

**Breakdown Voltage: 6.8 to 600 V**  
**Peak Pulse Power: 1500 W**

## Axial Lead Transient Voltage Suppressors

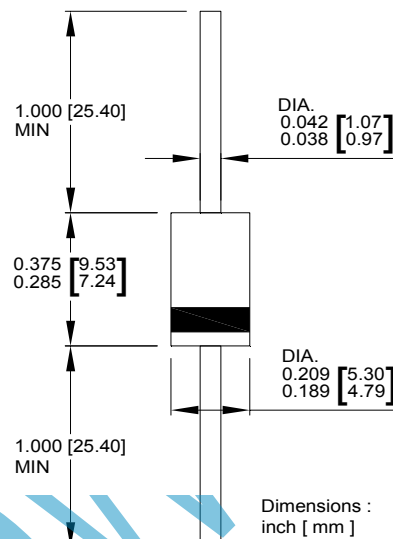
### Features

- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000  $\mu$ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

### Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

DO-201



### Maximum Ratings( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter   | Symbol         | Value          | UNIT             |
|---|----------------|----------------|------------------|
| Peak power dissipation with a 10/1000 $\mu$ s waveform <sup>(1)</sup>                       | $P_{PP}$       | 1500           | W                |
| Peak pulse current with a 10/1000 $\mu$ s waveform <sup>(1)</sup>                           | $I_{PP}$       | See Next Table | A                |
| Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$                          | $P_D$          | 6.5            | W                |
| Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup> | $I_{FSM}$      | 200            | A                |
| Maximum instantaneous forward voltage at 100 A for unidirectional only <sup>(3)</sup>       | $V_F$          | 3.5/5.0        | V                |
| Operating junction and storage temperature range  | $T_J, T_{STG}$ | -55 to +150    | $^\circ\text{C}$ |

**Note:**

(1) Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25^\circ\text{C}$  per Fig.1

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(3)  $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 5.0\text{V}$  for devices of  $V_{BR} > 201\text{V}$

## Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

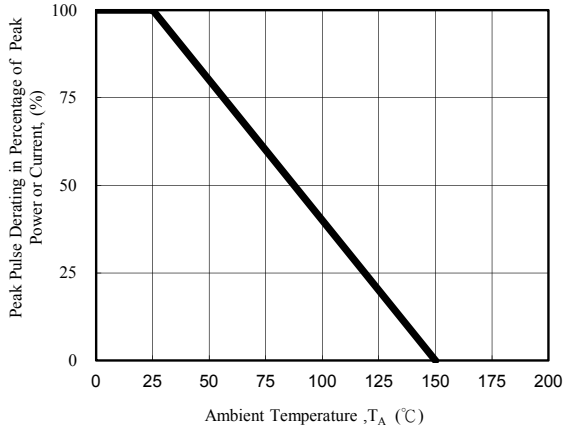


Fig. 1 - Pulse Derating Curve

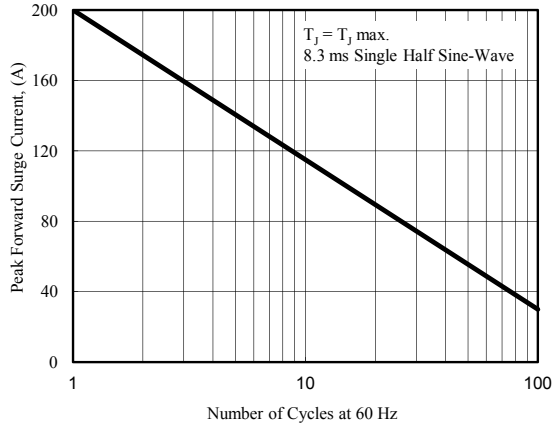


Fig. 2 - Maximum Non-Repetitive Surge Current

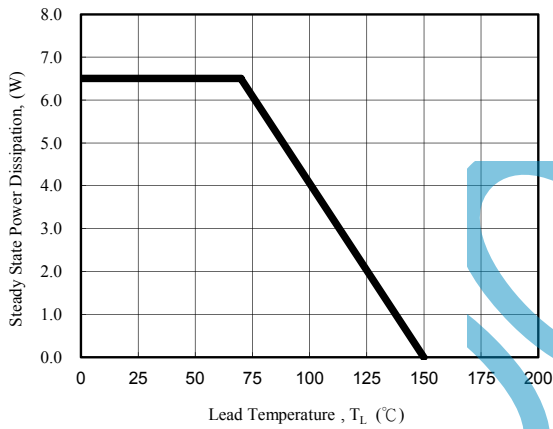


Fig. 3 - Steady State Power Derating Curve

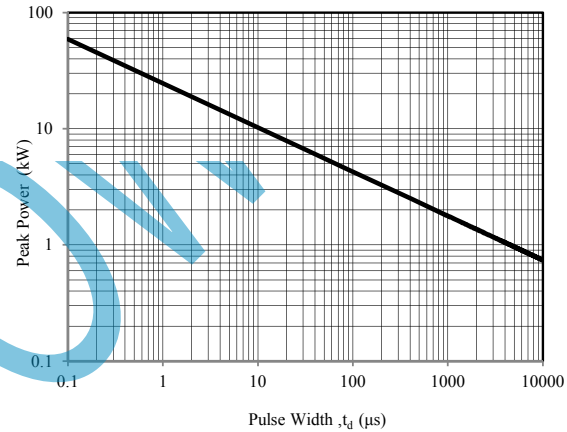


Fig. 4 - Peak Pulse Power Rating Curve

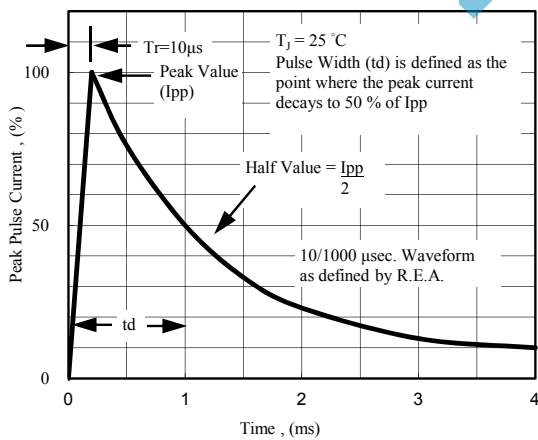


Fig. 5 - Pulse Waveform

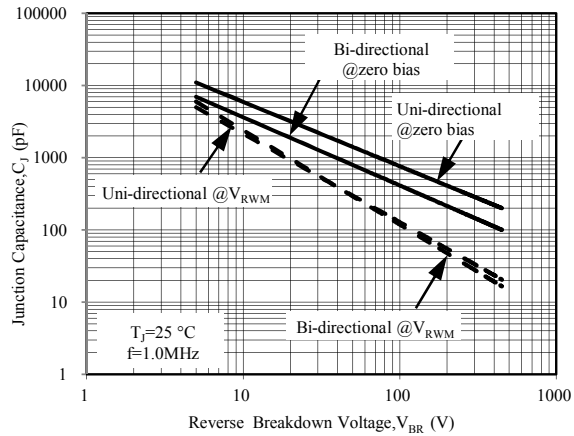


Fig. 6 - Typical Junction Capacitance

## Electrical Characteristics( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number (Uni) | Part Number (Bi) | Breakdown Voltage $V_{BR}$ @ $I_T$ |         |            | Maximum Reverse Leakage $I_R$ @ $V_{RWM}$ ( $\mu\text{A}$ ) | Working Peak Reverse Voltage $V_{RWM}$ (V) | Maximum Reverse Surge Current $I_{PP}$ (A) | Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V) |
|-------------------|------------------|------------------------------------|---------|------------|---|--|--|---|
|                   |                  | Min (V)                            | Max (V) | $I_T$ (mA) |   |  |  |   |
| 1.5KE6.8          | 1.5KE6.8C        | 6.12                               | 7.48    | 10         | 1000  | 5.5  | 138.89                                     | 10.8  |
| 1.5KE6.8A         | 1.5KE6.8CA       | 6.46                               | 7.14    | 10         | 1000  | 5.8  | 142.86                                     | 10.5  |
| 1.5KE7.5          | 1.5KE7.5C        | 6.75                               | 8.25    | 10         | 500   | 6.1  | 128.21                                     | 11.7  |
| 1.5KE7.5A         | 1.5KE7.5CA       | 7.13                               | 7.88    | 10         | 500   | 6.4  | 132.74                                     | 11.3  |
| 1.5KE8.2          | 1.5KE8.2C        | 7.38                               | 9.02    | 10         | 200   | 6.6  | 120.00                                     | 12.5  |
| 1.5KE8.2A         | 1.5KE8.2CA       | 7.79                               | 8.61    | 10         | 200   | 7.0  | 123.97                                     | 12.1  |
| 1.5KE9.1          | 1.5KE9.1C        | 8.19                               | 10.01   | 1          | 50  | 7.4  | 108.70                                     | 13.8  |
| 1.5KE9.1A         | 1.5KE9.1CA       | 8.65                               | 9.56    | 1          | 50  | 7.8  | 111.94                                     | 13.4  |
| 1.5KE10           | 1.5KE10C         | 9.00                               | 11.00   | 1          | 10  | 8.1  | 100.00                                     | 15.0  |
| 1.5KE10A          | 1.5KE10CA        | 9.50                               | 10.50   | 1          | 10  | 8.6  | 103.45                                     | 14.5  |
| 1.5KE11           | 1.5KE11C         | 9.90                               | 12.10   | 1          | 5   | 8.9  | 92.59                                      | 16.2  |
| 1.5KE11A          | 1.5KE11CA        | 10.45                              | 11.55   | 1          | 5   | 9.4  | 96.15                                      | 15.6  |
| 1.5KE12           | 1.5KE12C         | 10.80                              | 13.20   | 1          | 5   | 9.7  | 86.71                                      | 17.3  |
