

# Vishay Semiconductors

| ELECTRICAL  | . CHAR  | ACIENI | 31103 ( | iamb – Zi                         | J O, urile |   |     | l I   |      |                                      |       |
|-------------|---|--------|---------|-----------------------------------|------------|---|-----|---|------|--------------------------------------|-------|
| PART NUMBER | ZENER VOLTAGE RANGE  V <sub>Z</sub> at I <sub>ZT1</sub> V |        |         | TEST CURRENT                      |            | REVERSE<br>LEAKAGE<br>CURRENT<br>I <sub>R</sub> at V <sub>R</sub> |     | DYNAMIC<br>RESISTANCE   |      | TEMPERATURE<br>COEFFICIENT           |       |
|             |   |        |         | I <sub>ZT1</sub> I <sub>ZT2</sub> |            |   |     | Z <sub>Z</sub> at I <sub>ZT1</sub> Z <sub>Z</sub> K at I <sub>ZT2</sub> |      | TC <sub>VZ</sub> at I <sub>ZT1</sub> |       |
|             |   |        |         | mA mA                             |            | μΑ  | V   | Ω   |      | %/ <b>K</b>                          |       |
|             | MIN.  | NOM.   | MAX.    |                                   |            | MAX.  |     | MAX.  | MAX. | MIN.                                 | MAX.  |
| BZG05C3V3   | 3.1   | 3.3    | 3.5     | 80                                | 1          | 40  | 1   | 20  | 400  | -0.08                                | -0.05 |
| BZG05C3V6   | 3.4   | 3.6    | 3.8     | 60                                | 1          | 20  | 1   | 20  | 500  | -0.08                                | -0.05 |
| BZG05C3V9   | 3.7   | 3.9    | 4.1     | 60                                | 1          | 10  | 1   | 15  | 500  | -0.07                                | -0.02 |
| BZG05C4V3   | 4   | 4.3    | 4.6     | 50                                | 1          | 3   | 1   | 13  | 500  | -0.07                                | -0.01 |
| BZG05C4V7   | 4.4   | 4.7    | 5       | 45                                | 1          | 3   | 1   | 13  | 600  | -0.03                                | 0.04  |
| BZG05C5V1   | 4.8   | 5.1    | 5.4     | 45                                | 1          | 1   | 1.5 | 10  | 500  | -0.01                                | 0.04  |
| BZG05C5V6   | 5.2   | 5.6    | 6       | 45                                | 1          | 1   | 2   | 7   | 400  | 0                                    | 0.045 |
| BZG05C6V2   | 5.8   | 6.2    | 6.6     | 35                                | 1          | 1   | 3   | 4   | 300  | 0.01                                 | 0.055 |
| BZG05C6V8   | 6.4   | 6.8    | 7.2     | 35                                | 1          | 1   | 4   | 3.5   | 300  | 0.015                                | 0.06  |
| BZG05C7V5   | 7   | 7.5    | 7.9     | 35                                | 0.5        | 1   | 4.5 | 3   | 200  | 0.02                                 | 0.065 |
| BZG05C8V2   | 7.7   | 8.2    | 8.7     | 25                                | 0.5        | 1   | 6.2 | 5   | 200  | 0.03                                 | 0.07  |
| BZG05C9V1   | 8.5   | 9.1    | 9.6     | 25                                | 0.5        | 1   | 6.8 | 5   | 200  | 0.035                                | 0.075 |
| BZG05C10    | 9.4   | 10     | 10.6    | 25                                | 0.5        | 0.5   | 7   | 7   | 200  | 0.04                                 | 0.08  |
| BZG05C11    | 10.4  | 11     | 11.6    | 20                                | 0.5        | 0.5   | 8.2 | 8   | 300  | 0.045                                | 0.08  |
| BZG05C12    | 11.4  | 12     | 12.7    | 20                                | 0.5        | 0.5   | 9.1 | 9   | 350  | 0.045                                | 0.085 |
| BZG05C13    | 12.4  | 13     | 14.1    | 20                                | 0.5        | 0.5   | 10  | 10  | 400  | 0.05                                 | 0.085 |
| BZG05C15    | 13.8  | 15     | 15.6    | 15                                | 0.5        | 0.5   | 11  | 15  | 500  | 0.055                                | 0.09  |
| BZG05C16    | 15.3  | 16     | 17.1    | 15                                | 0.5        | 0.5   | 12  | 15  | 500  | 0.055                                | 0.09  |
| BZG05C18    | 16.8  | 18     | 19.1    | 15                                | 0.5        | 0.5   | 13  | 20  | 500  | 0.06                                 | 0.09  |
| BZG05C20    | 18.8  | 20     | 21.2    | 10                                | 0.5        | 0.5   | 15  | 24  | 600  | 0.06                                 | 0.09  |
| BZG05C22    | 20.8  | 22     | 23.3    | 10                                | 0.5        | 0.5   | 16  | 25  | 600  | 0.06                                 | 0.095 |
| BZG05C24    | 22.8  | 24     | 25.6    | 10                                | 0.5        | 0.5   | 18  | 25  | 600  | 0.06                                 | 0.095 |
| BZG05C27    | 25.1  | 27     | 28.9    | 8                                 | 0.25       | 0.5   | 20  | 30  | 750  | 0.06                                 | 0.095 |
| BZG05C30    | 28  | 30     | 32      | 8                                 | 0.25       | 0.5   | 22  | 30  | 1000 | 0.06                                 | 0.095 |
| BZG05C33    | 31  | 33     | 35      | 8                                 | 0.25       | 0.5   | 24  | 35  | 1000 | 0.06                                 | 0.095 |
| BZG05C36    | 34  | 36     | 38      | 8                                 | 0.25       | 0.5   | 27  | 40  | 1000 | 0.06                                 | 0.095 |
| BZG05C39    | 37  | 39     | 41      | 6                                 | 0.25       | 0.5   | 30  | 50  | 1000 | 0.06                                 | 0.095 |
| BZG05C43    | 40  | 43     | 46      | 6                                 | 0.25       | 0.5   | 33  | 50  | 1000 | 0.06                                 | 0.095 |
| BZG05C47    | 44  | 47     | 50      | 4                                 | 0.25       | 0.5   | 36  | 90  | 1500 | 0.06                                 | 0.095 |
| BZG05C51    | 48  | 51     | 54      | 4                                 | 0.25       | 0.5   | 39  | 115   | 1500 | 0.06                                 | 0.095 |
| BZG05C56    | 52  | 56     | 60      | 4                                 | 0.25       | 0.5   | 43  | 120   | 2000 | 0.06                                 | 0.095 |
| BZG05C62    | 58  | 62     | 66      | 4                                 | 0.25       | 0.5   | 47  | 125   | 2000 | 0.06                                 | 0.095 |
| BZG05C68    | 64  | 68     | 72      | 4                                 | 0.25       | 0.5   | 51  | 130   | 2000 | 0.06                                 | 0.095 |
| BZG05C75    | 70  | 75     | 79      | 4                                 | 0.25       | 0.5   | 56  | 135   | 2000 | 0.06                                 | 0.095 |
| BZG05C82    | 77  | 82     | 87      | 2.7                               | 0.25       | 0.5   | 62  | 200   | 3000 | 0.06                                 | 0.095 |
| BZG05C91    | 85  | 91     | 96      | 2.7                               | 0.25       | 0.5   | 68  | 250   | 3000 | 0.06                                 | 0.095 |
| BZG05C100   | 95  | 100    | 106     | 2.7                               | 0.25       | 0.5   | 75  | 350   | 3000 | 0.06                                 | 0.095 |

