

# SMBJ5925BHE3 THRU SMBJ5956BHE3

## Features

- Halogen free
- AEC-Q101 Qualified
- Surface Mount Application
- 10V thru 200 Volt Voltage Range
- Low Inductance, Low Profile Mounting
- Glass Passivated Junction
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

## Mechanical Data

- CASE: JEDEC DO-214AA molded Surface Mountable
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Packaging: Standard 12mm Tape (see EIA 481)
- Maximum temperature for soldering: 260°C for 10 seconds.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

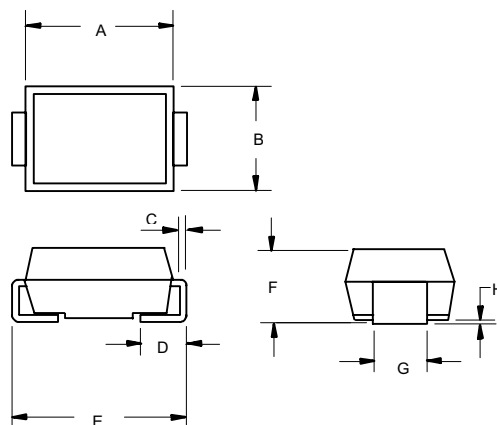
## Maximum Ratings @ 25°C Unless Otherwise Specified

|                                   |                                   |                  |           |
|-----------------------------------|-----------------------------------|------------------|-----------|
| Output Current                    | I <sub>F</sub>                    | 200mA            |           |
| Maximum Forward Voltage           | V <sub>F</sub>                    | 1.5V             | (Note: 2) |
| Steady State Power Dissipation    | P <sub>(AV)</sub>                 | 1.5W             | (Note: 3) |
| Operation And Storage Temperature | T <sub>J</sub> , T <sub>STG</sub> | -55°C to +150 °C |           |

- NOTES:**
1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
  2. Forward Current @ 200mA.
  3. Mounted on 5.0mm<sup>2</sup> (1oz thick) land areas.  
Lead temperature at T<sub>L</sub>=75°C

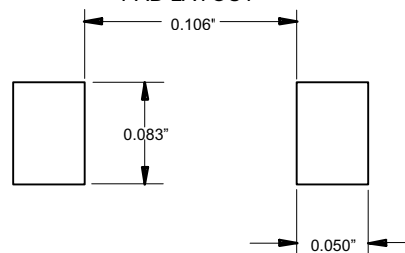
**1.5 Watt  
Surface Mount  
Silicon  
Zener Diodes**

**DO-214AA  
(SMB) (LEAD FRAME)**



| DIMENSIONS |        |      |      |       |      |
|------------|--------|------|------|-------|------|
| DIM        | INCHES |      | MM   |       | NOTE |
|            | MIN    | MAX  | MIN  | MAX   |      |
| A          | .160   | .185 | 4.06 | 4.70  |      |
| B          | .130   | .155 | 3.30 | 3.94  |      |
| C          | .006   | .012 | 0.15 | 0.31  |      |
| D          | .030   | .060 | 0.76 | 1.52  |      |
| E          | .200   | .220 | 5.08 | 5.59  |      |
| F          | .079   | .096 | 2.00 | 2.44  |      |
| G          | .075   | .087 | 1.91 | 2.21  |      |
| H          | .002   | .008 | 0.05 | 0.203 |      |

**SUGGESTED SOLDER  
PAD LAYOUT**



## SMBJ5925BHE3 THRU SMBJ5956BHE3

ELECTRICAL CHARACTERISTICS(TL=30 centigrade unless otherwise noted) (VF=1.5Volts Max @IF=200mAdc for all types.

