# Solid State Relay

Panel Mount - DC Input & AC Output Single Phase

SELEC
Creating Best Value

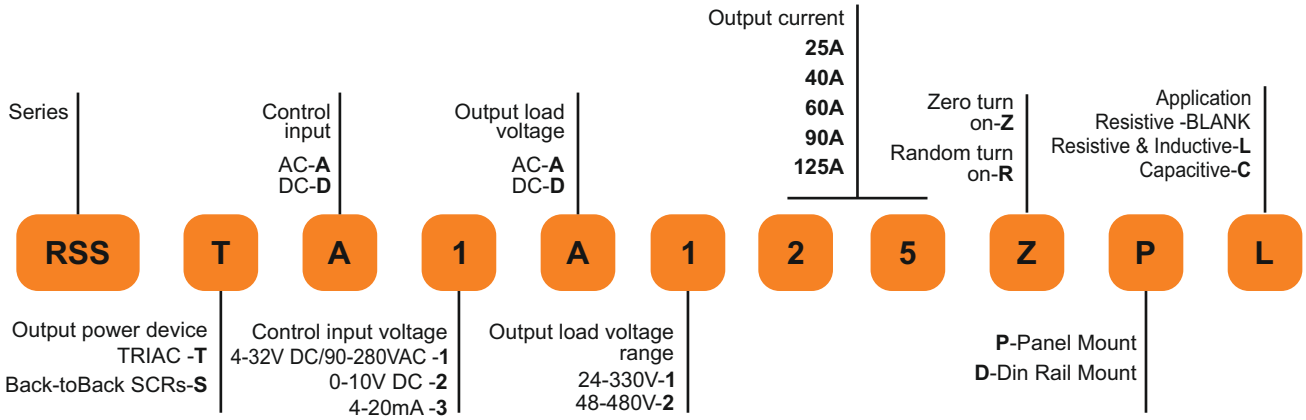
## RSS SERIES

- Output current of 25 and 40 Amps
- Output voltage of 24-330 and 48-480VAC
- Control voltage of 4-32 VDC
- Integrated IP20 touch safe removable cover
- Input status indicator - LED
- Cost-effective solution

### Product selection-Zero crossing

| Product name | RSS-TD1A125ZP | RSS-TD1A140ZP | RSS-TD1A225ZP | RSS-TD1A240ZP | RSS-TD1A225ZPL | RSS-TD1A240ZPL |
|---|---|---|---|---|---|---|
| Rated load current | 25A | 40A | 25A | 40A | 25A | 40A |
| Output voltage | 24-330VAC | 24-330VAC | 48-480VAC | 48-480VAC | 48-480VAC | 48-480VAC |
| Control voltage | 4-32VDC | 4-32VDC | 4-32VDC | 4-32VDC | 4-32VDC | 4-32VDC |
| Transient voltage | 800 | 800 | 800 | 800 | 1200 | 1200 |

## NOMENCLATURE




### 1 : Input Specification

| Description | |
|---|---|
| Control voltage range | 4-32 VDC |
| Control current range | 4-15mA |
| Nominal input impedance | 2k ohm |
| Pick up voltage | 3 VDC |
| Drop out voltage | 1 VDC |
| Maximum response time pick up | ½ cycle+1 sec |
| Maximum response time drop up | ½ cycle+1 sec |
| Max reverse voltage | 40VDC |
| Zero crossing turn on | Available |
| Reverse voltage Protection | Available |
| LED indicator showing relay ON state | Available |

## 2 : Output Specification

| Description | RSS-TD1A125ZP | RSS-TD1A140ZP | RSS-TD1A225ZP | RSS-TD1A240ZP | RSS-TD1A225ZPL | RSS-TD1A240ZPL |
|---|---|---|---|---|---|---|
| Maximum Load current (Arms) | 25 | 40 | 25 | 40 | 25 | 40 |
| Minimum Load Current [mArms] | 50 | 50 | 50 | 50 | 50 | 50 |
| Min/Max Operating Voltage (Vrms) | 24-330 | 24-330 | 48-480 | 48-480 | 48-480 | 48-480 |
| Transient voltage (Vpk) | 800 | 800 | 800 | 800 | 1200 | 1200 |
| Maximum off state leakage current @ Rated voltage (mArms) | 10 | 10 | 10 | 10 | 10 | 10 |
| On state voltage drop @ Rated current (Vrms) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Minimum off state dv/dt @ maximum rated voltage (V/usec) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 1 Second surge current (Apk. Ta=25 °C) 50Hz | 100 | 150 | 100 | 150 | 100 | 150 |
| Maximum 1 cycle surge current Typ @ 50Hz (Arms) | 250 | 400 | 250 | 400 | 250 | 400 |
| Thermal Resistance Junction to Case (Rjc) [°C/W] | 0.8 | 0.9 | 0.8 | 0.9 | 0.8 | 0.9 |
| Maximum 1/2 Cycle $I^2t$ for Fusing @ 50 Hz (min. / typical) [$A^2sec$] | 340 | 800 | 340 | 800 | 340 | 800 |
| Minimum Heat Sink for Rated Current @ 40°C [°C/W] | 1 | 1 | 1 | 1 | 1 | 1 |

