# S11MS7

## High Speed/ High Noise-resistance Type Phototriac Coupler

### ■ Features

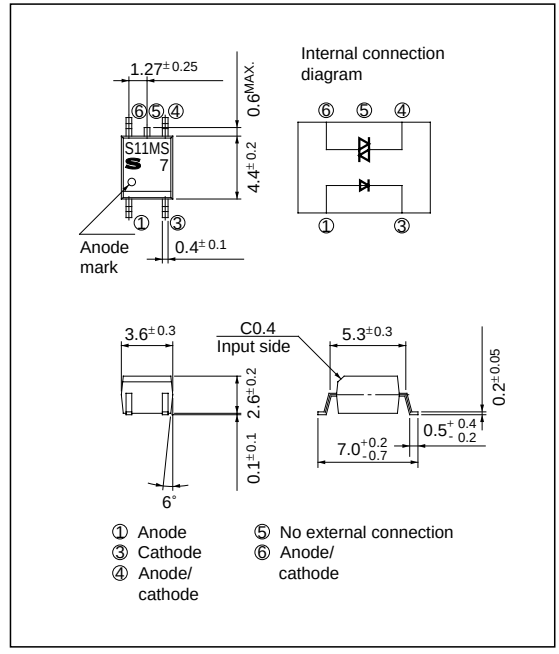
1. High speed（$t_{on}$：MAX. 15μs）
2. High noise resistance
   （dV/dt：MIN. 500V/μs）
3. Low trigger current（$I_{FT}$：MAX. 5mA）
4. Mini-flat package type
5. Recognized by UL, file No.E64380

### ■ Applications

1. For triggering medium/high power triac

### ■ Outline Dimensions

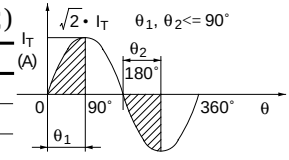
（Unit：mm）

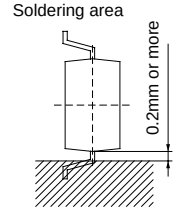



### ■ Absolute Maximum Ratings

（Ta = 25°C）

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Input | Forward current | $I_F$ | 50 | mA |
| | Reverse voltage | $V_R$ | 6 | V |
| Output | *1RMS ON-state current | $I_T$ | 0.05 | $A_{rms}$ |
| | Peak one cycle surge current | $I_{surge}$ | 0.6 (50Hz Sine Wave) | A |
| | Repetitive peak OFF-state voltage | $V_{DRM}$ | 400 | V |
| *2Isolation voltage | | $V_{iso}$ | 2 500 | $V_{rms}$ |
| Operating temperature | | $T_{opr}$ | - 30 to +100 | °C |
| Storage temperature | | $T_{stg}$ | - 40 to +125 | °C |
| *3Soldering temperature | | $T_{sol}$ | 260 | °C |




∗1 The definition of conduction angle θ of effective on current It should be as shown in the right drawing.
∗2 40 to 60% RH, AC for 1 minute, f = 60Hz
∗3 For 10 seconds

## ■ Electro-optical Characteristics

(Ta= 25˚C)

| Parameter | | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|---|---|---|---|---|---|---|---|
| Input | Forward voltage | $V_F$ | $I_F$ = 20mA | - | 1.2 | 1.4 | V |
| | Reverse current | $I_R$ | $V_R$ = 3V | - | - | 10 | μA |
| Output | Repetitive peak OFF-state current | $I_{DRM}$ | $V_{DRM}$ = Rated | - | - | 1 | μA |
| | ON-state voltage | $V_T$ | $I_T$ = 0.05A | - | 1.3 | 2.5 | V |
| | Holding current | $I_H$ | $V_D$ = 6V | - | 0.5 | 3.5 | mA |
| | Critical rate of rise of OFF-state voltage | dV/dt | $V_{DRM}$ = (1/√2) • Rated | 500 | - | - | V/μs |
| Transfer characteristics | Minimum trigger current | $I_{FT}$ | $V_D$ = 6V, $R_L$ = 100Ω | - | - | 5 | mA |
| | Isolation resistance | $R_{ISO}$ | DC = 500V, 40 to 60% RH | 5 x $10^{10}$ | $10^{11}$ | - | Ω |
| | Turn-on time | $t_{on}$ | $V_D$ = 6V, $R_L$ = 100Ω, $I_F$ = 20mA | – | 10 | 15 | μs |