| 1.5KE12A          | 1.5KE12CA        | 11.40                              | 12.60   | 1          | 5   | 10.2                                       | 89.82                                      | 16.7  |
| 1.5KE13           | 1.5KE13C         | 11.70                              | 14.30   | 1          | 1   | 10.5                                       | 78.95                                      | 19.0  |
| 1.5KE13A          | 1.5KE13CA        | 12.35                              | 13.65   | 1          | 1   | 11.1                                       | 82.42                                      | 18.2  |
| 1.5KE15           | 1.5KE15C         | 13.50                              | 16.50   | 1          | 1   | 12.1                                       | 68.18                                      | 22.0  |
| 1.5KE15A          | 1.5KE15CA        | 14.25                              | 15.75   | 1          | 1   | 12.8                                       | 70.75                                      | 21.2  |
| 1.5KE16           | 1.5KE16C         | 14.40                              | 17.60   | 1          | 1   | 12.9                                       | 63.83                                      | 23.5  |
| 1.5KE16A          | 1.5KE16CA        | 15.20                              | 16.80   | 1          | 1   | 13.6                                       | 66.67                                      | 22.5  |
| 1.5KE18           | 1.5KE18C         | 16.20                              | 19.80   | 1          | 1   | 14.5                                       | 56.60                                      | 26.5  |
| 1.5KE18A          | 1.5KE18CA        | 17.10                              | 18.90   | 1          | 1   | 15.3                                       | 59.52                                      | 25.2  |
| 1.5KE20           | 1.5KE20C         | 18.00                              | 22.00   | 1          | 1   | 16.2                                       | 51.55                                      | 29.1  |
| 1.5KE20A          | 1.5KE20CA        | 19.00                              | 21.00   | 1          | 1   | 17.1                                       | 54.15                                      | 27.7  |
| 1.5KE22           | 1.5KE22C         | 19.80                              | 24.20   | 1          | 1   | 17.8                                       | 47.02                                      | 31.9  |
| 1.5KE22A          | 1.5KE22CA        | 20.90                              | 23.10   | 1          | 1   | 18.8                                       | 49.02                                      | 30.6  |
| 1.5KE24           | 1.5KE24C         | 21.60                              | 26.40   | 1          | 1   | 19.4                                       | 43.23                                      | 34.7  |
| 1.5KE24A          | 1.5KE24CA        | 22.80                              | 25.20   | 1          | 1   | 20.5                                       | 45.18                                      | 33.2  |
| 1.5KE27           | 1.5KE27C         | 24.30                              | 29.70   | 1          | 1   | 21.8                                       | 38.36                                      | 39.1  |
| 1.5KE27A          | 1.5KE27CA        | 25.65                              | 28.35   | 1          | 1   | 23.1                                       | 40.00                                      | 37.5  |
