



## SSCZXXXHN1 Series

### Zener Voltage Regulator

#### ● Description

The SSCZXXXHN1 is packaged in a DFN1006-2L surface mount package that has a power dissipation of 200mW. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. It is applicable to mobile phones, hand-held portable devices, high-density PC boards.

#### ● Feature

- ✧ Low profile package
- ✧ Ideal for automated placement
- ✧ Low Zener Impedance
- ✧ Steady state power rating of 200mW
- ✧ RoHS compliant transient

#### ● Mechanical data

- ✧ Package: DFN1006-2L
- ✧ Lead finish: 100% matte Sn (Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature: 260°C
- ✧ Device meets MSL 3 requirements
- ✧ Pure tin plating: 7 ~ 17 μm
- ✧ Pin flatness: ≤3mil

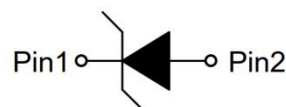
#### ● Absolute maximum rating @T<sub>A</sub>=25°C

| Parameter                               | Symbol           | Value    | Unit |
|-----------------------------------------|------------------|----------|------|
| Total Device Dissipation FR-5 Board     | P <sub>D</sub>   | 200      | mW   |
| Forward Voltage @ I <sub>F</sub> = 10mA | V <sub>F</sub>   | 0.9      | V    |
| Thermal Resistance, Junction-to-Ambient | R <sub>ΘJA</sub> | 625      | °C/W |
| Storage Temperature                     | T <sub>STG</sub> | -55/+150 | °C   |
| Operating Temperature                   | T <sub>J</sub>   | -55/+150 | °C   |

#### ● PIN configuration



**DFN1006-2L (Bottom View)**



**Circuit diagram**



**Marking**

#### ● Applications

- ✧ Hand held portables
- ✧ Cellular phones
- ✧ High density PC boards



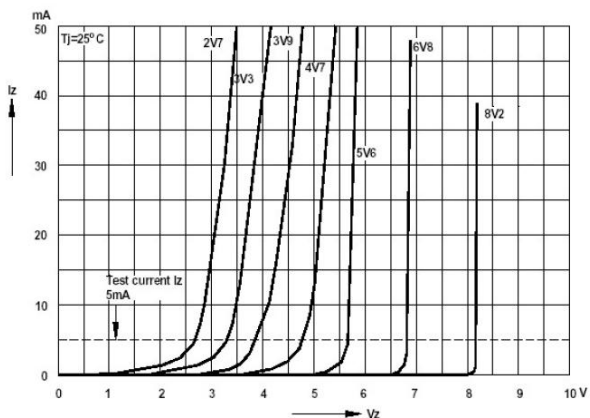
## ● Electrical Characteristics @T<sub>A</sub>=25°C

