



# FUKUCOM COMPANY LTD.

## 福 靈 有 限 公 司

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314      FAX: 852-2790 0206

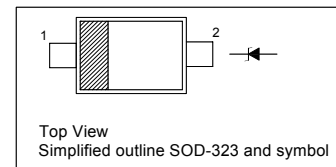
### STZ8000 Series

#### Silicon Planar Zener Diodes

For stabilization of power supply application

#### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |

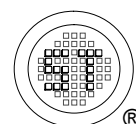


#### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

| Parameter                       | Symbol    | Value         | Unit             |
|---------------------------------|-----------|---------------|------------------|
| Power Dissipation               | $P_{tot}$ | 300           | mW               |
| Repetitive Peak Forward Current | $I_{FRM}$ | 200           | mA               |
| Junction Temperature            | $T_j$     | 150           | $^\circ\text{C}$ |
| Storage Temperature Range       | $T_{stg}$ | - 55 to + 150 | $^\circ\text{C}$ |

#### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter                                  | Symbol    | Value | Unit                      |
|--|-----------|-------|---------------------------|
| Thermal Resistance Junction to Ambient Air | $R_{thA}$ | 417   | $^\circ\text{C}/\text{W}$ |
| Forward Voltage<br>at $I_F = 10\text{ mA}$ | $V_F$     | 1     | V                         |



Dated : 12/06/2009



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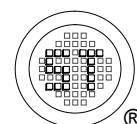
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**STZ8000 Series**