| 1.5KE30           | 1.5KE30C         | 27.00                              | 33.00   | 1          | 1   | 24.3                                       | 34.48                                      | 43.5  |
| 1.5KE30A          | 1.5KE30CA        | 28.50                              | 31.50   | 1          | 1   | 25.6                                       | 36.23                                      | 41.4  |
| 1.5KE33           | 1.5KE33C         | 29.70                              | 36.30   | 1          | 1   | 26.8                                       | 31.45                                      | 47.7  |
| 1.5KE33A          | 1.5KE33CA        | 31.35                              | 34.65   | 1          | 1   | 28.2                                       | 32.82                                      | 45.7  |
| 1.5KE36           | 1.5KE36C         | 32.40                              | 39.60   | 1          | 1   | 29.1                                       | 28.85                                      | 52.0  |
| 1.5KE36A          | 1.5KE36CA        | 34.20                              | 37.80   | 1          | 1   | 30.8                                       | 30.06                                      | 49.9  |
| 1.5KE39           | 1.5KE39C         | 35.10                              | 42.90   | 1          | 1   | 31.6                                       | 26.60                                      | 56.4  |
| 1.5KE39A          | 1.5KE39CA        | 37.05                              | 40.95   | 1          | 1   | 33.3                                       | 27.83                                      | 53.9  |
| 1.5KE43           | 1.5KE43C         | 38.70                              | 47.30   | 1          | 1   | 34.8                                       | 24.23                                      | 61.9  |
| 1.5KE43A          | 1.5KE43CA        | 40.85                              | 45.15   | 1          | 1   | 36.8                                       | 25.30                                      | 59.3  |
| 1.5KE47           | 1.5KE47C         | 42.30                              | 51.70   | 1          | 1   | 38.1                                       | 22.12                                      | 67.8  |
| 1.5KE47A          | 1.5KE47CA        | 44.65                              | 49.35   | 1          | 1   | 40.2                                       | 23.15                                      | 64.8  |
| 1.5KE51           | 1.5KE51C         | 45.90                              | 56.10   | 1          | 1   | 41.3                                       | 20.41                                      | 73.5  |
| 1.5KE51A          | 1.5KE51CA        | 48.45                              | 53.55   | 1          | 1   | 43.6                                       | 21.40                                      | 70.1  |
| 1.5KE56           | 1.5KE56C         | 50.40                              | 61.60   | 1          | 1   | 45.4                                       | 18.63                                      | 80.5  |
| 1.5KE56A          | 1.5KE56CA        | 53.20                              | 58.80   | 1          | 1   | 47.8                                       | 19.48                                      | 77.0  |

