



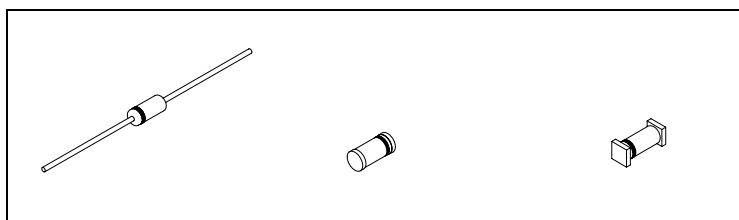
# Solid State Devices, Inc.

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## DESIGNER'S DATA SHEET

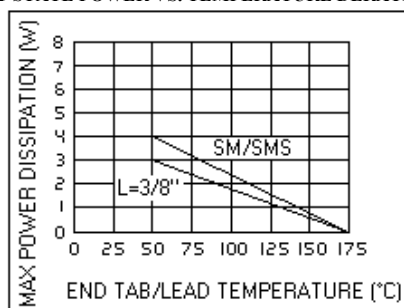
### FEATURES:

- High Surge Rating
- Hermetically Sealed in Glass
- Available to TX, TXV, and Space Levels

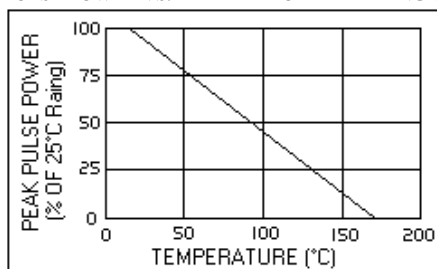


| Maximum Ratings                                     |                        |       |       |
|---|------------------------|-------|-------|
| CHARACTERISTICS                                     | Symbol                 | Value | Units |
| Steady Off Voltage                                  | <b>V<sub>RWM</sub></b> | 3-370 | V     |
| Steady State Power Dissipation                      | <b>P<sub>D</sub></b>   | 3     | W     |
| Peak Pulse Power @ 1.0 msec                         | <b>P<sub>PP</sub></b>  | 150   | W     |
| Peak Pulse Power<br>And Steady State Power Derating | See Graph              |       |       |
| Peak Pulse Power<br>And Pulse Width                 | See Graph              |       |       |
| Operating and Storage<br>Temperature                | -65°C to + 175°C       |       |       |

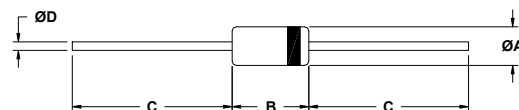
STEADY STATE POWER VS. TEMPERATURE DERATING CURVE



PEAK PULSE POWER VS. TEMPERATURE DERATING CURVE

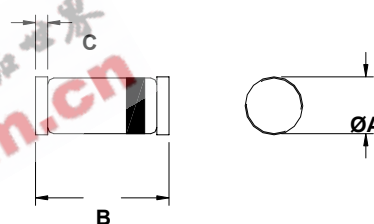


## 150 WATT 7.5 – 510 VOLTS TRANSIENT SUPPRESSOR



| DIM | MIN.  | MAX.  |
|-----|-------|-------|
| A   | ---   | .085" |
| B   | ---   | .170" |
| C   | 1.0"  | ---   |
| D   | .028" | .034" |

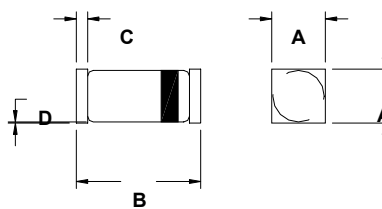
### AXIAL(L)



| DIM | MIN.  | MAX.  |
|-----|-------|-------|
| A   | .077" | .083" |
| B   | .130" | .146" |
| C   | .010" | .022" |

### ROUND TAB (SM)

All dimensions are prior to soldering



| DIM | MIN.                         | MAX.  |
|-----|------------------------------|-------|
| A   | .090"                        | .100" |
| B   | .175"                        | .215" |
| C   | .022"                        | .028" |
| D   | Body to Tab Clearance: .002" |       |

### SQUARE TAB (SMS)

All dimensions are prior to soldering

### Note:

SSDI's Transient Suppressors offer standard Breakdown Voltage Tolerance of ±10%(A) and ±5%(B). For other Voltages and Voltage Tolerances, contact SSDI's Marketing Department.