| Device     | Marking | Zener Voltage Range              |        |        |                 | Maximum Zener Impedance          |                                  |                 | Maximum Reverse Current |                | Typical Temperature coefficient @ I <sub>ZT</sub> =mV/°C |      |
|------------|---------|----------------------------------|--------|--------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|----------------|----------------------------------------------------------|------|
|            |         | V <sub>Z</sub> @ I <sub>ZT</sub> |        |        | I <sub>ZT</sub> | Z <sub>ZT</sub> @I <sub>ZT</sub> | Z <sub>ZK</sub> @I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>          | V <sub>R</sub> | I <sub>ZT</sub> =mV/°C                                   |      |
|            |         | Nom(V)                           | Min(V) | Max(V) | mA              | Ω                                |                                  | mA              | μA                      | V              | Min                                                      | Max  |
| SSCZ2V4HN1 | WX      | 2.4                              | 2.2    | 2.6    | 5               | 100                              | 600                              | 1.0             | 50                      | 1.0            | -3.5                                                     | 0    |
| SSCZ2V7HN1 | W1      | 2.7                              | 2.5    | 2.9    | 5               | 100                              | 600                              | 1.0             | 20                      | 1.0            | -3.5                                                     | 0    |
| SSCZ3V0HN1 | W2      | 3.0                              | 2.8    | 3.2    | 5               | 95                               | 600                              | 1.0             | 10                      | 1.0            | -3.5                                                     | 0    |
| SSCZ3V3HN1 | W3      | 3.3                              | 3.1    | 3.5    | 5               | 95                               | 600                              | 1.0             | 5                       | 1.0            | -3.5                                                     | 0    |
| SSCZ3V6HN1 | W4      | 3.6                              | 3.4    | 3.8    | 5               | 90                               | 600                              | 1.0             | 5                       | 1.0            | -3.5                                                     | 0    |
| SSCZ3V9HN1 | W5      | 3.9                              | 3.7    | 4.1    | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0            | -3.5                                                     | 0    |
| SSCZ4V3HN1 | W6      | 4.3                              | 4.0    | 4.6    | 5               | 90                               | 600                              | 1.0             | 3                       | 1.0            | -3.5                                                     | 0    |
| SSCZ4V7HN1 | W7      | 4.7                              | 4.4    | 5.0    | 5               | 80                               | 500                              | 1.0             | 3                       | 2.0            | -3.5                                                     | 0.2  |
| SSCZ5V1HN1 | W8      | 5.1                              | 4.8    | 5.4    | 5               | 60                               | 480                              | 1.0             | 2                       | 2.0            | -2.7                                                     | 1.2  |
| SSCZ5V6HN1 | W9      | 5.6                              | 5.2    | 6.0    | 5               | 40                               | 400                              | 1.0             | 1                       | 2.0            | -2.0                                                     | 2.5  |
| SSCZ6V2HN1 | WA      | 6.2                              | 5.8    | 6.6    | 5               | 10                               | 150                              | 1.0             | 3                       | 4.0            | 0.4                                                      | 3.7  |
| SSCZ6V8HN1 | WB      | 6.8                              | 6.4    | 7.2    | 5               | 15                               | 80                               | 1.0             | 2                       | 4.0            | 1.2                                                      | 4.5  |
| SSCZ7V5HN1 | WC      | 7.5                              | 7.0    | 7.9    | 5               | 15                               | 80                               | 1.0             | 1                       | 5.0            | 2.5                                                      | 5.3  |
| SSCZ8V2HN1 | WD      | 8.2                              | 7.7    | 8.7    | 5               | 15                               | 80                               | 1.0             | 0.7                     | 5.0            | 3.2                                                      | 6.2  |
| SSCZ9V1HN1 | WE      | 9.1                              | 8.5    | 9.6    | 5               | 15                               | 100                              | 1.0             | 0.5                     | 6.0            | 3.8                                                      | 7.0  |
| SSCZ10VHN1 | WF      | 10                               | 9.4    | 10.6   | 5               | 20                               | 150                              | 1.0             | 0.2                     | 7.0            | 4.5                                                      | 8.0  |