| Type     | Marking Code | Zener Voltage Range <sup>1)</sup> |                     | Dynamic Impedance           |                             |                          | Reverse Leakage Current     |                        | Temp. coefficient of Zener Voltage                |
|----------|--------------|-----------------------------------|---------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|------------------------|---|
|          |              | I <sub>ZT</sub><br>mA             | V <sub>Z</sub><br>V | Z <sub>ZT</sub><br>Ω (Max.) | Z <sub>ZK</sub><br>Ω (Max.) | at I <sub>ZK</sub><br>mA | I <sub>R</sub><br>μA (Max.) | at V <sub>R</sub><br>V | S <sub>Z</sub> (mV/°C)<br>Typ. at I <sub>ZT</sub> |
| STZ8024  | 1C           | 5                                 | 2.28...2.6          | 100                         | -                           | -                        | 120                         | 1                      | -1.6  |
| STZ8027  | 1D           | 5                                 | 2.5...2.9           | 110                         | -                           | -                        | 120                         | 1                      | -2  |
| STZ8027A | 1C1          |                                   | 2.5...2.75          |                             |                             |                          |                             |                        |   |
| STZ8027B | 7D           |                                   | 2.65...2.9          |                             |                             |                          |                             |                        |   |
| STZ8030  | 1E           | 5                                 | 2.8...3.2           | 120                         | -                           | -                        | 50                          | 1                      | -2.1  |
| STZ8030A | 1F1          |                                   | 2.8...3.05          |                             |                             |                          |                             |                        |   |
| STZ8030B | 7E           |                                   | 2.95...3.2          |                             |                             |                          |                             |                        |   |
| STZ8033  | 1F           | 5                                 | 3.1...3.5           | 130                         | -                           | -                        | 20                          | 1                      | -2.4  |
| STZ8033A | 1J1          |                                   | 3.1...3.35          |                             |                             |                          |                             |                        |   |
| STZ8033B | 7F           |                                   | 3.25...3.5          |                             |                             |                          |                             |                        |   |
| STZ8036  | 1H           | 5                                 | 3.4...3.8           | 130                         | -                           | -                        | 10                          | 1                      | -2.4  |
| STZ8036A | 1M1          |                                   | 3.4...3.65          |                             |                             |                          |                             |                        |   |
| STZ8036B | 7H           |                                   | 3.55...3.8          |                             |                             |                          |                             |                        |   |
| STZ8039  | 1J           | 5                                 | 3.7...4.1           | 130                         | -                           | -                        | 10                          | 1                      | -2.5  |
| STZ8039A | 1Q1          |                                   | 3.7...3.97          |                             |                             |                          |                             |                        |   |
| STZ8039B | 7J           |                                   | 3.87...4.1          |                             |                             |                          |                             |                        |   |
| STZ8043  | 1K           | 5                                 | 4...4.6             | 130                         | -                           | -                        | 10                          | 1                      | -2.5  |
| STZ8043A | 1T1          |                                   | 4.03...4.26         |                             |                             |                          |                             |                        |   |
| STZ8043B | 7K           |                                   | 4.17...4.4          |                             |                             |                          |                             |                        |   |
| STZ8043C | 1W1          |                                   | 4.31...4.54         |                             |                             |                          |                             |                        |   |
| STZ8047  | 1M           | 5                                 | 4.4...5             | 80                          | 800                         | 1                        | 2                           | 1                      | -1.4  |
| STZ8047A | 1Y1          |                                   | 4.45...4.69         |                             |                             |                          |                             |                        |   |
| STZ8047B | EB           |                                   | 4.59...4.83         |                             |                             |                          |                             |                        |   |
| STZ8047C | 2A1          |                                   | 4.74...4.99         |                             |                             |                          |                             |                        |   |
| STZ8051  | 1N           | 5                                 | 4.8...5.4           | 60                          | 500                         | 1                        | 2                           | 1.5                    | -0.8  |
| STZ8051A | 2C1          |                                   | 4.87...5.12         |                             |                             |                          |                             |                        |   |
| STZ8051B | EC           |                                   | 5...5.26            |                             |                             |                          |                             |                        |   |
| STZ8051C | 2E1          |                                   | 5.14...5.4          |                             |                             |                          |                             |                        |   |
| STZ8056  | 1P           | 5                                 | 5.3...6             | 40                          | 200                         | 0.5                      | 1                           | 2.5                    | 1.2   |
| STZ8056A | 2G1          |                                   | 5.3...5.58          |                             |                             |                          |                             |                        |   |
| STZ8056B | ED           |                                   | 5.48...5.76         |                             |                             |                          |                             |                        |   |
| STZ8056C | 2J1          |                                   | 5.66...5.95         |                             |                             |                          |                             |                        |   |
| STZ8062  | 1R           | 5                                 | 5.8...6.6           | 30                          | 100                         | 0.5                      | 1                           | 3                      | 2.3   |
| STZ8062A | 2L1          |                                   | 5.85...6.15         |                             |                             |                          |                             |                        |   |
| STZ8062B | 7R           |                                   | 6.05...6.36         |                             |                             |                          |                             |                        |   |
| STZ8062C | 2N1          |                                   | 6.24...6.56         |                             |                             |                          |                             |                        |   |
| STZ8068  | 1X           | 5                                 | 6.4...7.2           | 20                          | 60                          | 0.5                      | 0.5                         | 3.5                    | 3   |
| STZ8068A | 2Q1          |                                   | 6.44...6.77         |                             |                             |                          |                             |                        |   |
| STZ8068B | 7X           |                                   | 6.64...6.98         |                             |                             |                          |                             |                        |   |
| STZ8068C | 2S1          |                                   | 6.85...7.2          |                             |                             |                          |                             |                        |   |
| STZ8075  | 1Y           | 5                                 | 7...7.9             | 20                          | 60                          | 0.5                      | 0.5                         | 4                      | 4   |
| STZ8075A | 2U1          |                                   | 7.07...7.43         |                             |                             |                          |                             |                        |   |
| STZ8075B | 7Y           |                                   | 7.29...7.67         |                             |                             |                          |                             |                        |   |
| STZ8075C | 2X1          |                                   | 7.51...7.89         |                             |                             |                          |                             |                        |   |



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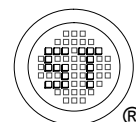
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**STZ8000 Series**

