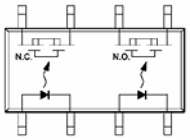
SSR Relay NO+NC/1A+1B
AC/DC 60V 0.4A DIP-8

SSRAB1IA40D8

MERITEK

FEATURE

- Normally Open + Normally Close (1-Form-A/B) 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



RoHS

c UL us

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}	0.7	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

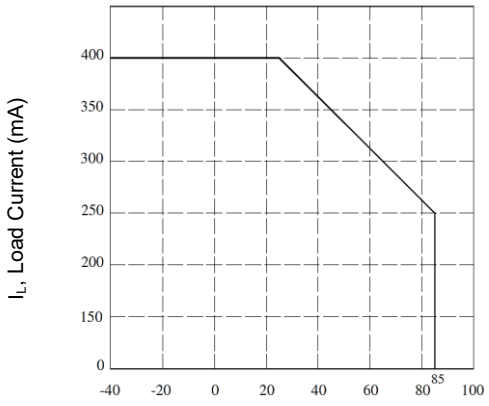
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
LED Forward Voltage	I_F=10mA	V_F	--	1.2	1.5	V
Operation LED Current	--	$I_{F(On)}$	--	0.5	5.0	mA
Recovery LED Current	--	$I_{F(Off)}$	--	0.35	0.8	mA
Recovery LED Voltage	--	$V_{F(Off)}$	0.5	--	--	V
Output Characteristics	**Conditions**	**Symbol**	**Min**	**Typ.**	**Max**	**Unit**
On-Resistance	I_F=10mA (N.O.), I_F=0A (N.C.), I_L=100mA, Time to flow is within 1 sec	$R_{(On)}$	--	1.0(N.O.)	1.4(N.O.)	Ω
				1.0(N.C.)	3.0(N.C.)	
Off-State Leakage Current	I_F=0A (N.O.), I_F=10mA (N.C.), V_L=Rating	I_{Leak}	--	1	10	μA
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}	--	0.5(N.O.)	1.0(N.O.)	ms
			--	0.05(N.C.)	0.5(N.C.)	
Turn-Off Time		t_{off}	--	0.03(N.O.)	0.2(N.O.)	ms
			--	0.5(N.C.)	3.0(N.C.)	
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	--	pF

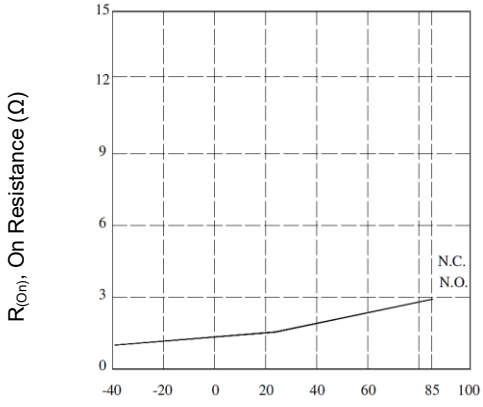
Note: T_A=25°C unless otherwise noted.

CHARACTERISTIC CURVES

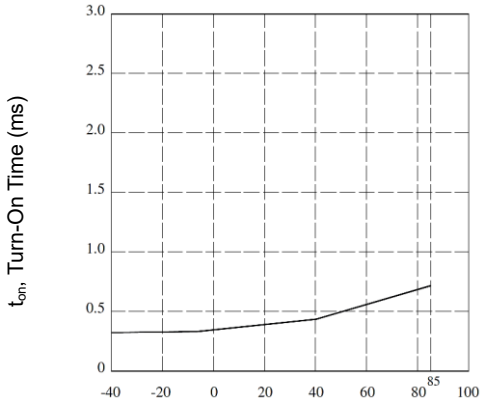
Load Current vs. Temperature



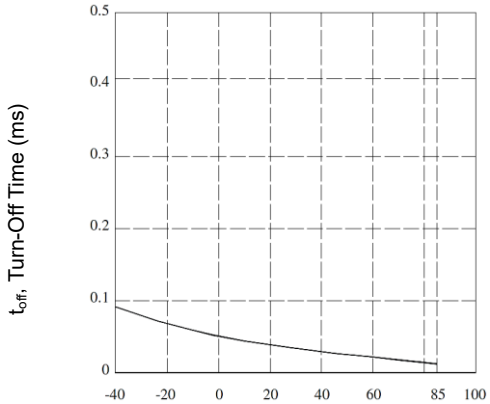
On Resistance vs. Temperature



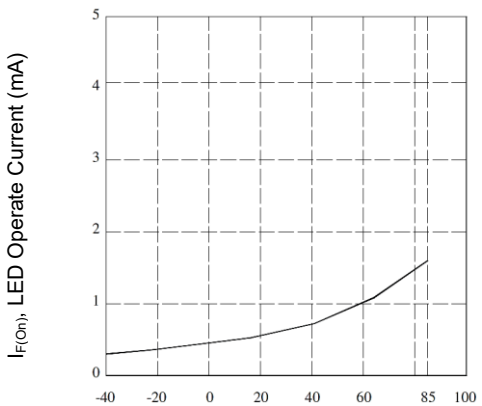
Turn-On Time vs. Temperature



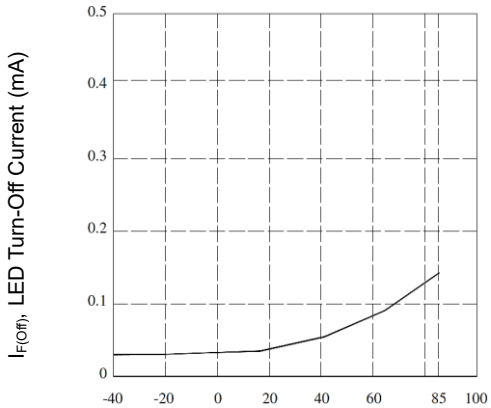
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