## 3 : General Specification

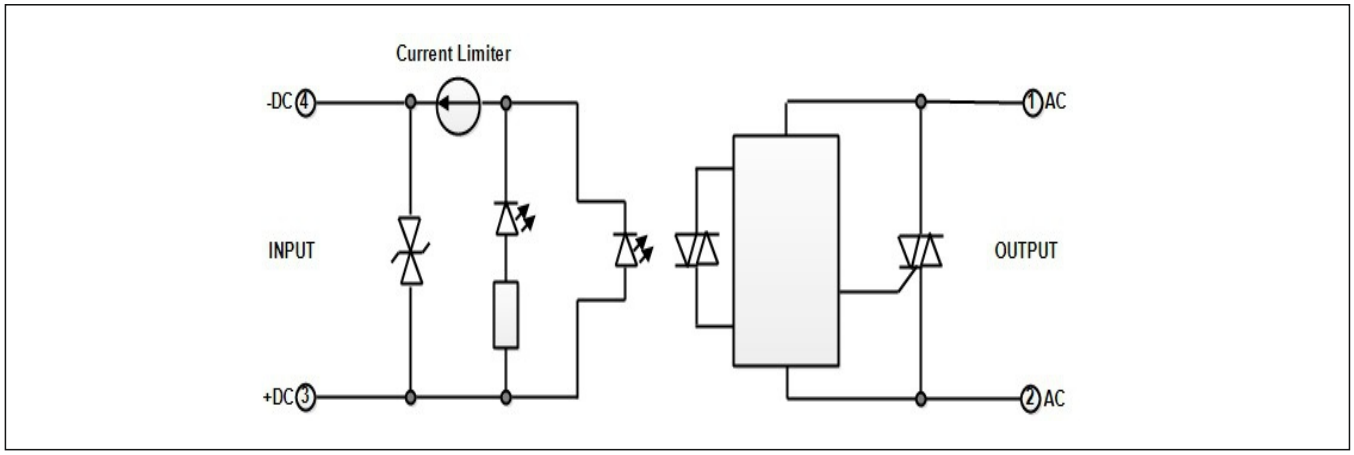
| Description | RSS-TD1A125ZP | RSS-TD1A140ZP | RSS-TD1A225ZP | RSS-TD1A240ZP | RSS-TD1A225ZPL | RSS-TD1A240ZPL |
|---|---|---|---|---|---|---|
| Dielectric Strength, Input/Output to Ground | 2500 Vrms | 4000 Vrms | 2500 Vrms | 4000 Vrms | 2500 Vrms | 4000 Vrms |
| Dielectric Strength, Input to Output | 4000 Vrms | | | | | |
| Minimum Insulation Resistance | 100 MΩ (at 500 VDC) | | | | | |
| Maximum Capacitance, Input/Output | 0.8pF | | | | | |
| Ambient Temperature | Operating: -30°C to 80°C<br>Storage: -30°C to 100°C | | | | | |
| Ambient Humidity | 93% non-condensing | | | | | |
| Heat sink Thermal Resistance: | 1°C/W | | | | | |