**Note:**

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having  $V_R$  of 10 volts and under, the  $I_R$  limit is double

## Electrical Characteristics( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number<br>(Uni) | Part Number<br>(Bi) | Breakdown Voltage $V_{BR}$ @ $I_T$ |         |            | Maximum<br>Reverse<br>Leakage $I_R$<br>@ $V_{RWM}$<br>( $\mu\text{A}$ ) | Working<br>Peak Reverse<br>Voltage<br>$V_{RWM}$<br>(V) | Maximum<br>Reverse<br>Surge<br>Current $I_{PP}$<br>(A) | Maximum<br>Clamping<br>Voltage $V_C$<br>@ $I_{PP}$<br>(V) |
|----------------------|---------------------|------------------------------------|---------|------------|---|--|--|---|
|                      |                     | Min (V)                            | Max (V) | $I_T$ (mA) |   |  |  |   |
| 1.5KE62              | 1.5KE62C            | 55.80                              | 68.20   | 1          | 1   | 50.2   | 16.85  | 89.0  |
| 1.5KE62A             | 1.5KE62CA           | 58.90                              | 65.10   | 1          | 1   | 53.0   | 17.65  | 85.0  |
| 1.5KE68              | 1.5KE68C            | 61.20                              | 74.80   | 1          | 1   | 55.1   | 15.31  | 98.0  |
| 1.5KE68A             | 1.5KE68CA           | 64.60                              | 71.40   | 1          | 1   | 58.1   | 16.30  | 92.0  |
| 1.5KE75              | 1.5KE75C            | 67.50                              | 82.50   | 1          | 1   | 60.7   | 13.89  | 108.0   |
| 1.5KE75A             | 1.5KE75CA           | 71.25                              | 78.75   | 1          | 1   | 64.1   | 14.56  | 103.0   |
| 1.5KE82              | 1.5KE82C            | 73.80                              | 90.20   | 1          | 1   | 66.4   | 12.71  | 118.0   |
| 1.5KE82A             | 1.5KE82CA           | 77.90                              | 86.10   | 1          | 1   | 70.1   | 13.27  | 113.0   |
| 1.5KE91              | 1.5KE91C            | 81.90                              | 100.10  | 1          | 1   | 73.7   | 11.45  | 131.0   |
| 1.5KE91A             | 1.5KE91CA           | 86.45                              | 95.55   | 1          | 1   | 77.8   | 12.00  | 125.0   |
| 1.5KE100             | 1.5KE100C           | 90.00                              | 110.00  | 1          | 1   | 81.0   | 10.42  | 144.0   |
| 1.5KE100A            | 1.5KE100CA          | 95.00                              | 105.00  | 1          | 1   | 85.5   | 10.95  | 137.0   |
| 1.5KE110             | 1.5KE110C           | 99.00                              | 121.00  | 1          | 1   | 89.2   | 9.49   | 158.0   |
| 1.5KE110A            | 1.5KE110CA          | 104.50                             | 115.50  | 1          | 1   | 94.0   | 9.87   | 152.0   |
| 1.5KE120             | 1.5KE120C           | 108.00                             | 132.00  | 1          | 1   | 97.2   | 8.67   | 173.0   |
| 1.5KE120A            | 1.5KE120CA          | 114.00                             | 126.00  | 1          | 1   | 102.0  | 9.09   | 165.0   |
| 1.5KE130             | 1.5KE130C           | 117.00                             | 143.00  | 1          | 1   | 105.0  | 8.02   | 187.0   |
| 1.5KE130A            | 1.5KE130CA          | 123.50                             | 136.50  | 1          | 1   | 111.0  | 8.38   | 179.0   |
| 1.5KE150             | 1.5KE150C           | 135.00                             | 165.00  | 1          | 1   | 121.0  | 6.98   | 215.0   |
| 1.5KE150A            | 1.5KE150CA          | 142.50                             | 157.50  | 1          | 1   | 128.0  | 7.25   | 207.0   |
| 1.5KE160             | 1.5KE160C           | 144.00                             | 176.00  | 1          | 1   | 130.0  | 6.52   | 230.0   |
| 1.5KE160A            | 1.5KE160CA          | 152.00                             | 168.00  | 1          | 1   | 136.0  | 6.85   | 219.0   |
| 1.5KE170             | 1.5KE170C           | 153.00                             | 187.00  | 1          | 1   | 138.0  | 6.15   | 244.0   |
| 1.5KE170A            | 1.5KE170CA          | 161.50                             | 178.50  | 1          | 1   | 145.0  | 6.41   | 234.0   |
