

SSR Relay NC-1B

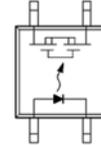
AC/DC 60V 0.5A SOP-4

SSR1B1IA50S4

MERITEK

FEATURE

- Normally Close (1-Form-B) 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	I_{FP}	0.5	A
Input LED Reverse Voltage	V_R	5	V
Input Power Dissipation	P_{In}	75	mW
Output Load Voltage	V_L	60	V
Output Load Current	I_L	500	mA
Output Peak Load Current	I_{Peak}	0.6	A
Output Power Dissipation	P_{out}	300	mW
Total Power Dissipation	P_T	350	mW
Isolation Voltage	V_{ISO}	1500	V_{RMS}
Operating Temperature Range	T_{Opr}	-40~+85	°C
Storage Temperature Range	T_{Stg}	-40~+100	°C
Soldering Temperature	T_{SOL}	260	°C

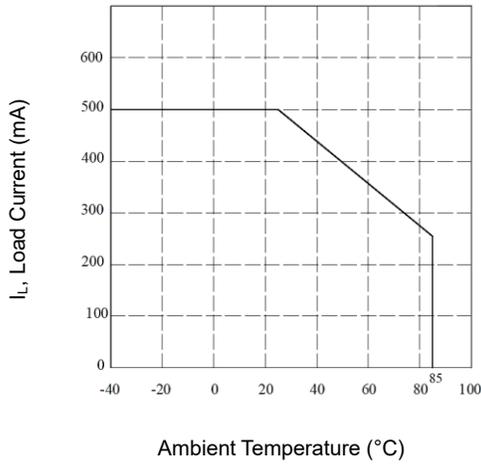
ELECTRICAL CHARACTERISTICS

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	3.0	mA
Recovery LED Current	--	$I_{F(Off)}$	0.1	0.4	--	mA
Recovery LED Voltage	--	$V_{F(Off)}$	0.5	--	--	V
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
On-Resistance	$I_F=0A, I_L=100mA$, Time to flow is within 1 sec	$R_{(On)}$	--	0.8	1.5	Ω
Off-State Leakage Current	$I_F=5mA, V_L=Rating$	I_{Leak}	--	--	1.0	μA
Output Capacitance	$I_F=5mA, V_L=0V, f=1MHz$	C_{Out}	--	165	--	pF
Transmission Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Turn-On Time	$I_F=5mA, I_L=100mA$	t_{on}	--	0.50	2.0	ms
Turn-Off Time		t_{off}	--	0.25	1.0	ms
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
I/O Isolation Resistance	$V_{IO}=500V_{DC}$	R_{IO}	10^{10}	--	--	Ω
I/O Capacitance	$f=1MHz$	C_{IO}	--	0.8	--	pF

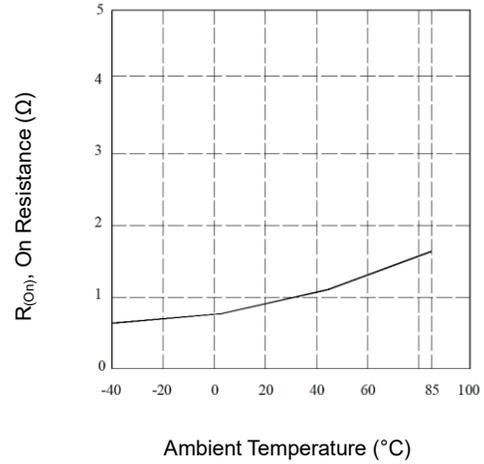
Note: $T_A=25^\circ C$ unless otherwise noted.