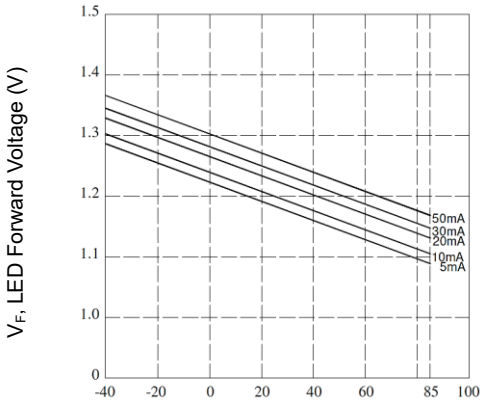


LED Turn-Off Current vs. Temperature



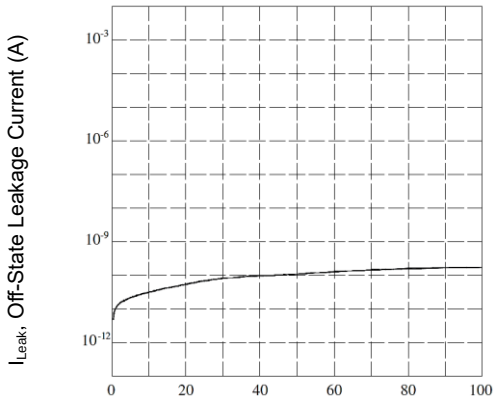
CHARACTERISTIC CURVES

LED Forward Voltage vs. Temperature



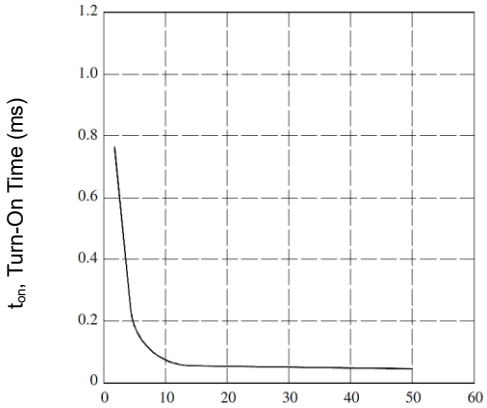
Ambient Temperature (°C)

Off-State Leakage Current vs. Load Voltage



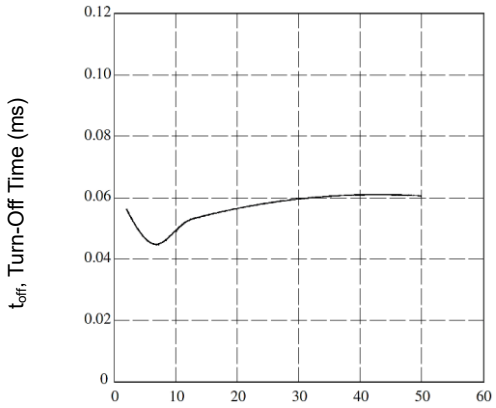
V_L, Load voltage (V)

LED Forward Current vs. Turn-On Time



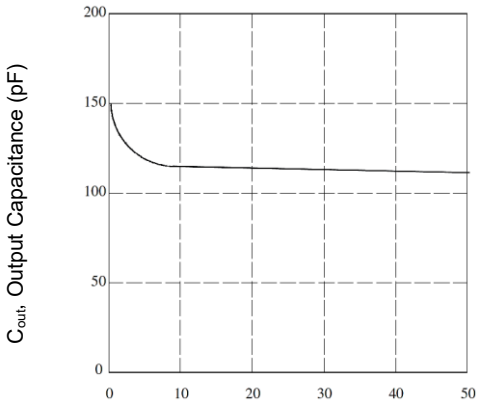
I_F, LED Forward Current (mA)

LED Forward Current vs. Turn-Off Time



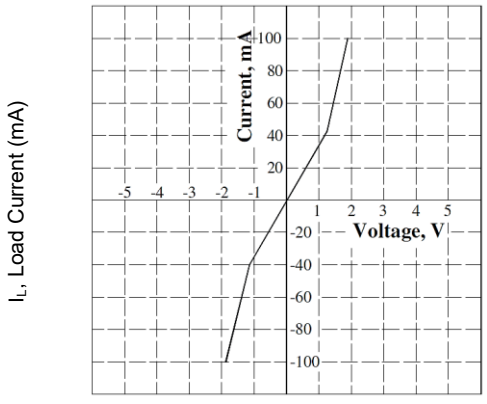
I_F, LED Forward Current (mA)

Applied Voltage vs. Output Capacitance



V_L, Applied Voltage (V)

V-I Characteristics of Output MOS



V_L, Load voltage (V)

DIMENSIONS

Item	Min (mm)	Max (mm)
A	6.70	7.10
A1	3.20	3.60
A2	3.70	4.10
b	0.27	0.67
c	0.25	
D	9.60	10.00
E	7.42	7.82
E1	6.20	6.60
e	2.54	
e1	7.22	8.02
X	7.22	8.02
Y	7.52	7.72

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