

# TAITRON

components incorporated

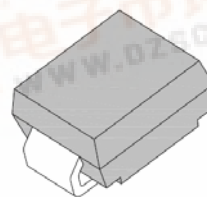
## 2.0W Surface Mount Zener Diodes

### Z2SMB6.8B - Z2SMB51B

## 2.0W Surface Mount Zener Diodes

### Features

- Low profile package
- Built-in strain relief
- Low inductance
- Complete voltage range 6.8 to 51V
- Typical  $I_b$  less than  $1.0\mu A$  above 11V
- High temperature soldering guaranteed:  $260^\circ C/10$  seconds at terminals
- Low leakage current
- RoHS compliant



**SMB  
(DO-214AA)**



### Mechanical Data

|                   |                                                               |
|-------------------|---------------------------------------------------------------|
| <b>Case:</b>      | JEDEC SMB (DO-214AA), molded plastic over passivated junction |
| <b>Epoxy:</b>     | Plastic package has UL flammability classification 94V-0      |
| <b>Terminals:</b> | Solder plated, solderable per MIL-STD-750, Method 2026        |
| <b>Polarity:</b>  | Color band denotes cathode end                                |
| <b>Weight:</b>    | 0.003 ounce, 0.093 gram                                       |

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

| Symbol                                | Description                                      | Value      | Unit           | Conditions                                                            |
|---------------------------------------|--------------------------------------------------|------------|----------------|-----------------------------------------------------------------------|
| <b>P<sub>D</sub></b>                  | Peak Pulse Power Dissipation on $T_A=50^\circ C$ | 2.0        | W              | Note                                                                  |
|                                       | Derate above $70^\circ C$                        | 24         | mW/ $^\circ C$ |                                                                       |
| <b>I<sub>FSM</sub></b>                | Peak Forward Surge Current                       | 15         | A              | 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) |
| <b>T<sub>J</sub>, T<sub>STG</sub></b> | Operating Junction and Storage Temperature Range | -55 to 150 | $^\circ C$     |                                                                       |