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#### **BASIC CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

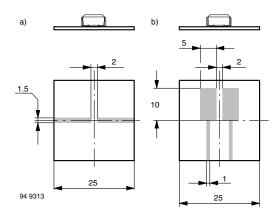


Fig. 1 - Boards for R<sub>thJA</sub> Definition (Copper Overlay 35 μ)

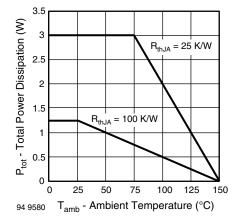


Fig. 2 - Typ. Total Power Dissipation vs. Ambient Temperature

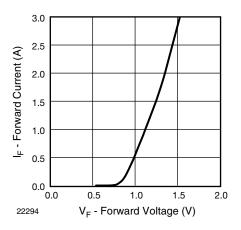


Fig. 3 - Forward Current vs. Forward Voltage

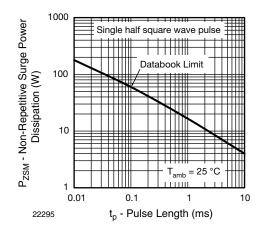


Fig. 4 - Non Repetitive Surge Power Dissipation vs. Pulse Length

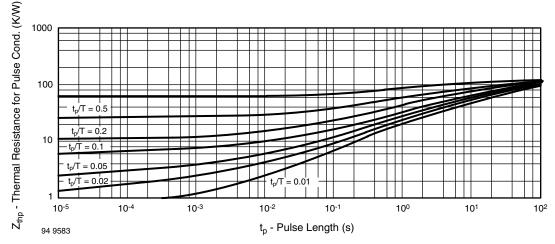
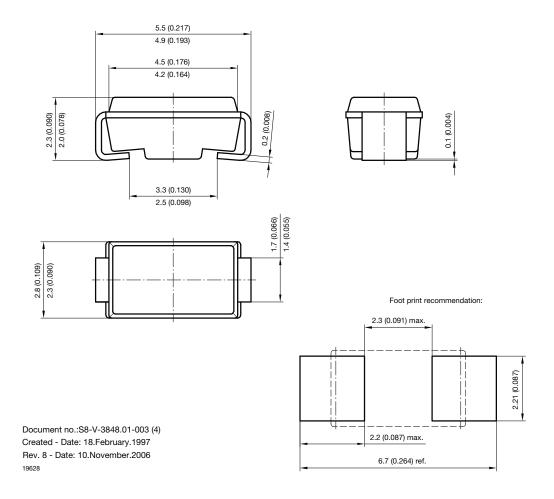


Fig. 5 - Thermal Response

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#### PACKAGE DIMENSIONS in millimeters (inches): DO-214AC



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