CHARACTERISTIC CURVES

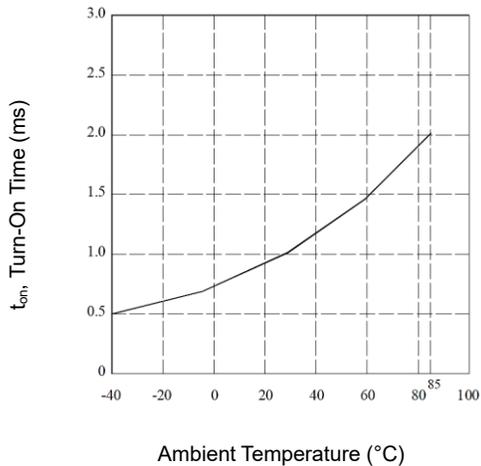
Load Current vs. Temperature



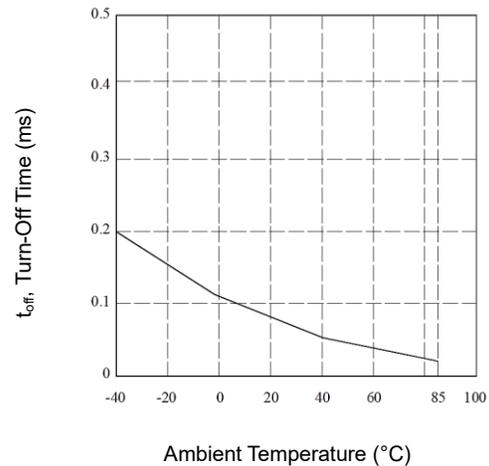
On Resistance vs. Temperature



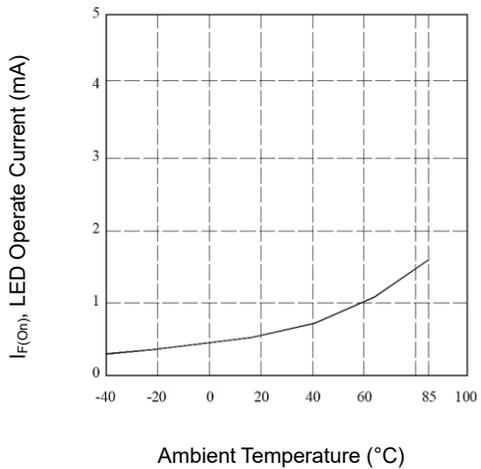
Turn-On Time vs. Temperature



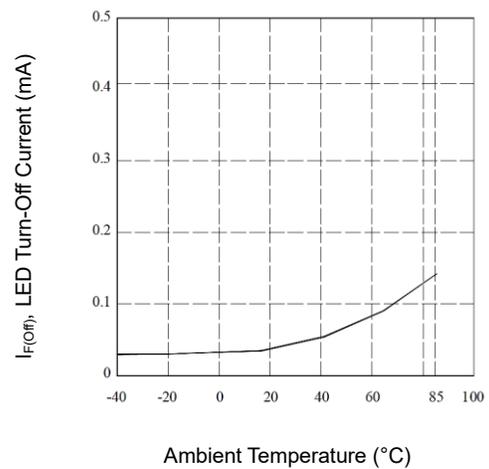
Turn-Off Time vs. Temperature



LED Operate Current vs. Temperature

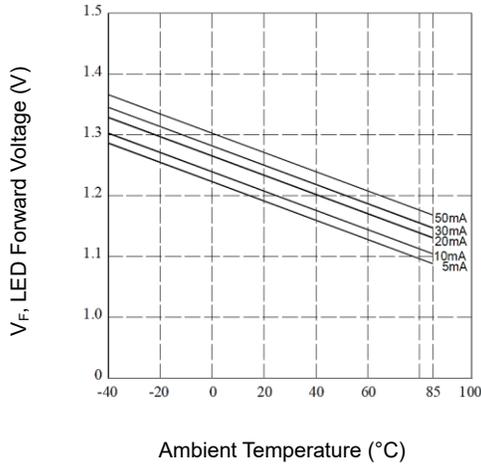


LED Turn-Off Current vs. Temperature

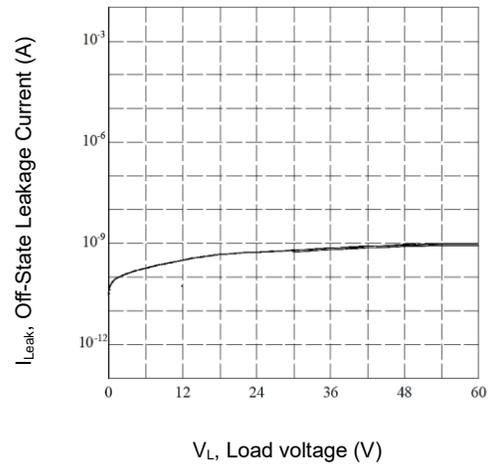


CHARACTERISTIC CURVES

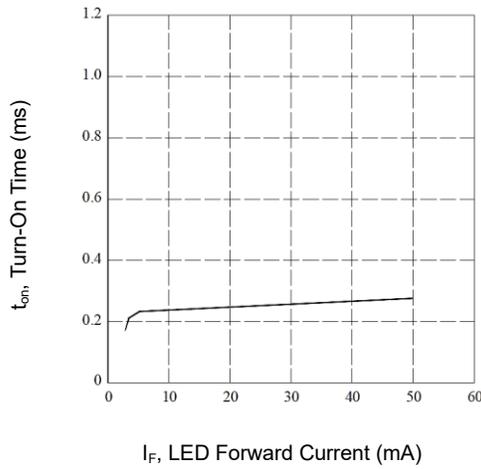
LED Forward Voltage vs. Temperature



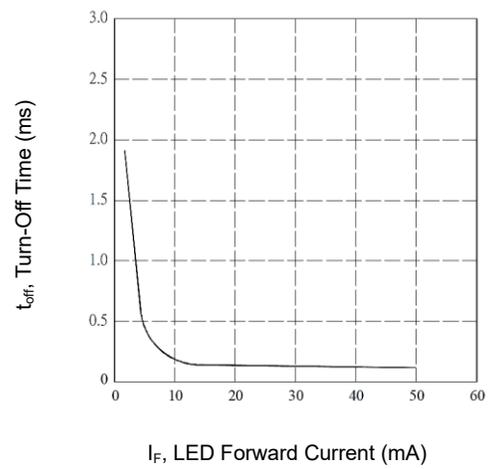
Off-State Leakage Current Vs. Load Voltage



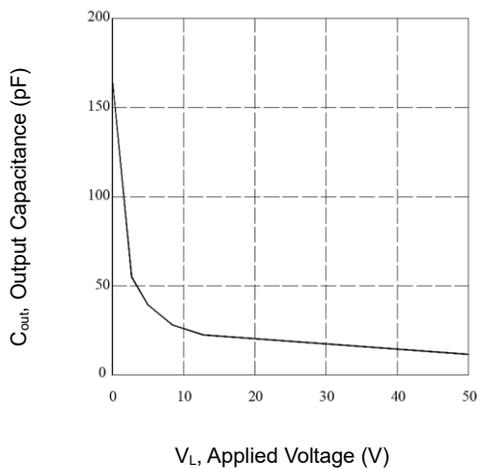
LED Forward Current Vs. Turn-On Time



LED Forward Current Vs. Turn-Off Time



Applied Voltage Vs. Output Capacitance



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MERITEK

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
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)