**Note:** Mounted on  $5.0mm^2$  (.013mm thick) land areas.

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

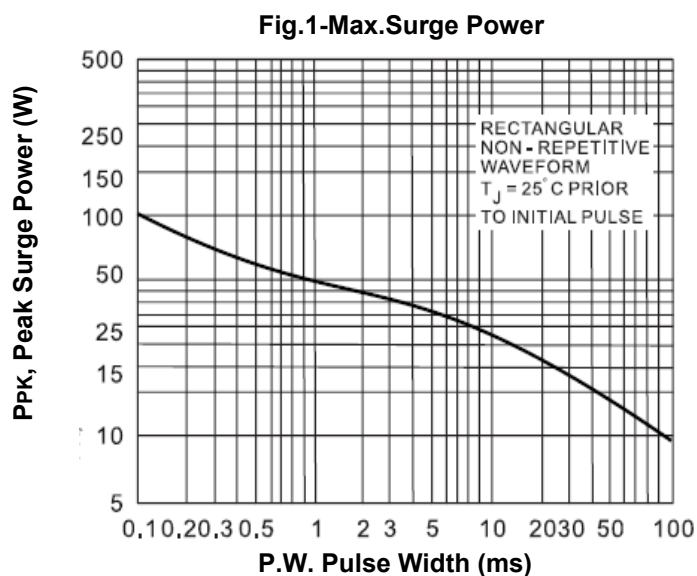
| Part NO.  | Marking Code | Nominal Zener Voltage @ IZT |       |       |         | Max. Zener Impedance ( $\Omega$ ) |           |         | Max. Reverse Leakage Current IR @ VR |       |
|-----------|--------------|-----------------------------|-------|-------|---------|-----------------------------------|-----------|---------|--------------------------------------|-------|
|           |              | Vz(V)                       |       |       | IZT(mA) | ZzT @ IZT                         | ZzK @ Izk | Izk(mA) | IR( $\mu$ A)                         | VR(V) |
|           |              | Nom.                        | Min.  | Max.  |         |                                   |           |         |                                      |       |
| Z2SMB6.8B | 2006         | 6.8                         | 6.46  | 7.14  | 73.5    | 2                                 | 700       | 1.00    | 5.0                                  | 4.0   |
| Z2SMB7.5B | 2007         | 7.5                         | 7.13  | 7.88  | 66.5    | 2                                 | 700       | 0.50    | 5.0                                  | 5.0   |
| Z2SMB8.2B | 2008         | 8.2                         | 7.79  | 8.61  | 61.0    | 2                                 | 700       | 0.50    | 5.0                                  | 6.0   |
| Z2SMB8.7B | 20A8         | 8.7                         | 8.27  | 9.14  | 58.0    | 2                                 | 700       | 0.50    | 4.0                                  | 6.6   |
| Z2SMB9.1B | 2009         | 9.1                         | 8.65  | 9.56  | 55.0    | 3                                 | 700       | 0.50    | 3.0                                  | 7.0   |
| Z2SMB10B  | 2010         | 10                          | 9.50  | 10.50 | 50.0    | 4                                 | 700       | 0.25    | 3.0                                  | 7.6   |
| Z2SMB11B  | 2011         | 11                          | 10.45 | 11.55 | 45.5    | 4                                 | 700       | 0.25    | 1.0                                  | 8.4   |
| Z2SMB12B  | 2012         | 12                          | 11.40 | 12.60 | 41.5    | 5                                 | 700       | 0.25    | 1.0                                  | 9.1   |
| Z2SMB13B  | 2013         | 13                          | 12.35 | 13.65 | 38.5    | 5                                 | 700       | 0.25    | 0.5                                  | 9.9   |
| Z2SMB14B  | 2014         | 14                          | 13.30 | 14.70 | 35.7    | 6                                 | 700       | 0.25    | 0.5                                  | 10.6  |
| Z2SMB15B  | 2015         | 15                          | 14.25 | 15.75 | 33.4    | 7                                 | 700       | 0.25    | 0.5                                  | 11.4  |
| Z2SMB16B  | 2016         | 16                          | 15.20 | 16.80 | 31.2    | 8                                 | 700       | 0.25    | 0.5                                  | 12.2  |
| Z2SMB17B  | 2017         | 17                          | 16.15 | 17.85 | 29.4    | 9                                 | 750       | 0.25    | 0.5                                  | 13.0  |
| Z2SMB18B  | 2018         | 18                          | 17.10 | 18.90 | 27.8    | 10                                | 750       | 0.25    | 0.5                                  | 13.7  |
| Z2SMB19B  | 2019         | 19                          | 18.05 | 19.95 | 26.3    | 11                                | 750       | 0.25    | 0.5                                  | 14.4  |
| Z2SMB20B  | 2020         | 20                          | 19.00 | 21.00 | 25.0    | 11                                | 750       | 0.25    | 0.5                                  | 15.2  |
| Z2SMB22B  | 2022         | 22                          | 20.90 | 23.10 | 22.8    | 12                                | 750       | 0.25    | 0.5                                  | 16.7  |
| Z2SMB24B  | 2024         | 24                          | 22.80 | 25.20 | 20.8    | 13                                | 750       | 0.25    | 0.5                                  | 18.2  |
| Z2SMB25B  | 2025         | 25                          | 23.75 | 26.25 | 20.0    | 14                                | 750       | 0.25    | 0.5                                  | 19.0  |
| Z2SMB27B  | 2027         | 27                          | 25.65 | 28.35 | 18.5    | 18                                | 750       | 0.25    | 0.5                                  | 20.6  |
| Z2SMB28B  | 2028         | 28                          | 26.60 | 29.40 | 17.0    | 18                                | 750       | 0.25    | 0.5                                  | 21.3  |
| Z2SMB30B  | 2030         | 30                          | 28.50 | 31.50 | 16.6    | 20                                | 1000      | 0.25    | 0.5                                  | 22.5  |
| Z2SMB33B  | 2033         | 33                          | 31.35 | 34.65 | 15.1    | 23                                | 1000      | 0.25    | 0.5                                  | 25.1  |
| Z2SMB36B  | 2036         | 36                          | 34.20 | 37.80 | 13.9    | 25                                | 1000      | 0.25    | 0.5                                  | 27.4  |
| Z2SMB39B  | 2039         | 39                          | 37.05 | 40.95 | 12.8    | 30                                | 1000      | 0.25    | 0.5                                  | 29.7  |
| Z2SMB43B  | 2043         | 43                          | 40.85 | 45.15 | 11.6    | 35                                | 1500      | 0.25    | 0.5                                  | 32.7  |
| Z2SMB47B  | 2047         | 47                          | 44.65 | 49.35 | 10.6    | 40                                | 1500      | 0.25    | 0.5                                  | 35.8  |
| Z2SMB51B  | 2051         | 51                          | 48.45 | 53.55 | 9.8     | 48                                | 1500      | 0.25    | 0.5                                  | 38.8  |