| SSCZ11VHN1 | WG      | 11                               | 10.4   | 11.6   | 5               | 20                               | 150                              | 1.0             | 0.1                     | 8.0            | 5.4                                                      | 9.0  |
| SSCZ12VHN1 | WH      | 12                               | 11.4   | 12.7   | 5               | 25                               | 150                              | 1.0             | 0.1                     | 8.0            | 6.0                                                      | 10.0 |
| SSCZ13VHN1 | WI      | 13                               | 12.4   | 14.1   | 5               | 30                               | 170                              | 1.0             | 0.1                     | 8.0            | 7.0                                                      | 11.0 |
| SSCZ15VHN1 | WJ      | 15                               | 13.8   | 15.6   | 5               | 30                               | 200                              | 1.0             | 0.1                     | 10.5           | 9.2                                                      | 13.0 |
| SSCZ16VHN1 | WK      | 16                               | 15.3   | 17.1   | 5               | 40                               | 200                              | 1.0             | 0.1                     | 11.2           | 10.4                                                     | 14.0 |
| SSCZ18VHN1 | WL      | 18                               | 16.8   | 19.1   | 5               | 45                               | 225                              | 1.0             | 0.1                     | 12.6           | 12.4                                                     | 16.0 |
| SSCZ20VHN1 | WM      | 20                               | 18.8   | 21.2   | 5               | 55                               | 225                              | 1.0             | 0.1                     | 14.0           | 14.4                                                     | 18.0 |
| SSCZ22VHN1 | WN      | 22                               | 20.8   | 23.3   | 5               | 55                               | 250                              | 1.0             | 0.1                     | 15.4           | 16.4                                                     | 20.0 |
| SSCZ24VHN1 | WO      | 24                               | 22.8   | 25.6   | 5               | 70                               | 250                              | 1.0             | 0.1                     | 16.8           | 18.4                                                     | 22.0 |
| SSCZ27VHN1 | WP      | 27                               | 25.1   | 28.9   | 2               | 80                               | 300                              | 0.5             | 0.1                     | 18.9           | 21.4                                                     | 25.3 |
| SSCZ30VHN1 | WQ      | 30                               | 28.0   | 32.0   | 2               | 80                               | 300                              | 0.5             | 0.1                     | 21.0           | 24.4                                                     | 29.4 |
| SSCZ33VHN1 | WR      | 33                               | 31.0   | 35.0   | 2               | 80                               | 325                              | 0.5             | 0.1                     | 23.1           | 27.4                                                     | 33.4 |
| SSCZ36VHN1 | WS      | 36                               | 34.0   | 38.0   | 2               | 90                               | 350                              | 0.5             | 0.1                     | 25.2           | 30.4                                                     | 37.4 |
| SSCZ39VHN1 | WT      | 39                               | 37.0   | 41.0   | 2               | 130                              | 350                              | 0.5             | 0.1                     | 27.3           | 33.4                                                     | 41.2 |
| SSCZ43VHN1 | WU      | 43                               | 40.0   | 46.0   | 2               | 100                              | 700                              | 1.0             | 0.1                     | 32.0           | 10.0                                                     | 12.0 |
| SSCZ47VHN1 | WV      | 47                               | 44.0   | 50.0   | 2               | 100                              | 750                              | 1.0             | 0.1                     | 35.0           | 10.0                                                     | 12.0 |
| SSCZ51VHN1 | WW      | 51                               | 48.0   | 54.0   | 2               | 100                              | 750                              | 1.0             | 0.1                     | 38.0           | 10.0                                                     | 12.0 |
| SSCZ56VHN1 | XW      | 56                               | 52.0   | 60.0   | 2               | 135                              | 700                              | 1.0             | 0.1                     | 39.0           | 10.0                                                     | 12.0 |
| SSCZ62VHN1 | 6E      | 62                               | 58.0   | 66.0   | 2               | 200                              | 1000                             | 1.0             | 0.2                     | 47.0           | 10.0                                                     | 12.0 |
| SSCZ68VHN1 | 6F      | 68                               | 64.0   | 72.0   | 2               | 250                              | 1000                             | 1.0             | 0.2                     | 52.0           | 10.0                                                     | 12.0 |

