



PRELIMINARY

**SOLID STATE DEVICES, INC.**

14830 Valley View Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-7855 \* Fax: (562) 404-1773

## Designer's Data Sheet

### FEATURES:

- 13.6 - 800 Volts Unidirectional in TO-257 Package
- Glass Passivated Junction, Epoxy Encapsulated Assembly
- Meets all Environmental Requirements of Mil-RPF-19500
- Custom Configuration Available
- Reverse Polarity Available (Add Suffix "R")
- 150°C Maximum Operating Temperature
- TX and TXV Level Screening Available

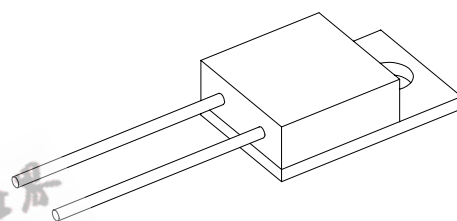
### APPLICATIONS:

- Voltage Sensitive Components Protection
- Protection against Power Interruption
- Lightning Protection

**STA3KA13.6JE  
thru  
STA3KA800JE**

**3,000 WATTS  
PEAK PULSE POWER  
13.6 - 800 VOLTS  
UNIDIRECTIONAL  
TRANSIENT VOLTAGE  
SUPPRESSOR**

### TO-257JE



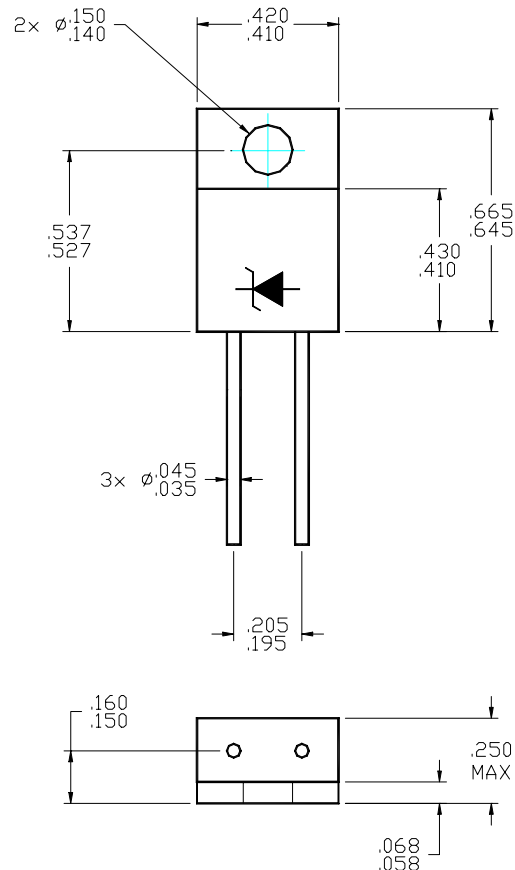
### Maximum Ratings

| Maximum Ratings                                      | SYMBOL            | VALUE       | UNITS |
|------------------------------------------------------|-------------------|-------------|-------|
| Stand off Voltage                                    | $V_{RWM}$         | 13.6-800    | Volts |
| Steady State Power Dissipation                       | $P_D$             | 10          | W     |
| Peak Pulse Power @ 1.0 msec                          | $P_{PP}$          | 3,000       | W     |
| Peak Surge Current<br>(8.3 ms Pulse, Half Sine Wave) | $I_{FSM}$         | 200         | A     |
| Operating and Storage<br>Temperature                 | $T_{op}, T_{stg}$ | -65 to +175 | °C    |

### Note:

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

### PACKAGE OUTLINE: TO-257JE



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

**DATA SHEET #: TVS001B**

# STA3KA13.6JE thru STA3KA800JE

PRELIMINARY

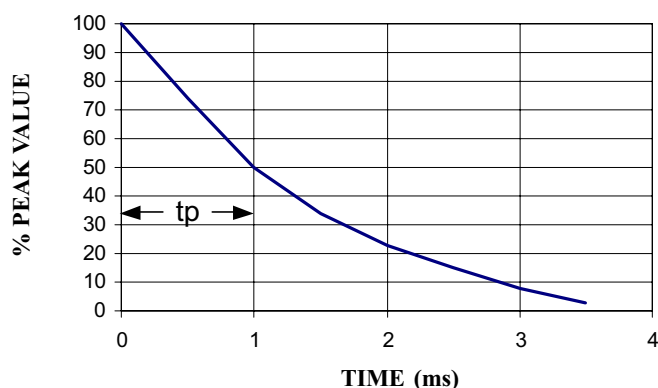


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## Electrical Characteristics