**Fig. 1 RMS ON-state Current vs. Ambient Temperature**

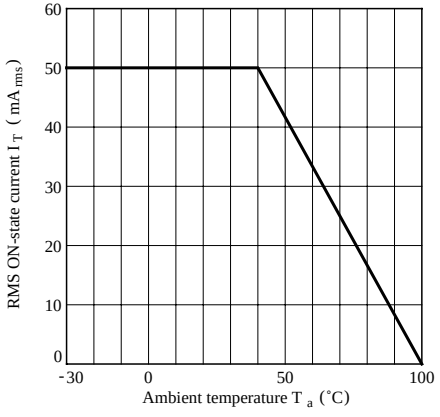



**Fig. 2 Forward Current vs. Ambient Temperature**

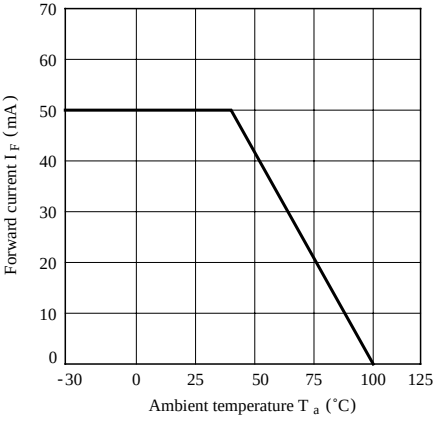



**Fig. 3 Forward Current vs. Forward Voltage**

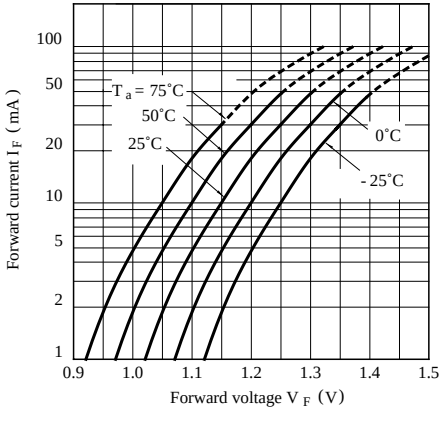



**Fig. 4 Minimum Trigger Current vs. Ambient Temperature**

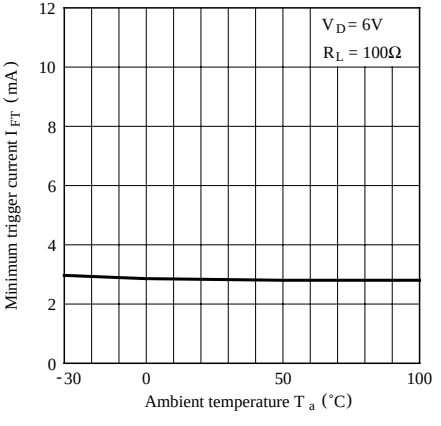


**Fig. 5 Relative Repetitive Peak OFF-state Voltage vs. Ambient Temperature**

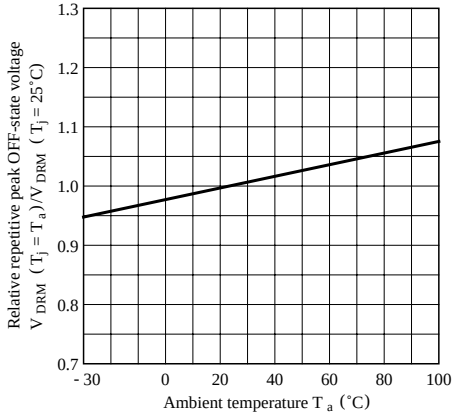



