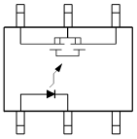
# SSR Relay NO-1A
# AC/DC 200V 0.2A SMD-6

SSR1A2DA206S

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 | $V_L$ | 200 | V |
| Output Load Current | | $I_L$ | 0.2 | A |
| Output Peak Load Current | 100ms (1 pulse) | $I_{Peak}$ | 1.0 | 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) | AC for 60sec, RH60% | $V_{ISO}$ | 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 |

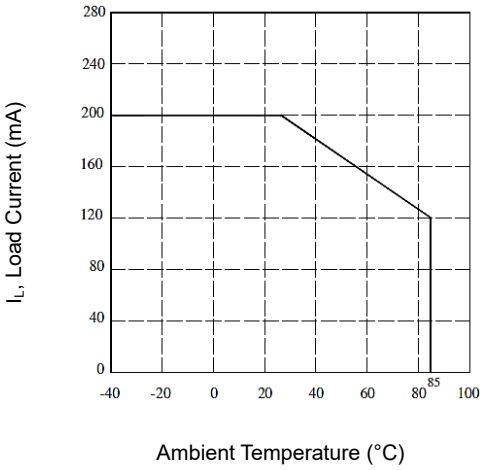
## ELECTRICAL CHARACTERISTICS

| 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 | 0.5 | 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 | $R_{(On)}$ | -- | 5 | 8 | Ω |
| Off-State Leakage Current | $V_L$=Rating | $I_{Leak}$ | -- | 0.2 | 1 | μA |
| Output Capacitance | $V_L$=0V, f=1MHz | $C_{Out}$ | -- | 45 | -- | pF |
| **Transmission Characteristics** | **Conditions** | **Symbol** | **Min** | **Typ.** | **Max** | **Unit** |
| Turn-On Time | $I_F$=10mA, $I_L$=100mA | $t_{on}$ | -- | 0.4 | 0.8 | ms |
| Turn-Off Time | $I_F$=10mA, $I_L$=100mA | $t_{off}$ | -- | 0.05 | 0.2 | ms |
| **Coupled Characteristics** | **Conditions** | **Symbol** | **Min** | **Typ.** | **Max** | **Unit** |
| I/O Isolation Resistance | $V_{IO}$=500$V_{DC}$ | $R_{I/O}$ | $10^{10}$ | -- | -- | Ω |
| I/O Capacitance | f=1MHz | $C_{I/O}$ | -- | 0.8 | 1.5 | pF |

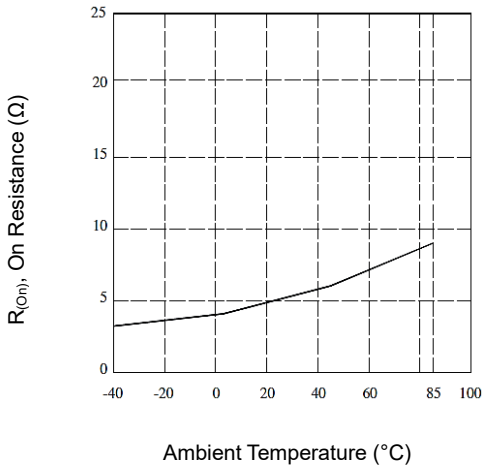
Note: $T_A$=25˚C unless otherwise noted.