**Note:** Suffix "B" indicates  $\pm 5\%$  tolerance.

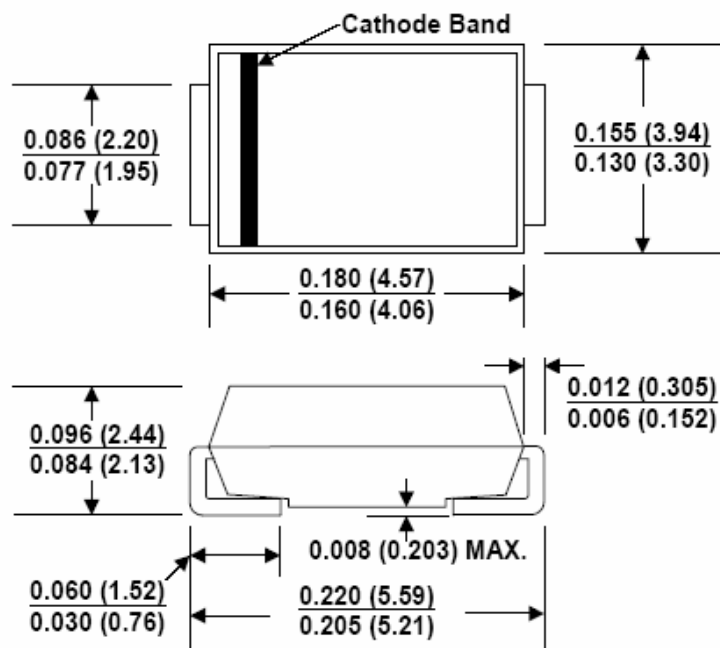
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#### Typical Characteristics Curves



#### Dimensions in inch (mm)

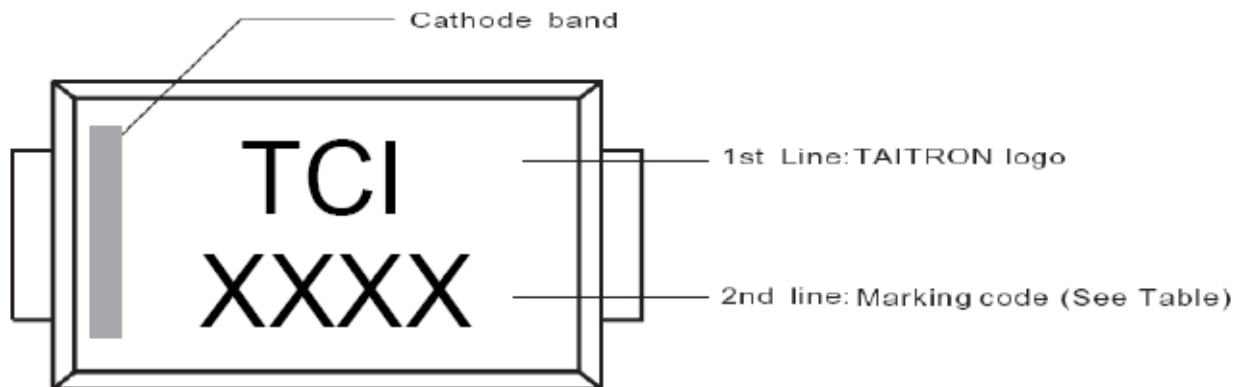


SMB (DO-214AA)

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#### Marking Information:



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