| 1.5KE180             | 1.5KE180C           | 162.00                             | 198.00  | 1          | 1   | 146.0  | 5.81   | 258.0   |
| 1.5KE180A            | 1.5KE180CA          | 171.00                             | 189.00  | 1          | 1   | 154.0  | 6.10   | 246.0   |
| 1.5KE200             | 1.5KE200C           | 180.00                             | 220.00  | 1          | 1   | 162.0  | 5.23   | 287.0   |
| 1.5KE200A            | 1.5KE200CA          | 190.00                             | 210.00  | 1          | 1   | 171.0  | 5.47   | 274.0   |
| 1.5KE220             | 1.5KE220C           | 198.00                             | 242.00  | 1          | 1   | 175.0  | 4.36   | 344.0   |
| 1.5KE220A            | 1.5KE220CA          | 209.00                             | 231.00  | 1          | 1   | 185.0  | 4.57   | 328.0   |
| 1.5KE250             | 1.5KE250C           | 225.00                             | 275.00  | 1          | 1   | 202.0  | 4.17   | 360.0   |
| 1.5KE250A            | 1.5KE250CA          | 237.50                             | 262.50  | 1          | 1   | 214.0  | 4.36   | 344.0   |
| 1.5KE300             | 1.5KE300C           | 270.00                             | 330.00  | 1          | 1   | 243.0  | 3.49   | 430.0   |
| 1.5KE300A            | 1.5KE300CA          | 285.00                             | 315.00  | 1          | 1   | 256.0  | 3.62   | 414.0   |
| 1.5KE350             | 1.5KE350C           | 315.00                             | 385.00  | 1          | 1   | 284.2  | 2.98   | 504.0   |
| 1.5KE350A            | 1.5KE350CA          | 332.50                             | 367.50  | 1          | 1   | 299.3  | 3.11   | 482.0   |
| 1.5KE380             | 1.5KE380C           | 342.00                             | 418.00  | 1          | 1   | 308.6  | 2.74   | 547.2   |
| 1.5KE380A            | 1.5KE380CA          | 361.00                             | 399.00  | 1          | 1   | 324.9  | 2.86   | 524.4   |
| 1.5KE400             | 1.5KE400C           | 360.00                             | 440.00  | 1          | 1   | 324.8  | 2.60   | 574.0   |
| 1.5KE400A            | 1.5KE400CA          | 380.00                             | 420.00  | 1          | 1   | 342.0  | 2.72   | 548.0   |
| 1.5KE440             | 1.5KE440C           | 396.00                             | 484.00  | 1          | 1   | 357.3  | 2.37   | 631.0   |
| 1.5KE440A            | 1.5KE440CA          | 418.00                             | 462.00  | 1          | 1   | 376.2  | 2.47   | 602.0   |
| 1.5KE500             | 1.5KE500C           | 450.00                             | 550.00  | 1          | 1   | 406.0  | 2.08   | 720.0   |
| 1.5KE500A            | 1.5KE500CA          | 475.00                             | 525.00  | 1          | 1   | 427.5  | 2.17   | 690.0   |
| 1.5KE520             | 1.5KE520C           | 468.00                             | 572.00  | 1          | 1   | 422.2  | 2.00   | 748.8   |
| 1.5KE520A            | 1.5KE520CA          | 494.00                             | 546.00  | 1          | 1   | 444.6  | 2.09   | 717.6   |
| 1.5KE550             | 1.5KE550C           | 495.00                             | 605.00  | 1          | 1   | 446.6  | 1.89   | 792.0   |
| 1.5KE550A            | 1.5KE550CA          | 522.50                             | 577.50  | 1          | 1   | 470.3  | 1.98   | 759.0   |
| 1.5KE600             | 1.5KE600C           | 540.00                             | 660.00  | 1          | 1   | 487.2  | 1.74   | 864.0   |
| 1.5KE600A            | 1.5KE600CA          | 570.00                             | 630.00  | 1          | 1   | 513.0  | 1.81   | 828.0   |

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [DOWO](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [DESD5V0U1BB-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#) [P6KE8.2A](#)  
[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
[3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#)  
[SCM1293A-04SO](#) [ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [SMF8.0A-TP](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#) [VESD12A1A-](#)  
[HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [D1213A-02WL-7](#)  
[MMAD1108/TR13](#) [5KP100A](#) [5KP15A](#) [5KP18A](#) [5KP48A](#) [5KP90A](#)