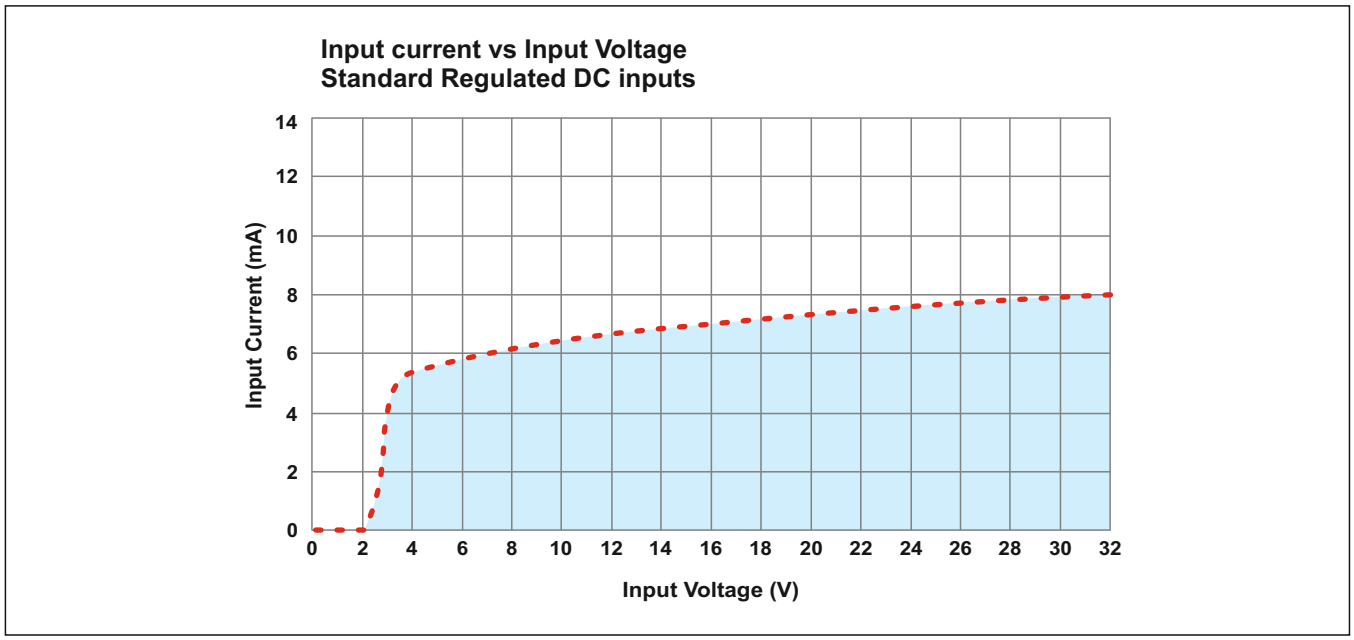
## 4 : Housing Specification

| | |
|---|---|
| Dimensions (Lx Wx H) (mm) | 44.5x 57.5x 27.3 |
| Weight | 87.2 g approx |
| Baseplate | Aluminum |
| Material | Glass filled polyester |
| Mounting Type | Panel mount |
| LED input Status Indicator | Red |