| PART<br>NUMBER |              | BREAK DOWN<br>(note 1) |                 | MAX REVERSE<br>STAND OFF |       |                               | PEAK PULSE<br>CLAMPING            |                  | MAXIMUM<br>TEMPERATURE<br>COEFFICIENT |
|----------------|--------------|------------------------|-----------------|--------------------------|-------|-------------------------------|-----------------------------------|------------------|---------------------------------------|
|                |              | Nominal<br>Voltage     | Test<br>Current | Voltage                  |       | Reverse<br>Leakage<br>Current | @ Current<br>tp = 1ms<br>(note 2) | Voltage<br>(max) |                                       |
|                |              |                        |                 |                          |       |                               | V <sub>BR</sub>                   |                  |                                       |
| 10%            | 5%           | Volts                  | mA              | 10%                      | 5%    | μA                            | A                                 | Volts            | %/°C                                  |
| STA3KA13.6JE   | STA3KB13.6JE | 13.6                   | 10              | 11.00                    | 10.60 | 1000                          | 143                               | 21.0             | 0.057                                 |
| STA3KA15JE     | STA3KB15JE   | 15                     | 10              | 12.10                    | 12.80 | 500                           | 132                               | 22.6             | 0.061                                 |
| STA3KA16.4JE   | STA3KB16.4JE | 16.4                   | 10              | 13.26                    | 14.04 | 200                           | 124                               | 24.2             | 0.065                                 |
| STA3KA18.2JE   | STA3KB18.2JE | 18.2                   | 1.0             | 14.74                    | 15.56 | 50                            | 112                               | 26.8             | 0.068                                 |
| STA3KA20JE     | STA3KB20JE   | 20                     | 1.0             | 16.2                     | 17.1  | 10                            | 103                               | 29.0             | 0.073                                 |
| STA3KA22JE     | STA3KB22JE   | 22                     | 1.0             | 17.84                    | 18.8  | 5.0                           | 96.0                              | 31.2             | 0.075                                 |
| STA3KA24JE     | STA3KB24JE   | 24                     | 1.0             | 19.44                    | 20.4  | 5.0                           | 90.0                              | 33.4             | 0.076                                 |
| STA3KA26JE     | STA3KB26JE   | 26                     | 1.0             | 21.0                     | 22.2  | 5.0                           | 82.0                              | 36.4             | 0.081                                 |
| STA3KA30JE     | STA3KB30JE   | 30                     | 1.0             | 24.2                     | 25.6  | 5.0                           | 71.0                              | 42.4             | 0.084                                 |
| STA3KA32JE     | STA3KB32JE   | 32                     | 1.0             | 25.8                     | 27.2  | 5.0                           | 67.0                              | 45.0             | 0.086                                 |
| STA3KA36JE     | STA3KB36JE   | 36                     | 1.0             | 29.0                     | 30.6  | 5.0                           | 57.2                              | 52.4             | 0.088                                 |
| STA3KA40JE     | STA3KB40JE   | 40                     | 1.0             | 32.4                     | 34.2  | 5.0                           | 54.0                              | 55.4             | 0.090                                 |
| STA3KA44JE     | STA3KB44JE   | 44                     | 1.0             | 35.6                     | 37.6  | 5.0                           | 49.0                              | 61.2             | 0.092                                 |
| STA3KA48JE     | STA3KB48JE   | 48                     | 1.0             | 38.8                     | 41.0  | 5.0                           | 45.0                              | 66.4             | 0.094                                 |
| STA3KA60JE     | STA3KB60JE   | 60                     | 1.0             | 48.6                     | 50.2  | 5.0                           | 36.0                              | 82.8             | 0.097                                 |
| STA3KA72JE     | STA3KB72JE   | 72                     | 1.0             | 59.2                     | 61.6  | 5.0                           | 30.0                              | 98.8             | 0.099                                 |
| STA3KA86JE     | STA3KB86JE   | 86                     | 1.0             | 69.6                     | 73.6  | 5.0                           | 25.3                              | 118.6            | 0.101                                 |
| STA3KA102JE    | STA3KB102JE  | 102                    | 1.0             | 82.6                     | 87.2  | 5.0                           | 21.4                              | 140.2            | 0.102                                 |
| STA3KA124JE    | STA3KB124JE  | 124                    | 1.0             | 100.4                    | 106.0 | 5.0                           | 17.7                              | 170.0            | 0.104                                 |
| STA3KA150JE    | STA3KB150JE  | 150                    | 1.0             | 120.4                    | 128.2 | 5.0                           | 14.6                              | 206.0            | 0.105                                 |
| STA3KA164JE    | STA3KB164JE  | 164                    | 1.0             | 132.8                    | 140.2 | 5.0                           | 13.3                              | 226              | 0.105                                 |
| STA3KA200JE    | STA3KB200JE  | 200                    | 1.0             | 162                      | 171   | 5.0                           | 11.0                              | 274              | 0.106                                 |
| STA3KA300JE    | STA3KB300JE  | 300                    | 1.0             | 242                      | 256   | 5.0                           | 7.2                               | 414              | 0.108                                 |
| STA3KA360JE    | STA3KB360JE  | 360                    | 1.0             | 292                      | 308   | 5.0                           | 6.1                               | 492              | 0.108                                 |
| STA3KA400JE    | STA3KB400JE  | 400                    | 1.0             | 324                      | 342   | 5.0                           | 5.5                               | 548              | 0.108                                 |
| STA3KA600JE    | STA3KB600JE  | 600                    | 1.0             | 486                      | 512   | 5.0                           | 3.6                               | 828              | 0.110                                 |
| STA3KA800JE    | STA3KB800JE  | 800                    | 1.0             | 648                      | 684   | 5.0                           | 2.7                               | 1096             | 0.110                                 |



### Notes:

1. All voltages are measured with automated test set using 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to the heating effects.
2. Pulse width (tp) is defined as the time from peak pulse current I<sub>pp</sub> to the point where peak pulse current decayed to 50% of rated I<sub>pp</sub>. (10μsec x 100μsec wave form as defined by R.E.A.)
3. All Ratings based on 25°C Case temperature.