



## Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638

Phone: (562) 404-4474 \* Fax: (562) 404-1773

ssdi@ssdi-power.com \* www.ssdi-power.com

### DESIGNER'S DATA SHEET

#### Part Number / Ordering Information<sup>1/</sup>

ST

Screening<sup>2/</sup>      = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level (for SM, use -S)  
 Package:<sup>3/</sup>      = Axial Leaded  
 SM = Surface Mount Round Tab  
 SMS = Surface Mount Square Tab

Type Number: 4462 - 4506

## ST4462 – ST4506 Series

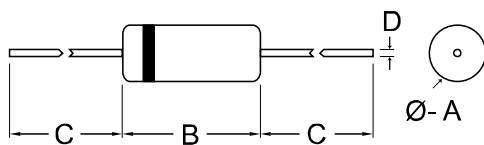
### 150 W Transient Voltage Suppressor 7.5 – 510 VOLTS

#### FEATURES:

- Hermetically Sealed
- Low Reverse Leakage
- Voltage up to 510V
- Ultra Miniature
- TX, TXV, and Space Level Screening Available<sup>2/</sup>
- 5 Times Greater Surge Than JAN13016 Series
- ¼ Size of conventional 1 W Zeners

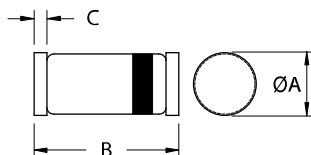
| Maximum Ratings                                                        | Symbol              | Value       | Units |
|------------------------------------------------------------------------|---------------------|-------------|-------|
| Peak pulse power dissipation with a 10/1000 $\mu$ s waveform           | $P_{PPM}$           | 150         | W     |
| Steady State Power Dissipation                                         | $P_D$               | 3           | W     |
| Operating and Storage Temp.                                            | $T_{op} \& T_{stg}$ | -65 to +175 | °C    |
| Maximum Forward Voltage Drop<br>$I_F = 1.0$ Apk, $T_A = 25$ °C, pulsed | $V_F$               | 1.5         | V     |
| Thermal Resistance, (axial)<br>Junction to Lead L=3/8"                 | $P_{\theta JL}$     | 42          | °C/W  |
| Thermal Resistance, (end tab)<br>Junction to Tab                       | $R_{\theta JE}$     | 32          | °C/W  |

AXIAL



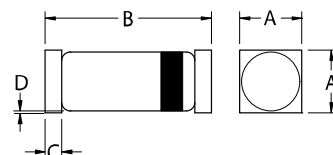
| DIM | MIN   | MAX   |
|-----|-------|-------|
| A   | ---   | .085" |
| B   | ---   | .170" |
| C   | 1.00" | ---   |
| D   | .028" | .034" |

SM



| DIM | MIN    | MAX    |
|-----|--------|--------|
| A   | .075"  | 0.085" |
| B   | .125"  | 0.150" |
| C   | 0.010" | 0.022" |

SMS



| DIM | MIN    | MAX   |
|-----|--------|-------|
| A   | .090"  | .100" |
| B   | .175"  | .215" |
| C   | .022"  | .028" |
| D   | 0.001" | ---   |

**NOTE:** All specifications are subject to change without notification.  
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: T00029C