| Type     | Marking Code | Zener Voltage Range <sup>1)</sup> |                     | Dynamic Impedance           |                             |                          | Reverse Leakage Current     |                        | Temp. coefficient of Zener Voltage                |
|----------|--------------|-----------------------------------|---------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|------------------------|---|
|          |              | I <sub>ZT</sub><br>mA             | V <sub>Z</sub><br>V | Z <sub>ZT</sub><br>Ω (Max.) | Z <sub>ZK</sub><br>Ω (Max.) | at I <sub>ZK</sub><br>mA | I <sub>R</sub><br>μA (Max.) | at V <sub>R</sub><br>V | S <sub>Z</sub> (mV/°C)<br>Typ. at I <sub>ZT</sub> |
| STZ8082  | 1Z           | 5                                 | 7.7...8.7           | 20                          | 60                          | 0.5                      | 0.5                         | 5                      | 4.6   |
| STZ8082A | 2Z1          |                                   | 7.77...8.17         |                             |                             |                          |                             |                        |   |
| STZ8082B | EJ           |                                   | 8.03...8.43         |                             |                             |                          |                             |                        |   |
| STZ8082C | 3B1          |                                   | 8.29...8.7          |                             |                             |                          |                             |                        |   |
| STZ8091  | 2A           | 5                                 | 8.5...9.6           | 20                          | 60                          | 0.5                      | 0.5                         | 6                      | 5.5   |
| STZ8091A | 3D1          |                                   | 8.58...9.02         |                             |                             |                          |                             |                        |   |
| STZ8091B | EK           |                                   | 8.87...9.33         |                             |                             |                          |                             |                        |   |
| STZ8091C | 3F1          |                                   | 9.14...9.6          |                             |                             |                          |                             |                        |   |
| STZ8100  | 2B           | 5                                 | 9.4...10.6          | 30                          | 60                          | 0.5                      | 0.1                         | 7                      | 6.4   |
| STZ8100A | 3H1          |                                   | 9.44...9.92         |                             |                             |                          |                             |                        |   |
| STZ8100B | 8B           |                                   | 9.75...10.25        |                             |                             |                          |                             |                        |   |
| STZ8100C | 3K1          |                                   | 10.07...10.59       |                             |                             |                          |                             |                        |   |
| STZ8110  | 2C           | 5                                 | 10.4...11.6         | 30                          | 60                          | 0.5                      | 0.1                         | 8                      | 7.4   |
| STZ8110A | 3M1          |                                   | 10.4...10.94        |                             |                             |                          |                             |                        |   |
| STZ8110B | EN           |                                   | 10.73...11.28       |                             |                             |                          |                             |                        |   |
| STZ8110C | 3P1          |                                   | 11.05...11.6        |                             |                             |                          |                             |                        |   |
| STZ8120  | 2D           | 5                                 | 11.4...12.7         | 30                          | 80                          | 0.5                      | 0.1                         | 9                      | 8.4   |
| STZ8120A | 3R1          |                                   | 11.4...11.96        |                             |                             |                          |                             |                        |   |
| STZ8120B | 8D           |                                   | 11.73...12.33       |                             |                             |                          |                             |                        |   |
| STZ8120C | 3T1          |                                   | 12.06...12.68       |                             |                             |                          |                             |                        |   |
| STZ8130  | 2E           | 5                                 | 12.4...14.1         | 35                          | 80                          | 0.5                      | 0.1                         | 10                     | 9.4   |
| STZ8130A | 3W1          |                                   | 12.4...12.99        |                             |                             |                          |                             |                        |   |
| STZ8130B | ER           |                                   | 12.73...13.4        |                             |                             |                          |                             |                        |   |
| STZ8130C | 3Y1          |                                   | 13.25...14.08       |                             |                             |                          |                             |                        |   |
| STZ8140  | 3Z1          | 5                                 | 13.65...14.35       | 40                          | 80                          | 0.5                      | 0.1                         | 10                     | 10  |
| STZ8150  | 2F           | 5                                 | 13.9...15.6         | 40                          | 80                          | 0.5                      | 0.1                         | 11                     | 11.4  |
| STZ8150A | 4B1          |                                   | 13.9...14.76        |                             |                             |                          |                             |                        |   |
| STZ8150B | EX           |                                   | 14.6...15.35        |                             |                             |                          |                             |                        |   |
| STZ8150C | 4D1          |                                   | 14.95...15.6        |                             |                             |                          |                             |                        |   |
| STZ8160  | 2H           | 5                                 | 15.3...17.1         | 50                          | 80                          | 0.5                      | 0.1                         | 12                     | 12.4  |
| STZ8160A | 4F1          |                                   | 15.3...16.09        |                             |                             |                          |                             |                        |   |
| STZ8160B | 8H           |                                   | 15.7...16.5         |                             |                             |                          |                             |                        |   |
| STZ8160C | 4H1          |                                   | 16.26...17.1        |                             |                             |                          |                             |                        |   |
| STZ8180  | 2J           | 5                                 | 16.9...19.1         | 60                          | 80                          | 0.5                      | 0.1                         | 13                     | 14.4  |
| STZ8180A | 4K1          |                                   | 16.9...17.76        |                             |                             |                          |                             |                        |   |
| STZ8180B | 8J           |                                   | 17.55...18.45       |                             |                             |                          |                             |                        |   |
| STZ8180C | 4M1          |                                   | 18.2...19.1         |                             |                             |                          |                             |                        |   |
| STZ8200  | 2K           | 5                                 | 18.8...21.2         | 80                          | 100                         | 0.5                      | 0.1                         | 15                     | 16.4  |
| STZ8200A | 4P1          |                                   | 18.85...19.81       |                             |                             |                          |                             |                        |   |
| STZ8200B | 8K           |                                   | 19.5...20.5         |                             |                             |                          |                             |                        |   |
| STZ8200C | 4R1          |                                   | 20.15...21.19       |                             |                             |                          |                             |                        |   |
| STZ8220  | 2M           | 5                                 | 20.8...23.3         | 80                          | 100                         | 0.5                      | 0.1                         | 17                     | 18.4  |
| STZ8220A | 4T1          |                                   | 20.8...21.86        |                             |                             |                          |                             |                        |   |
| STZ8220B | 8M           |                                   | 21.45...22.55       |                             |                             |                          |                             |                        |   |
| STZ8220C | 4W1          |                                   | 22.1...23.24        |                             |                             |                          |                             |                        |   |