## CHARACTERISTIC CURVES

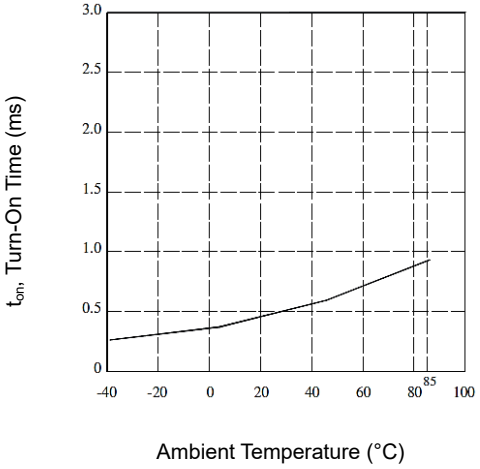
**Load Current vs. Temperature**



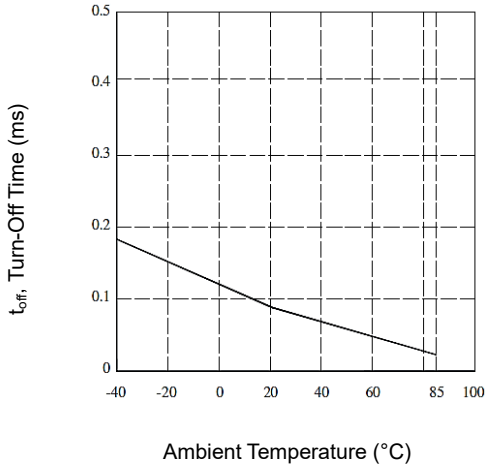

**On Resistance vs. Temperature**



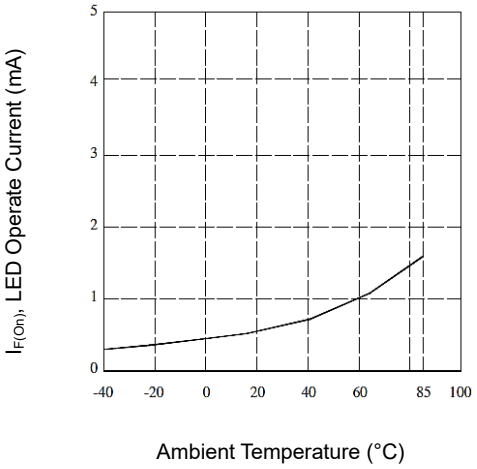

**Turn-On Time vs. Temperature**



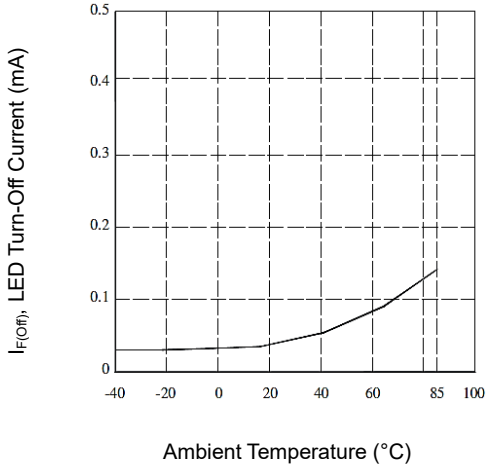

**Turn-Off Time vs. Temperature**




**LED Operate Current vs. Temperature**

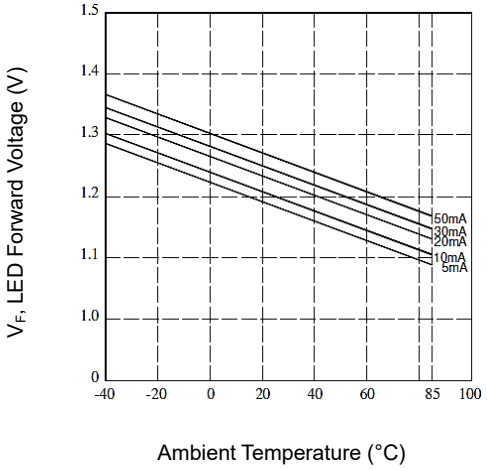



**LED Turn-Off Current vs. Temperature**

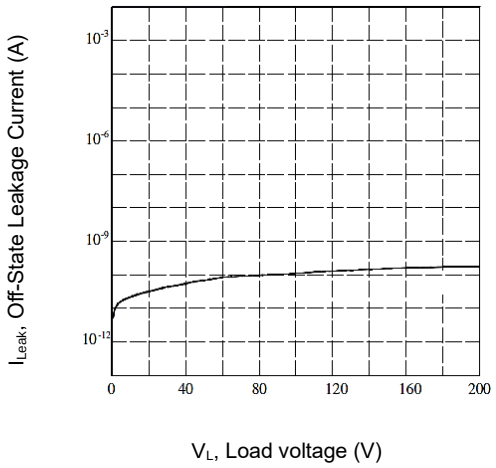