| MCC<br>PART<br>NUMBER | ZENER<br>VOLTAGE<br>V <sub>Z</sub> (*) | TEST<br>CURRENT<br>I <sub>ZT</sub> | MAXIMUM<br>DYNAMIC<br>IMPEDANCE<br>Z <sub>zt</sub> @ I <sub>ZT</sub> | KNEE<br>CURRENT<br>I <sub>ZK</sub> | KNEE<br>IMPEDANCE<br>Z <sub>ZK</sub> | MAXIMUM<br>REVERSE<br>CURRENT<br>I <sub>R</sub> | REVERSE<br>VOLTAGE<br>V <sub>R</sub> | DEVICE<br>MARKING |
|-----------------------|----------------------------------------|------------------------------------|----------------------------------------------------------------------|------------------------------------|--------------------------------------|-------------------------------------------------|--------------------------------------|-------------------|
|                       | VOLTS                                  | mA                                 | OHMS                                                                 | mA                                 | OHMS                                 | μA                                              | VOLTS                                |                   |
| SMBJ5925BHE3          | 10                                     | 37.5                               | 4.5                                                                  | 0.25                               | 500                                  | 5.0                                             | 8.0                                  | 925B              |
| SMBJ5926BHE3          | 11                                     | 34.1                               | 5.5                                                                  | 0.25                               | 550                                  | 1.0                                             | 8.4                                  | 926B              |
| SMBJ5927BHE3          | 12                                     | 31.2                               | 6.5                                                                  | 0.25                               | 550                                  | 1.0                                             | 9.1                                  | 927B              |
| SMBJ5928BHE3          | 13                                     | 28.8                               | 7.0                                                                  | 0.25                               | 550                                  | 1.0                                             | 9.9                                  | 928B              |
| SMBJ5929BHE3          | 15                                     | 25.0                               | 9.0                                                                  | 0.25                               | 600                                  | 1.0                                             | 11.4                                 | 929B              |
| SMBJ5930BHE3          | 16                                     | 23.4                               | 10.0                                                                 | 0.25                               | 600                                  | 1.0                                             | 12.2                                 | 930B              |
| SMBJ5931BHE3          | 18                                     | 20.8                               | 12.0                                                                 | 0.25                               | 650                                  | 1.0                                             | 13.7                                 | 931B              |
| SMBJ5932BHE3          | 20                                     | 18.7                               | 14.0                                                                 | 0.25                               | 650                                  | 1.0                                             | 15.2                                 | 932B              |
| SMBJ5933BHE3          | 22                                     | 17.0                               | 17.5                                                                 | 0.25                               | 650                                  | 1.0                                             | 16.7                                 | 933B              |
| SMBJ5934BHE3          | 24                                     | 15.6                               | 19.0                                                                 | 0.25                               | 700                                  | 1.0                                             | 18.2                                 | 934B              |
| SMBJ5935BHE3          | 27                                     | 13.9                               | 23.0                                                                 | 0.25                               | 700                                  | 1.0                                             | 20.6                                 | 935B              |
| SMBJ5936BHE3          | 30                                     | 12.5                               | 28.0                                                                 | 0.25                               | 750                                  | 1.0                                             | 22.8                                 | 936B              |
| SMBJ5937BHE3          | 33                                     | 11.4                               | 33.0                                                                 | 0.25                               | 800                                  | 1.0                                             | 25.1                                 | 937B              |
| SMBJ5938BHE3          | 36                                     | 10.4                               | 38.0                                                                 | 0.25                               | 850                                  | 1.0                                             | 27.4                                 | 938B              |
| SMBJ5939BHE3          | 39                                     | 9.6                                | 45.0                                                                 | 0.25                               | 900                                  | 1.0                                             | 29.7                                 | 939B              |