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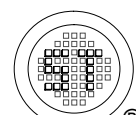
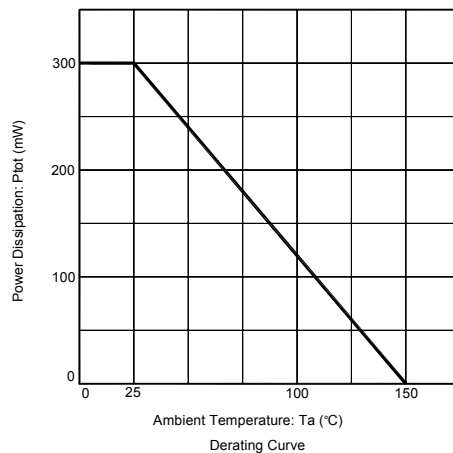
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**STZ8000 Series**

| Type     | Marking Code | Zener Voltage Range <sup>1)</sup> |                     | Dynamic Impedance           |                             |                          | Reverse Leakage Current     |                        | Temp. coefficient of Zener Voltage                |
|----------|--------------|-----------------------------------|---------------------|-----------------------------|-----------------------------|--------------------------|-----------------------------|------------------------|---|
|          |              | I <sub>ZT</sub> for<br>mA         | V <sub>Z</sub><br>V | Z <sub>ZT</sub><br>Ω (Max.) | Z <sub>ZK</sub><br>Ω (Max.) | at I <sub>ZK</sub><br>mA | I <sub>R</sub><br>μA (Max.) | at V <sub>R</sub><br>V | S <sub>Z</sub> (mV/°C)<br>Typ. at I <sub>ZT</sub> |
| STZ8240  | 2N           | 5                                 | 22.8...25.6         | 100                         | 120                         | 0.5                      | 0.1                         | 19                     | 20.4  |
| STZ8240A | 4Y1          |                                   | 22.8...23.97        |                             |                             |                          |                             |                        |   |
| STZ8240B | FC           |                                   | 23.5...24.7         |                             |                             |                          |                             |                        |   |
| STZ8240C | 5A1          |                                   | 24.35...25.6        |                             |                             |                          |                             |                        |   |
| STZ8270  | 2P           | 2                                 | 25.1...28.9         | 120                         | 120                         | 0.5                      | 0.1                         | 21                     | 23.4  |
| STZ8270A | 5C1          |                                   | 25.3...26.7         |                             |                             |                          |                             |                        |   |
| STZ8270B | FD           |                                   | 26.3...27.7         |                             |                             |                          |                             |                        |   |
| STZ8270C | 5E1          |                                   | 27.3...28.7         |                             |                             |                          |                             |                        |   |
| STZ8300  | 2R           | 2                                 | 28...32             | 160                         | 160                         | 0.5                      | 0.1                         | 23                     | 26.6  |
| STZ8300A | 5G1          |                                   | 28.3...29.7         |                             |                             |                          |                             |                        |   |
| STZ8300B | FE           |                                   | 29.3...30.8         |                             |                             |                          |                             |                        |   |
