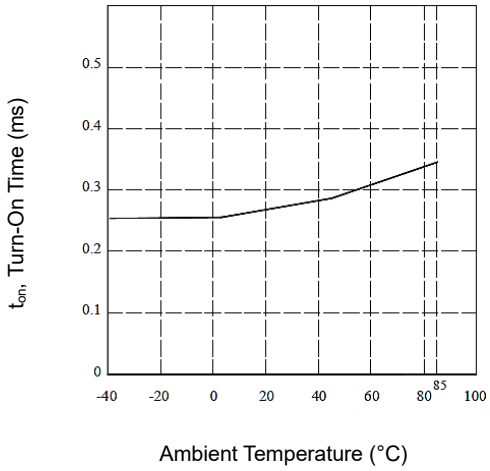
Load Current vs. Temperature



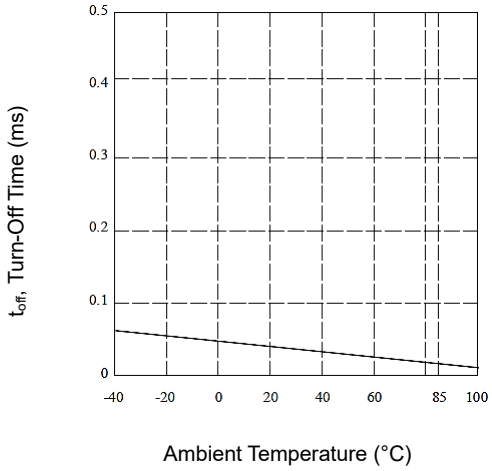
On Resistance vs. Temperature



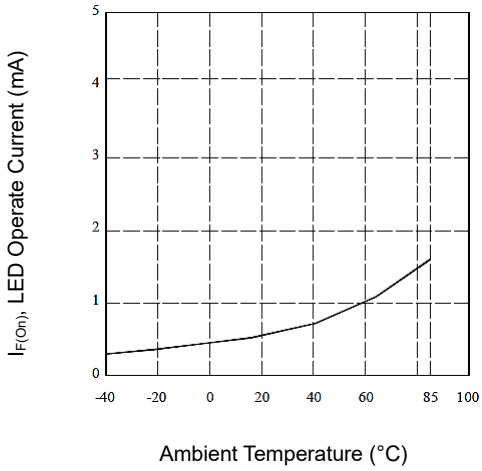
Turn-On Time vs. Temperature



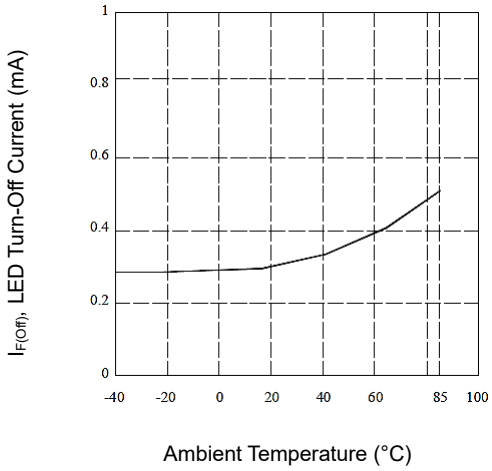
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