| SMBJ5940BHE3          | 43                                     | 8.7                                | 53.0                                                                 | 0.25                               | 950                                  | 1.0                                             | 32.7                                 | 940B              |
| SMBJ5941BHE3          | 47                                     | 8.0                                | 67.0                                                                 | 0.25                               | 1000                                 | 1.0                                             | 35.8                                 | 941B              |
| SMBJ5942BHE3          | 51                                     | 7.3                                | 70.0                                                                 | 0.25                               | 1100                                 | 1.0                                             | 38.8                                 | 942B              |
| SMBJ5943BHE3          | 56                                     | 6.7                                | 86.0                                                                 | 0.25                               | 1300                                 | 1.0                                             | 42.6                                 | 943B              |
| SMBJ5944BHE3          | 62                                     | 6.0                                | 100                                                                  | 0.25                               | 1500                                 | 1.0                                             | 47.1                                 | 944B              |
| SMBJ5945BHE3          | 68                                     | 5.5                                | 120                                                                  | 0.25                               | 1700                                 | 1.0                                             | 51.2                                 | 945B              |
| SMBJ5946BHE3          | 75                                     | 5.0                                | 140                                                                  | 0.25                               | 2000                                 | 1.0                                             | 56.0                                 | 946B              |
| SMBJ5947BHE3          | 82                                     | 4.6                                | 160                                                                  | 0.25                               | 2500                                 | 1.0                                             | 62.2                                 | 947B              |
| SMBJ5948BHE3          | 91                                     | 4.1                                | 200                                                                  | 0.25                               | 3000                                 | 1.0                                             | 69.2                                 | 948B              |
| SMBJ5949BHE3          | 100                                    | 3.7                                | 250                                                                  | 0.25                               | 3100                                 | 1.0                                             | 76.0                                 | 949B              |
| SMBJ5950BHE3          | 110                                    | 3.4                                | 300                                                                  | 0.25                               | 4000                                 | 1.0                                             | 83.6                                 | 950B              |
| SMBJ5951BHE3          | 120                                    | 3.1                                | 380                                                                  | 0.25                               | 4500                                 | 1.0                                             | 91.2                                 | 951B              |
| SMBJ5952BHE3          | 130                                    | 2.9                                | 450                                                                  | 0.25                               | 5000                                 | 1.0                                             | 98.8                                 | 952B              |
| SMBJ5953BHE3          | 150                                    | 2.5                                | 600                                                                  | 0.25                               | 6000                                 | 1.0                                             | 114                                  | 953B              |
| SMBJ5954BHE3          | 160                                    | 2.3                                | 700                                                                  | 0.25                               | 6500                                 | 1.0                                             | 121.6                                | 954B              |
| SMBJ5955BHE3          | 180                                    | 2.1                                | 900                                                                  | 0.25                               | 7000                                 | 1.0                                             | 136.8                                | 955B              |
| SMBJ5956BHE3          | 200                                    | 1.9                                | 1200                                                                 | 0.25                               | 8000                                 | 1.0                                             | 152                                  | 956B              |