| STZ8300C | 5J1          |                                   | 30.2...31.8         |                             |                             |                          |                             |                        |   |
| STZ8330  | 2X           | 2                                 | 31...35             | 200                         | 200                         | 0.5                      | 0.1                         | 25                     | 29.7  |
| STZ8330A | 5L1          |                                   | 31.2...32.8         |                             |                             |                          |                             |                        |   |
| STZ8330B | 8X           |                                   | 32.2...33.8         |                             |                             |                          |                             |                        |   |
| STZ8330C | 5N1          |                                   | 33.2...34.9         |                             |                             |                          |                             |                        |   |
| STZ8360  | 2Y           | 2                                 | 34...38             | 250                         | 250                         | 0.5                      | 0.1                         | 27                     | 33  |
| STZ8360A | 5Q1          |                                   | 34.1...35.9         |                             |                             |                          |                             |                        |   |
| STZ8360B | 8Y           |                                   | 35.1...36.9         |                             |                             |                          |                             |                        |   |
| STZ8360C | 5S1          |                                   | 36.1...37.9         |                             |                             |                          |                             |                        |   |
| STZ8390  | 2Z           | 2                                 | 37...41             | 300                         | 300                         | 0.5                      | 2                           | 30                     | 35.6  |
| STZ8390A | 5U1          |                                   | 37.1...39           |                             |                             |                          |                             |                        |   |
| STZ8390B | FJ           |                                   | 38...40             |                             |                             |                          |                             |                        |   |
| STZ8390C | 5X1          |                                   | 39...41             |                             |                             |                          |                             |                        |   |

<sup>1)</sup>V<sub>Z</sub> is tested with pulses (20 ms).



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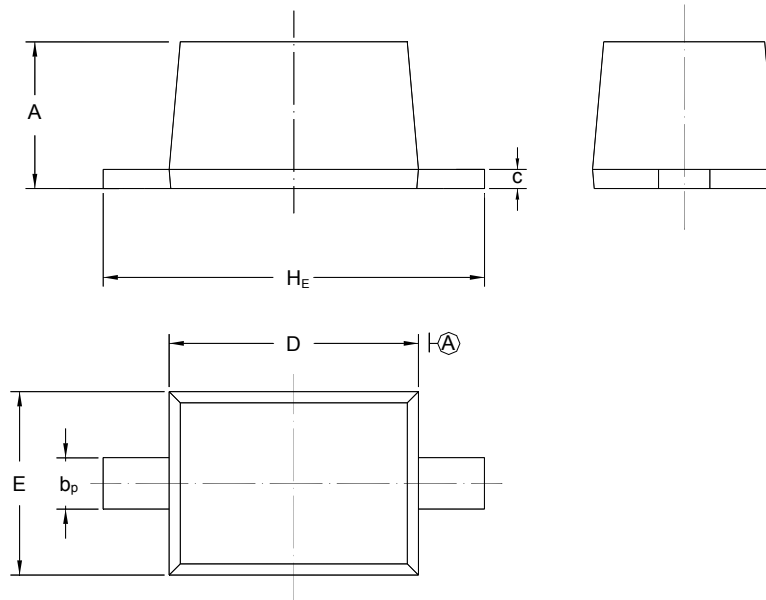
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## STZ8000 Series

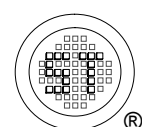
### PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



| UNIT | A            | b <sub>p</sub> | C            | D            | E            | H <sub>E</sub> |
|------|--------------|----------------|--------------|--------------|--------------|----------------|
| mm   | 1.10<br>0.80 | 0.40<br>0.25   | 0.15<br>0.00 | 1.80<br>1.60 | 1.35<br>1.15 | 2.80<br>2.30   |



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