DOC



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638

Phone: (562) 404-4474 \* Fax: (562) 404-1773

## ST4462 – ST4506 Series

### Electrical Characteristics @ 25 °C

| Part Number | Nominal Zener Voltage <sup>2/</sup> | Minimum Reverse Breakdown Voltage <sup>2/</sup> | Test Current    | Clamping Voltage                 |                                      | Maximum Reverse Standoff |                | Maximum Continuous Current <sup>2/</sup> | Typical Temperature Coefficient  |
|-------------|-------------------------------------|-------------------------------------------------|-----------------|----------------------------------|--------------------------------------|--------------------------|----------------|------------------------------------------|----------------------------------|
|             | V <sub>Z</sub> @ I <sub>ZT</sub>    | V <sub>Z</sub> @ I <sub>ZT</sub>                | I <sub>ZT</sub> | V <sub>C</sub> @ I <sub>pp</sub> | Peak <sup>4/</sup> @ I <sub>pp</sub> | I <sub>R</sub>           | V <sub>R</sub> | I <sub>RM</sub>                          | T <sub>c</sub> @ I <sub>ZT</sub> |
|             | Volts                               | Volts                                           | mA              | Volts                            | Amps                                 | μA                       | Volts          | mA                                       | %/°C                             |
| ST4462      | 7.5                                 | 7                                               | 100             | 11.3                             | 13.3                                 | 1500                     | 6.2            | 240                                      | .07                              |
| ST4463      | 8.2                                 | 7.7                                             | 100             | 12.3                             | 12.2                                 | 1200                     | 6.8            | 220                                      | .08                              |
| ST4464      | 9.1                                 | 8.5                                             | 50              | 13.3                             | 11.3                                 | 100                      | 7.5            | 200                                      | .08                              |
| ST4465      | 10                                  | 9.4                                             | 50              | 14.8                             | 10.1                                 | 20                       | 8.2            | 180                                      | .09                              |
| ST4466      | 11                                  | 10.4                                            | 50              | 15.7                             | 9.6                                  | 5                        | 9.1            | 150                                      | .10                              |
| ST4467      | 12                                  | 11.4                                            | 50              | 17                               | 8.8                                  | 5                        | 10             | 140                                      | .10                              |
| ST4468      | 13                                  | 12.4                                            | 50              | 18.9                             | 7.9                                  | 5                        | 11             | 120                                      | .10                              |
| ST4469      | 15                                  | 13.8                                            | 50              | 20.9                             | 7.2                                  | 5                        | 12             | 110                                      | .10                              |
| ST4470      | 16                                  | 15.3                                            | 25              | 22.9                             | 6.6                                  | 5                        | 13             | 100                                      | .11                              |
| ST4471      | 18                                  | 16.8                                            | 25              | 25.6                             | 5.9                                  | 5                        | 15             | 90                                       | .11                              |
| ST4472      | 20                                  | 18.8                                            | 25              | 28.4                             | 5.3                                  | 5                        | 16             | 80                                       | .11                              |
| ST4473      | 22                                  | 20.8                                            | 25              | 31                               | 4.8                                  | 5                        | 18             | 75                                       | .11                              |
| ST4474      | 24                                  | 22.8                                            | 25              | 33.8                             | 4.4                                  | 5                        | 20             | 65                                       | .11                              |
| ST4475      | 27                                  | 25.1                                            | 25              | 38.1                             | 3.9                                  | 5                        | 22             | 60                                       | .11                              |
| ST4476      | 30                                  | 28                                              | 25              | 42.2                             | 3.6                                  | 5                        | 24             | 55                                       | .11                              |
| ST4477      | 33                                  | 31                                              | 25              | 46.2                             | 3.2                                  | 5                        | 27             | 50                                       | .11                              |
| ST4478      | 36                                  | 34                                              | 10              | 50.1                             | 3                                    | 5                        | 30             | 40                                       | .11                              |
| ST4479      | 39                                  | 37                                              | 10              | 54.1                             | 2.8                                  | 5                        | 33             | 35                                       | .11                              |
| ST4480      | 43                                  | 40                                              | 10              | 60.7                             | 2.5                                  | 5                        | 36             | 33                                       | .13                              |
| ST4481      | 47                                  | 44                                              | 10              | 65.5                             | 2.3                                  | 5                        | 39             | 30                                       | .13                              |
| ST4482      | 51                                  | 48                                              | 10              | 70.8                             | 2.1                                  | 5                        | 43             | 27                                       | .13                              |