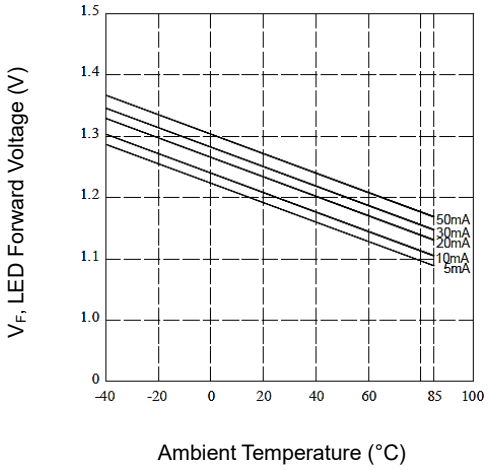


LED Turn-Off Current vs. Temperature

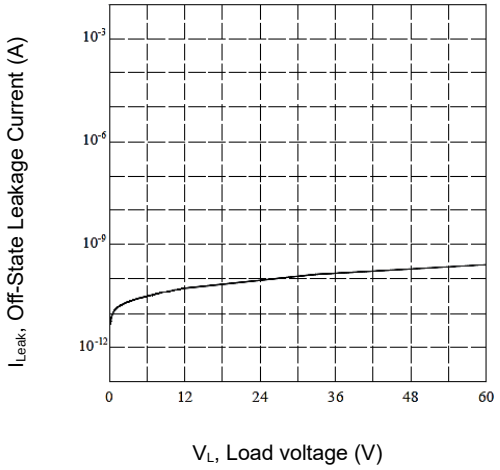


CHARACTERISTIC CURVES

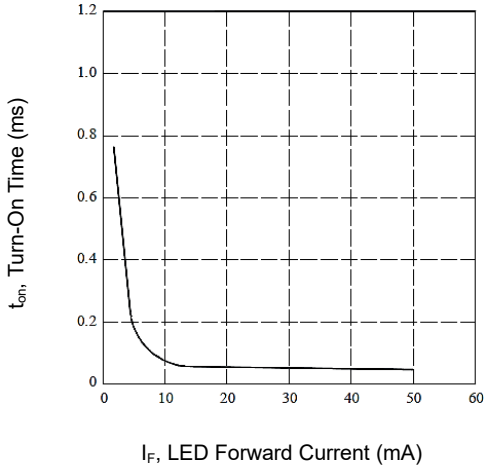
LED Forward Voltage vs. Temperature



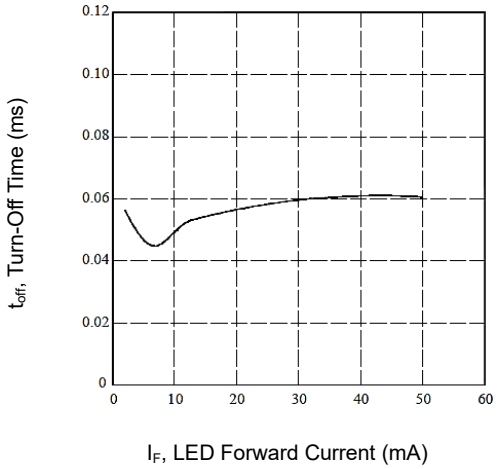
Off-State Leakage Current vs. Load Voltage



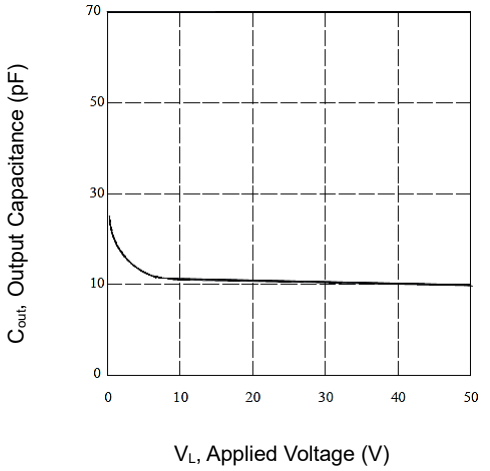
LED Forward Current vs. Turn-On Time



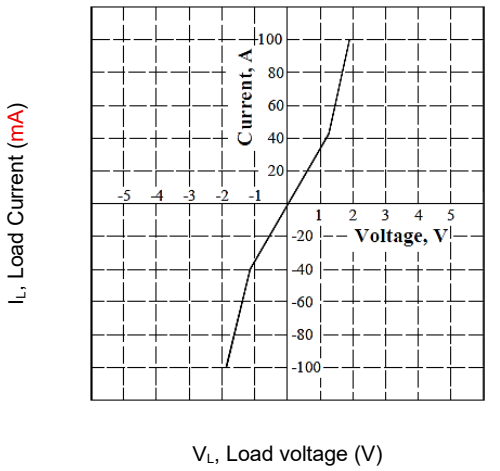
LED Forward Current vs. Turn-Off Time



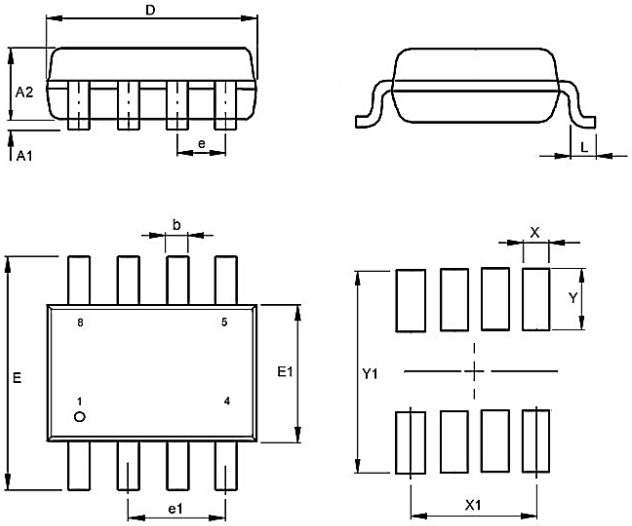
Applied Voltage vs. Output Capacitance



V-I Characteristics of Output MOS



DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	1.80	2.20
b	0.30	0.50
D	9.20	9.60
E	6.40	7.20
E1	4.20	4.60
e	2.54	
e1	5.08	
L	0.46	0.86
X	0.80	
X1	7.62	
Y	1.20	
Y1	7.20	

Note:
1,3.LED Anode; 2,4.LED Cathode; 5,6. Drain (MOSFET); 7,8. Drain (MOSFET)