## CHARACTERISTIC CURVES

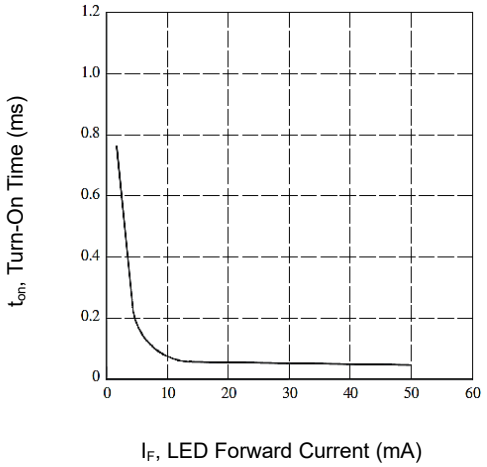
**LED Forward Voltage vs. Temperature**



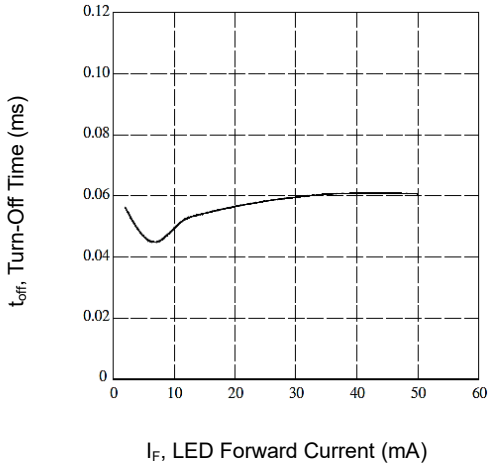

**Off-State Leakage Current vs. Load Voltage**



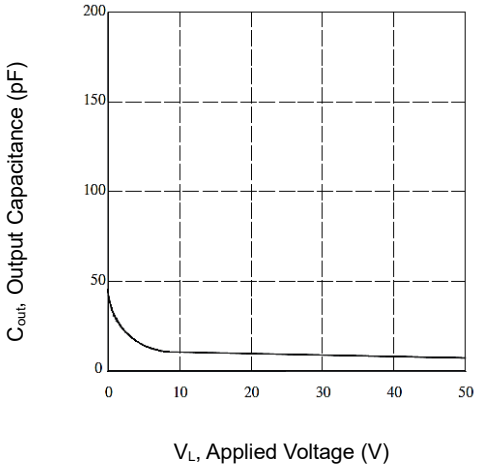

**LED Forward Current vs. Turn-On Time**



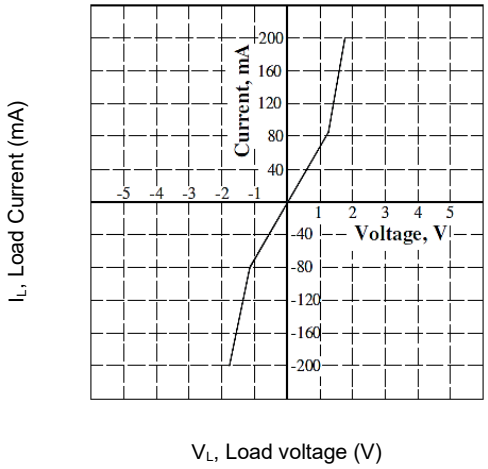

**LED Forward Current vs. Turn-Off Time**




**Applied Voltage vs. Output Capacitance**

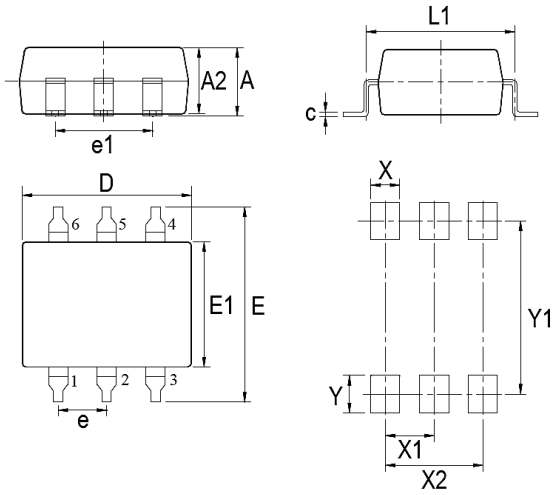



**V-I Characteristics of Output MOS**



## 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)