| ST4483      | 56                                  | 52                                              | 10              | 78.6                             | 1.9                                  | 5                        | 47             | 24                                       | .13                              |
| ST4484      | 62                                  | 58                                              | 10              | 86.5                             | 1.7                                  | 5                        | 51             | 21                                       | .13                              |
| ST4485      | 68                                  | 64                                              | 10              | 94.4                             | 1.6                                  | 5                        | 56             | 18                                       | .13                              |
| ST4486      | 75                                  | 70                                              | 10              | 103.5                            | 1.5                                  | 5                        | 62             | 18                                       | .13                              |
| ST4487      | 82                                  | 77                                              | 10              | 114                              | 1.3                                  | 5                        | 68             | 15                                       | .13                              |
| ST4488      | 91                                  | 85                                              | 5               | 126                              | 1.2                                  | 5                        | 75             | 15                                       | .13                              |
| ST4489      | 100                                 | 94                                              | 5               | 139                              | 1.1                                  | 5                        | 82             | 12                                       | .13                              |
| ST4490      | 110                                 | 104                                             | 5               | 152                              | 1                                    | 5                        | 91             | 12                                       | .13                              |
| ST4491      | 120                                 | 114                                             | 5               | 167                              | 0.9                                  | 5                        | 100            | 12                                       | .13                              |
| ST4492      | 130                                 | 124                                             | 5               | 185                              | 0.81                                 | 5                        | 110            | 12                                       | .13                              |
| ST4493      | 150                                 | 138                                             | 5               | 204                              | 0.73                                 | 5                        | 120            | 11                                       | .13                              |
| ST4494      | 160                                 | 153                                             | 5               | 224                              | 0.67                                 | 5                        | 130            | 11                                       | .13                              |
| ST4495      | 180                                 | 168                                             | 5               | 249                              | 0.6                                  | 5                        | 150            | 9                                        | .13                              |
| ST4496      | 200                                 | 188                                             | 5               | 276                              | 0.54                                 | 5                        | 160            | 9                                        | .13                              |
| ST4497      | 220                                 | 208                                             | 2               | 305                              | 0.5                                  | 5                        | 180            | 9                                        | .13                              |
| ST4498      | 240                                 | 228                                             | 2               | 336                              | 0.45                                 | 5                        | 200            | 7                                        | .13                              |
| ST4499      | 270                                 | 251                                             | 2               | 380                              | 0.4                                  | 5                        | 220            | 7                                        | .13                              |
| ST4500      | 300                                 | 280                                             | 2               | 419                              | 0.36                                 | 5                        | 240            | 6.5                                      | .14                              |
| ST4501      | 330                                 | 310                                             | 2               | 459                              | 0.33                                 | 5                        | 270            | 6                                        | .14                              |
| ST4502      | 360                                 | 340                                             | 2               | 498                              | 0.3                                  | 5                        | 300            | 5.5                                      | .14                              |
| ST4503      | 390                                 | 370                                             | 2               | 537                              | 0.28                                 | 5                        | 330            | 4.8                                      | .14                              |
| ST4504      | 430                                 | 400                                             | 2               | 603                              | 0.25                                 | 5                        | 360            | 4.2                                      | .15                              |
| ST4505      | 470                                 | 440                                             | 2               | 655                              | 0.23                                 | 5                        | 390            | 4.2                                      | .15                              |
| ST4506      | 510                                 | 480                                             | 2               | 707                              | 0.21                                 | 5                        | 430            | 3.6                                      | .16                              |

#### NOTES:

1 For ordering information, price, operating curves, and availability – contact factory.

2 Screening based on MIL-PRF-19500. Screening flows available on request.

3 All voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.

4 Non-repetitive peak reverse current pulse.

5 Ratings based on T<sub>L</sub>=100°C @ L=3/8". For SM or SMS, multiply by 1.66.

**NOTE:** All specifications are subject to change without notification.  
SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: T00029C**

**DOC**