**Fig. 6 ON-state Voltage vs. Ambient Temperature**

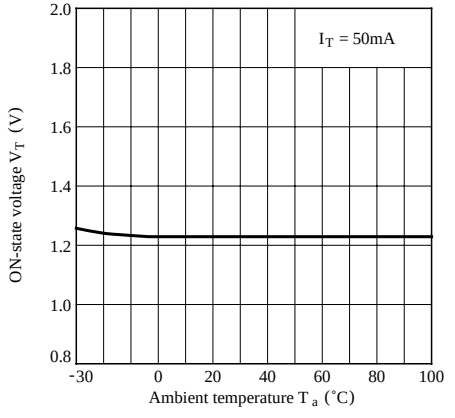



**Fig. 7 Holding Current vs. Ambient Temperature**

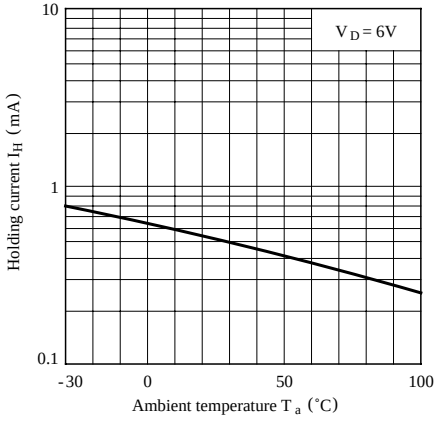



**Fig. 8 Repetitive Peak OFF-state Current vs OFF-state Voltage**

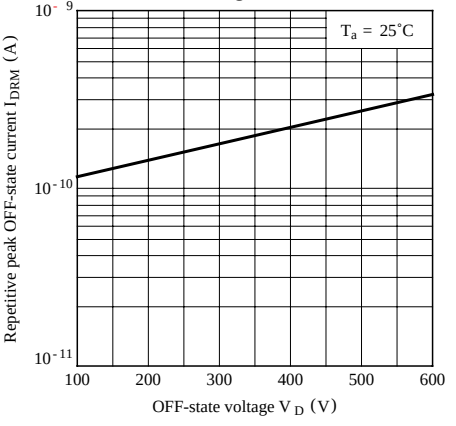



**Fig. 9 Relative Repetitive Peak OFF-state Current vs. Ambient Temperature**

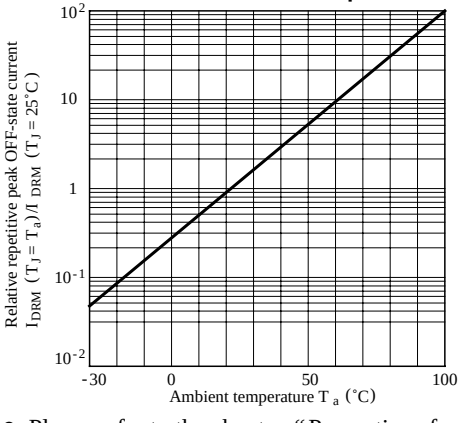
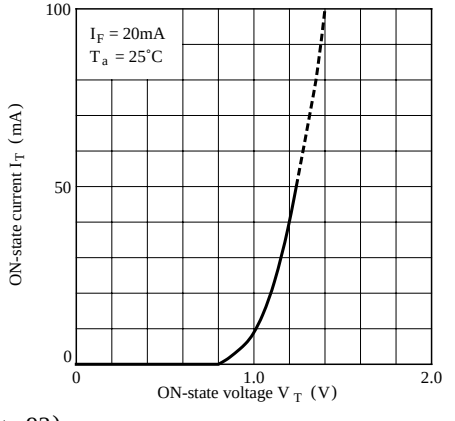



**Fig.10 ON-state Current vs. ON-state Voltage**




- Please refer to the chapter "Precautions for Use" (Page 78 to 93).