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

DATA SHEET #: T00001B

DOC



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**ST150A7.5 thru ST150A510**

**ELECTRICAL CHARACTERISTICS**

| PART NUMBER                                       | Break Down (note 1) |              | MAX REVERSE STANDOFF |                         | PEAK PULSE CLAMPING |                           | MAXIMUM CONTINUOUS (NOTE 3) | DYNAMIC IMPEDANCE (NOTE 2) | MAXIMUM TEMPERATURE COEFFICIENT |
|---|---------------------|--------------|----------------------|-------------------------|---------------------|---------------------------|-----------------------------|----------------------------|---------------------------------|
|   | Nominal Voltage     | Test Current | Voltage              | Reverse Leakage Current | Voltage (max.)      | @ Current tp=1ms (NOTE 4) |                             |                            |                                 |
|   | VBR                 | @IBRT        | VRWM                 | IR @ VRWM               | Vc                  | IPP                       | IRM                         | ZBR @ IBRT                 | TC @ 25°C                       |
| For 5% Voltage Tolerance Specify "B" in place "A" | Volts               | mA           | Volts                | µA                      | Volts               | A                         | mA                          | Ohms                       | %/°C                            |
| ST150A7.5   | 7.5                 | 100          | 3                    | 50                      | 13.3                | 11.3                      | 400                         | 2                          | .07                             |
| ST150A8.2   | 8.2                 | 100          | 4                    | 10                      | 14.8                | 10.1                      | 360                         | 2                          | .08                             |
| ST150A9.1   | 9.1                 | 50           | 5                    | 10                      | 15.7                | 9.6                       | 330                         | 4                          | .08                             |
| ST150A10  | 10                  | 50           | 7.1                  | 7                       | 17.0                | 8.8                       | 300                         | 4                          | .09                             |
| ST150A11  | 11                  | 50           | 7.8                  | 3                       | 18.9                | 7.9                       | 250                         | 7                          | .10                             |
| ST150A12  | 12                  | 50           | 8.6                  | 2                       | 20.9                | 7.2                       | 230                         | 7                          | .10                             |
| ST150A13  | 13                  | 50           | 9.5                  | 2                       | 22.9                | 6.6                       | 200                         | 10                         | .10                             |
| ST150A15  | 15                  | 50           | 10.5                 | 1                       | 25.6                | 5.9                       | 185                         | 10                         | .10                             |
| ST150A16  | 16                  | 25           | 11.4                 | 1                       | 28.4                | 5.3                       | 170                         | 15                         | .11                             |
| ST150A18  | 18                  | 25           | 12.4                 | 1                       | 31.0                | 4.8                       | 150                         | 15                         | .11                             |
| ST150A20  | 20                  | 25           | 14.3                 | 1                       | 33.8                | 4.4                       | 135                         | 15                         | .11                             |
| ST150A22  | 22                  | 25           | 15.5                 | 1                       | 38.1                | 3.9                       | 125                         | 15                         | .11                             |
| ST150A24  | 24                  | 25           | 17.1                 | 1                       | 42.2                | 3.6                       | 110                         | 15                         | .11                             |
| ST150A27  | 27                  | 25           | 19.0                 | 1                       | 46.2                | 3.2                       | 100                         | 15                         | .11                             |
| ST150A30  | 30                  | 25           | 20                   | 1                       | 50.1                | 3.0                       | 90                          | 15                         | .11                             |
| ST150A33  | 33                  | 10           | 23                   | 1                       | 54.1                | 2.8                       | 85                          | 15                         | .11                             |
| ST150A36  | 36                  | 10           | 26                   | 1                       | 60.7                | 2.5                       | 65                          | 40                         | .11                             |
| ST150A39  | 39                  | 10           | 29                   | 1                       | 65.5                | 2.3                       | 60                          | 40                         | .11                             |
| ST150A43  | 43                  | 10           | 31                   | 1                       | 70.8                | 2.1                       | 55                          | 45                         | .13                             |
| ST150A47  | 47                  | 10           | 34                   | 1                       | 78.6                | 1.9                       | 50                          | 45                         | .13                             |
| ST150A51  | 51                  | 10           | 37                   | 1                       | 86.5                | 1.7                       | 45                          | 60                         | .13                             |
| ST150A56  | 56                  | 10           | 41                   | 1                       | 94.4                | 1.6                       | 40                          | 60                         | .13                             |