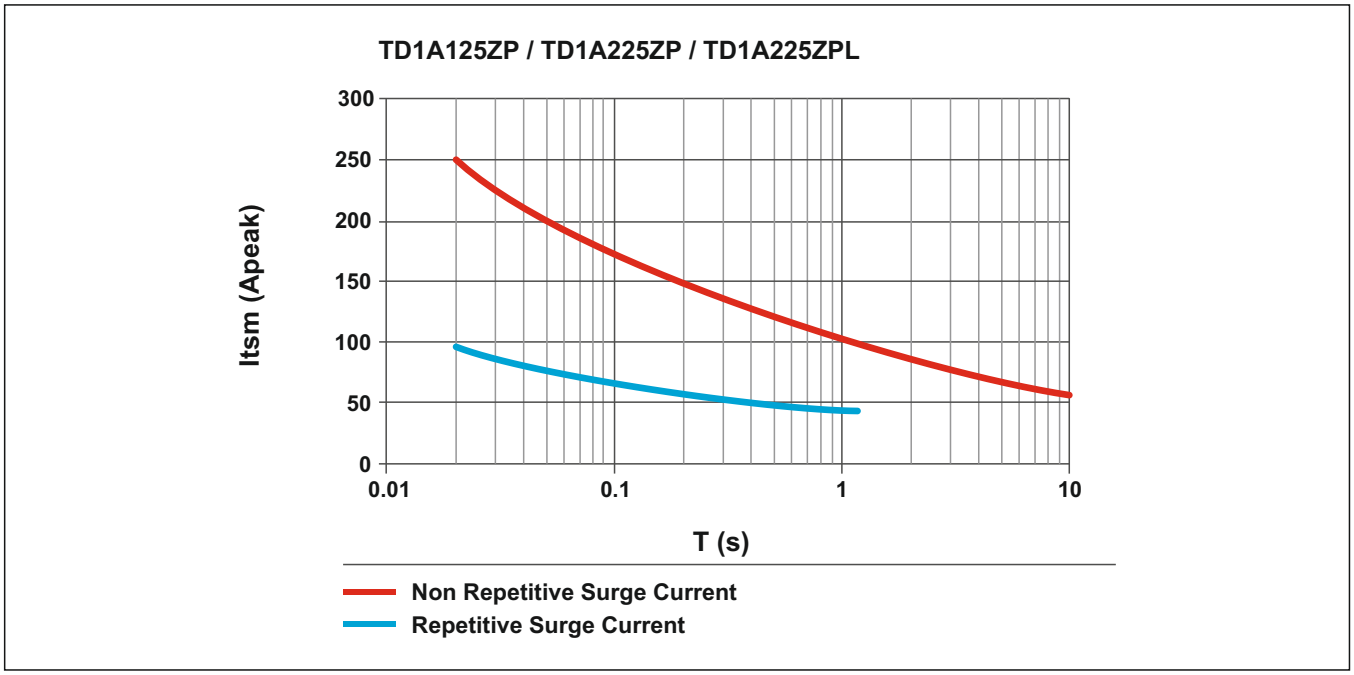
## 5 : Circuit Block Diagram

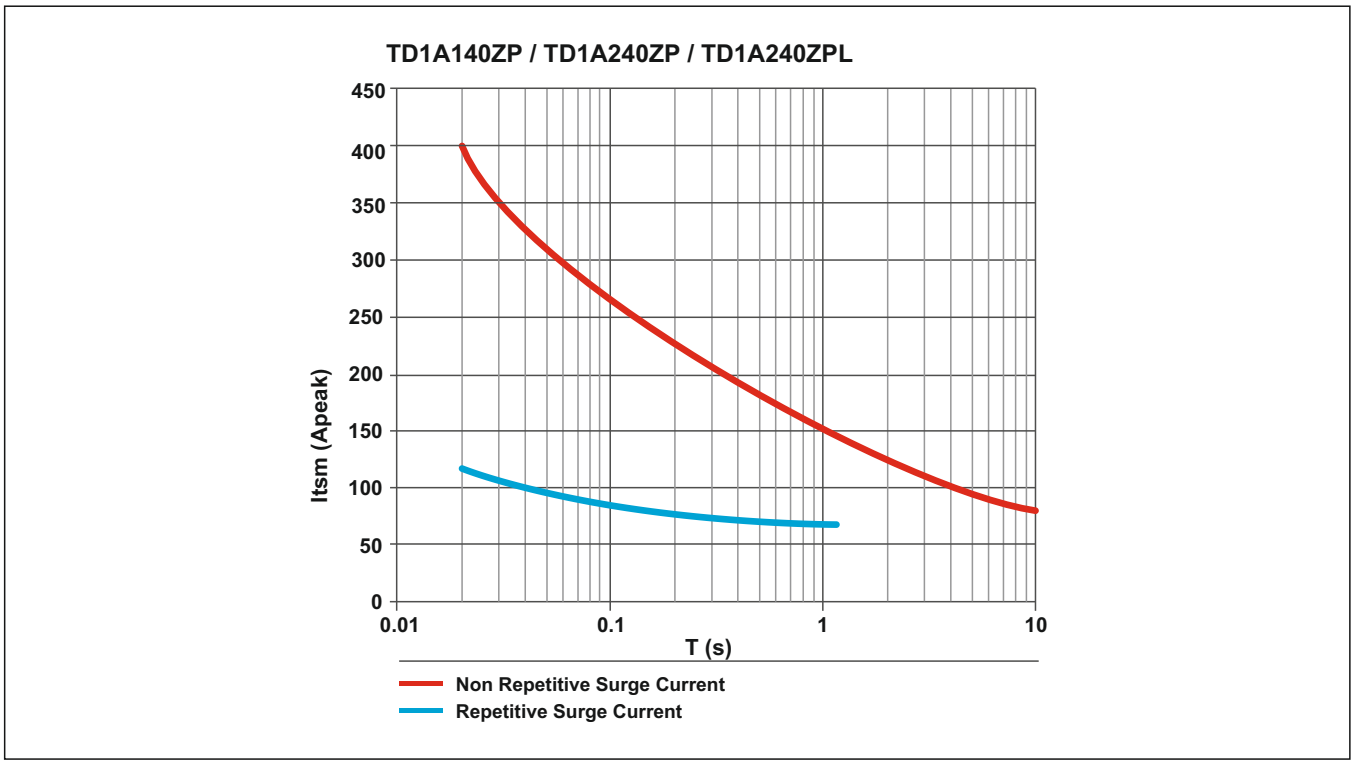
### RSS Series



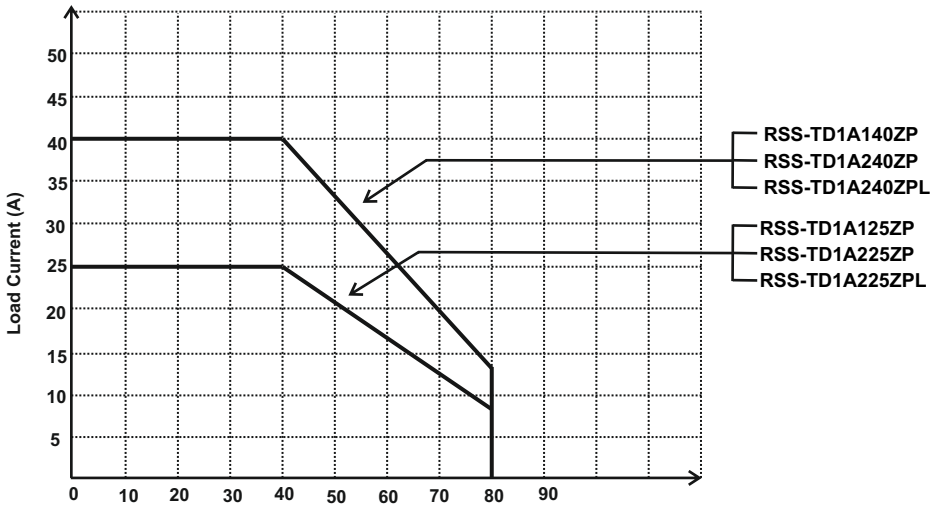



## 6 : Surge Current Information



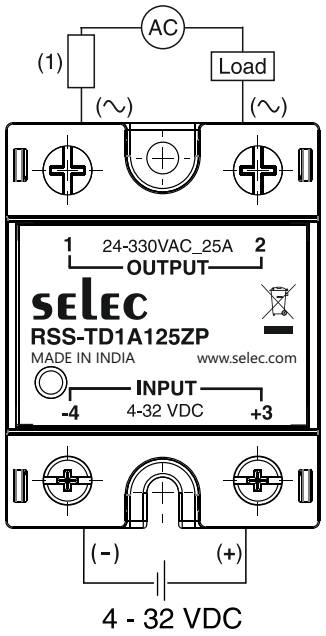



## 7 : Thermal Derating Curves

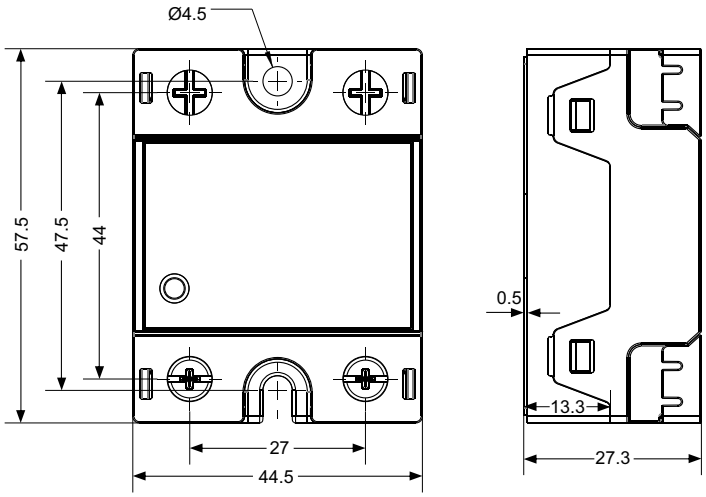



**Ambient temperature [°C]**
**Note.: Heat sink used with a radiation efficiency of 1°C/W**

## 8 : Wiring




## 9 : Dimension (mm)




## 10 : Tightening Torque

| Screw Size | Wire Size (Solid) | Tightening Torque |
|---|---|---|
| M4 Screws (control input) | 18..14 AWG (0.75..2.5 mm²)<br>2 x 18..14 AWG (0.75..2.5 mm²) | 1.2 N-m |
| M5 Screws (load output ) | 16..8 AWG (1.5..10 mm²)<br>2 x 16..8 AWG (1.5..10 mm²) | 2.0 N-m |