\* TOLERANCE AND VOLTAGE DESIGNATION Tolerance designation - The type numbers listed indicate a tolerance of +/-5%

## RATING AND CHARACTERISTICS CURVES

SMBJ5925BHE3 THRU SMBJ5956BHE3

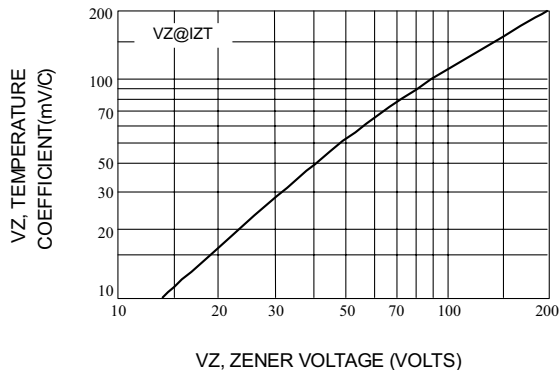


Fig. 1-ZENER VOLTAGE-10 TO 200 VOLTS

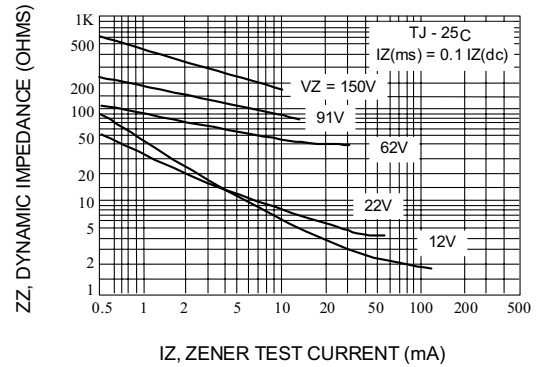


Fig. 2-EFFECT OF ZENER CURRENT

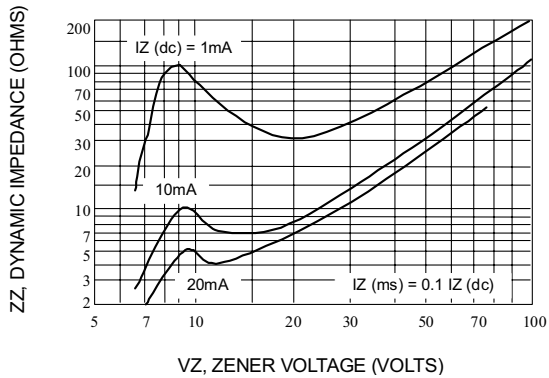
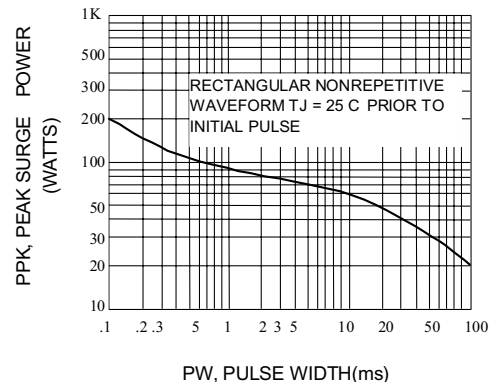
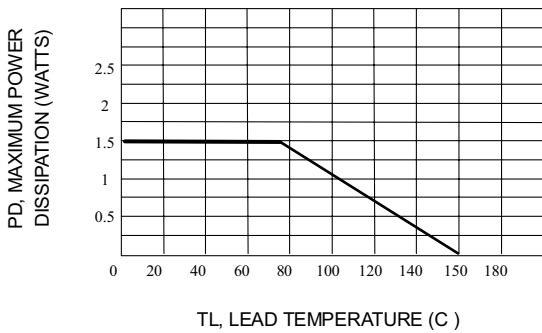


Fig. 5-STEADY STATE POWER DERATING

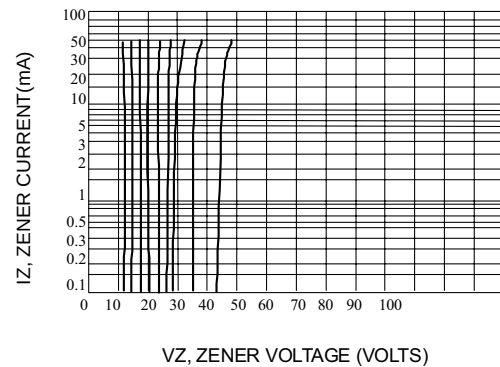


Fig. 6-VZ = 12 THRU 40 VOLTS

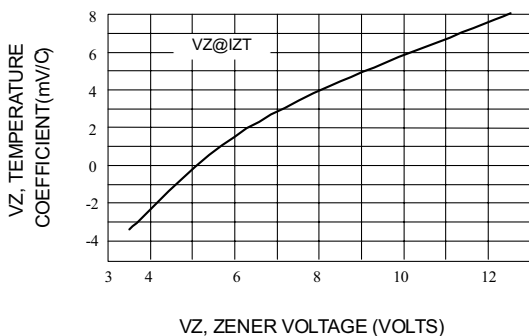


Fig. 7-ZENER VOLTAGE-TO 12 VOLTS

## Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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