| ST150A62  | 62                  | 10           | 45                   | 1                       | 103                 | 1.5                       | 35                          | 80                         | .13                             |
| ST150A68  | 68                  | 10           | 49                   | 1                       | 114                 | 1.3                       | 30                          | 80                         | .13                             |
| ST150A75  | 75                  | 10           | 53                   | 1                       | 126                 | 1.2                       | 30                          | 100                        | .13                             |
| ST150A82  | 82                  | 10           | 59                   | 1                       | 139                 | 1.1                       | 25                          | 100                        | .13                             |
| ST150A91  | 91                  | 5            | 65                   | 1                       | 152                 | 1.0                       | 25                          | 200                        | .13                             |
| ST150A100   | 100                 | 5            | 71                   | 1                       | 167                 | 0.90                      | 20                          | 200                        | .13                             |
| ST150A110   | 110                 | 5            | 77                   | 1                       | 185                 | 0.81                      | 20                          | 250                        | .13                             |
| ST150A120   | 120                 | 5            | 86                   | 1                       | 204                 | 0.73                      | 20                          | 250                        | .13                             |
| ST150A130   | 130                 | 5            | 95                   | 1                       | 224                 | 0.67                      | 20                          | 300                        | .13                             |
| ST150A150   | 150                 | 5            | 105                  | 1                       | 249                 | 0.60                      | 18                          | 300                        | .13                             |
| ST150A160   | 160                 | 5            | 114                  | 1                       | 276                 | 0.54                      | 18                          | 350                        | .13                             |
| ST150A180   | 180                 | 5            | 124                  | 1                       | 305                 | 0.50                      | 15                          | 400                        | .13                             |
| ST150A200   | 200                 | 2            | 143                  | 1                       | 336                 | 0.45                      | 15                          | 500                        | .13                             |
| ST150A220   | 220                 | 2            | 152                  | 1                       | 380                 | 0.40                      | 15                          | 750                        | .13                             |
| ST150A240   | 240                 | 2            | 171                  | 1                       | 419                 | 0.36                      | 12                          | 850                        | .13                             |
| ST150A270   | 270                 | 2            | 190                  | 1                       | 459                 | 0.33                      | 12                          | 1000                       | .13                             |
| ST150A300   | 300                 | 2            | 210                  | 1                       | 498                 | 0.30                      | 11                          | 1500                       | .14                             |
| ST150A330   | 330                 | 2            | 230                  | 1                       | 537                 | 0.26                      | 10                          | 1900                       | .14                             |
| ST150A360   | 360                 | 2            | 260                  | 1                       | 603                 | 0.25                      | 9                           | 2200                       | .14                             |
| ST150A390   | 390                 | 2            | 290                  | 1                       | 655                 | 0.23                      | 8                           | 2800                       | .14                             |
| ST150A430   | 430                 | 2            | 310                  | 1                       | 707                 | 0.21                      | 7                           | 3500                       | .15                             |
| ST150A470   | 470                 | 2            | 340                  | 1                       | 789                 | 0.19                      | 7                           | 4500                       | .15                             |
| ST150A510   | 510                 | 2            | 370                  | 1                       | 882                 | 0.17                      | 6                           | 5500                       | .16                             |

**NOTES:**

† Suffix "L" for axial lead, "SM" for surface mount Round Tab. "SMS" for Square Tab.

- 1) All zener voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test time will have a corresponding effect on the measured value due to heating effects.
- 2) Zener impedance is derived from the AC voltage divided by the AC current with RMS value of 10% of DC zener test current superimposed on the test current.
- 3) Ratings based on maximum zener voltage of individual units (leaded units). Multiply by 1.3 for SM and SMS devices.
- 4) Figures shown are for a peak sinusoidal surge current of 8.3 msec duration, non-repetitive. The 8.3 msec square pulse rating is 71% of the value shown.
- 5) SSDI standard marking consists of a contrasting color cathode dot or band. Part number information is included on packaging labels.

For optional high reliability screening or higher nominal zener voltages, consult SSDI MARKETING Department.

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**DATA SHEET #: T00001B**

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