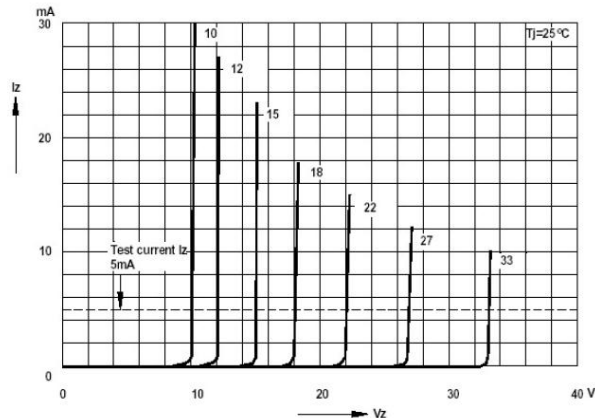


|            |    |    |      |      |   |     |      |     |     |      |      |      |
|------------|----|----|------|------|---|-----|------|-----|-----|------|------|------|
| SSCZ75VHN1 | 6H | 75 | 70.0 | 79.0 | 2 | 300 | 1000 | 1.0 | 0.2 | 57.0 | 10.0 | 12.0 |
|------------|----|----|------|------|---|-----|------|-----|-----|------|------|------|

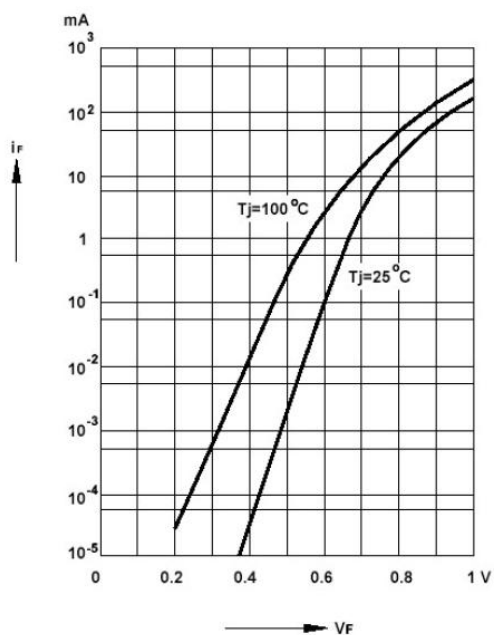
## ● Typical Performance Characteristics



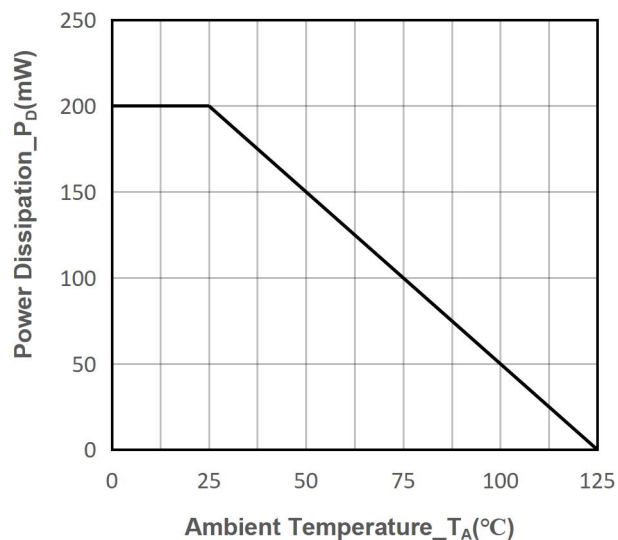
Zener Current vs. Zener Voltage



Zener Current vs. Zener Voltage



Forward Current vs. Forward Voltage



Power Derating vs. Ambient Temperature



## ● Package Information

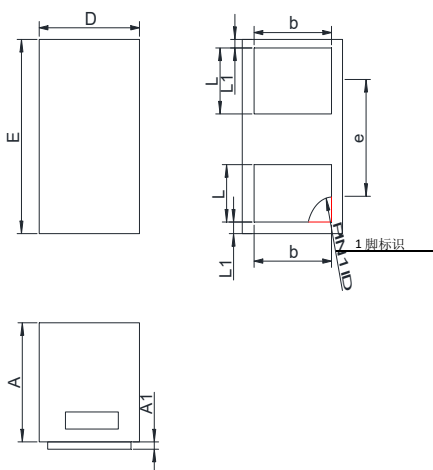
### Ordering Information

| Device     | Package    | Qty per Reel | Reel Size |
|------------|------------|--------------|-----------|
| SSCZXXXHN1 | DFN1006-2L | 10000        | 7 Inch    |

### Mechanical Data

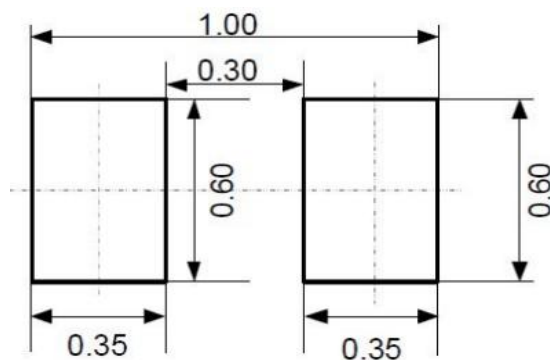
Case: DFN1006-2L

Case Material: Molded Plastic. UL Flammability



| DIM | Millimeters |      |
|-----|-------------|------|
|     | Min         | Max  |
| A   | 0.45        | 0.55 |
| A1  | 0.00        | 0.05 |
| D   | 0.55        | 0.65 |
| E   | 0.95        | 1.05 |
| b   | 0.45        | 0.60 |
| e   | 0.65TYP     |      |
| L   | 0.2         | 0.3  |
| L1  | 0.05REF     |      |

### Recommended Pad outline





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