

# S2S3/S2S4

## Mini-Flat Type Phototriac Coupler

### ■ Features

1. Popular type
2. Small package type
3. Conforming to UL double protective insulation ( $V_{iso}$  : 3 750V<sub>rms</sub>)
4. Infrared reflow soldering type (230°C, within 30 seconds)
5. Recognized by UL (No .64380)

### ■ Model Line-ups

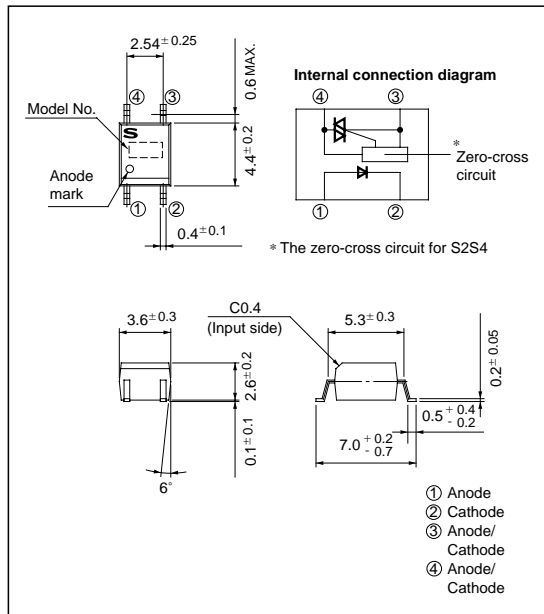
	For 100/200V line
Zero-cross circuit not built in	<b>S2S3</b>
Zero-cross circuit built in	<b>S2S4</b>

### ■ Application

1. For SSR

### ■ Outline Dimensions

(Unit : mm)



### ■ Absolute Maximum Ratings

(Ta=25°C)

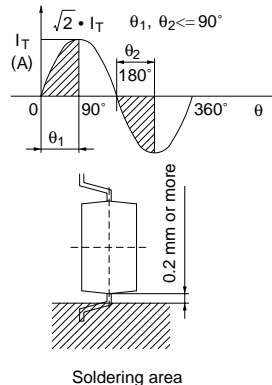
Parameter		Symbol	Rating	Unit
Input	Forward current	$I_F$	50	mA
	Reverse voltage	$V_R$	6	V
Output	*1 RMS ON-state current	$I_T$	0.05	A <sub>rms</sub>
	*2 Peak one cycle surge current	$I_{surge}$	0.6 (50Hz sine wave)	A
	Repetitive peak OFF-state voltage	$V_{DRM}$	600	V
	*3 Isolation voltage	$V_{iso}$	3 750	V <sub>rms</sub>
	Operating temperature	$T_{opr}$	- 30 to +100	°C
Storage temperature	$T_{stg}$	- 40 to +125	°C	
*4 Soldering temperature	$T_{sol}$	260	°C	

\*1 The definition of conduction angle  $\theta$  of RMS ON-state current  $I_T$  should be as shown in the right drawing. For decrease curve, refer to Fig. 2.

\*2 50Hz sine curve

\*3 40 to 60% RH, AC for 1 minute

\*4 For 10 seconds



## ■ Electro-optical Characteristics

(Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	$V_F$	$I_F = 20\text{mA}$	-	1.2	1.4	V
	Reverse current	$I_R$	$V_R = 3\text{V}$	-	-	10	$\mu\text{A}$
Output	Repetitive peak OFF-state current	$I_{DRM}$	$V_{DRM} = \text{Rated}$	-	-	1	$\mu\text{A}$
	ON-state voltage	$V_T$	$I_T = 0.05\text{A}$	-	-	2.5	V
	Holding current	$I_H$	$V_D = 6\text{V}$	0.1	-	3.5	mA
	Critical rate of rise of OFF-state voltage	$dv/dt$	$V_{DRM} = 1/\sqrt{2} \cdot \text{Rated}$	100	1 000	-	$\text{V}/\mu\text{s}$
	Zero-cross voltage	<b>S2S4</b> $V_{OX}$	$I_F = 15\text{mA}$ , Resistance load	-	-	35	V
Transfer characteristics	Minimum trigger current	$I_{FT}$	$V_D = 6\text{V}$ , $R_L = 100\Omega$	-	-	10	mA
	Insulation resistance	$R_{ISO}$	DC500V, 40 to 60% RH	$5 \times 10^{10}$	$1 \times 10^{11}$	-	$\Omega$
	Turn-on time	<b>S2S3</b>	$t_{on}$	$V_D = 6\text{V}$ , $R_L = 100\Omega$ , $I_F = 20\text{mA}$	-	-	100
<b>S2S4</b>		-			-	50	

Fig. 1 Forward Current vs. Ambient Temperature

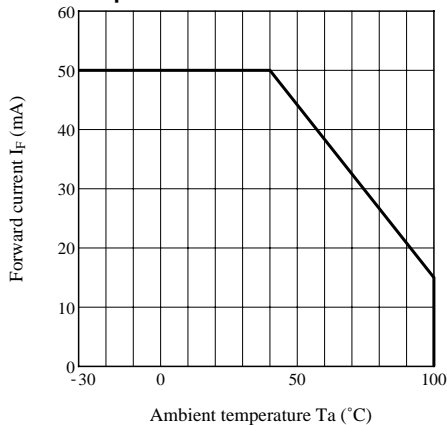


Fig. 2 RMS ON-state Current vs. Ambient Temperature

