

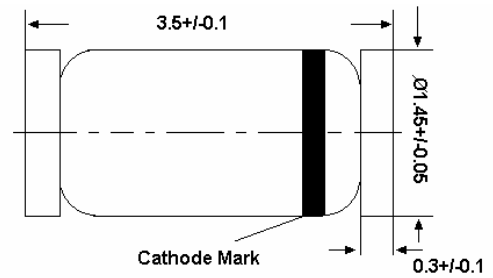
# ZMM 1...ZMM200

## SILICON PLANAR ZENER DIODES

in MiniMELF case especially for automatic insertion. The Zener voltages are graded according to the international E 24 standard. Smaller voltage tolerances and higher Zener voltages are upon request.

These diodes are also available in DO-35 case with the type designation BZX55C...

LL-34



Glass case MiniMELF  
Dimensions in mm

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

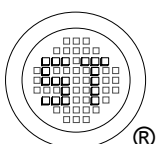
|                           | Symbol           | Value             | Unit             |
|---------------------------|------------------|-------------------|------------------|
| Power Dissipation         | $P_{\text{tot}}$ | 500 <sup>1)</sup> | mW               |
| Junction Temperature      | $T_j$            | 175               | $^\circ\text{C}$ |
| Storage Temperature Range | $T_s$            | -55 to +175       | $^\circ\text{C}$ |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

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

|  | Symbol           | Min. | Typ. | Max.              | Unit |
|--|------------------|------|------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | $R_{\text{thA}}$ | -    | -    | 0.3 <sup>1)</sup> | K/mW |
| Forward Voltage at $I_F = 100\text{mA}$    | $V_F$            | -    | -    | 1                 | V    |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001:2004  
Certificate No. 71116



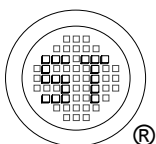
ISO 9001:2000  
Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200

| Type                | Zener Voltage Range <sup>1)</sup> |                           |                                    | Dynamic Resistance    |                          |                       | Reverse Leakage Current    |                             |                                       | Temp coefficient of Zener Voltage |
|---------------------|-----------------------------------|---------------------------|------------------------------------|-----------------------|--------------------------|-----------------------|----------------------------|-----------------------------|---------------------------------------|-----------------------------------|
|                     | V <sub>znom</sub><br>V            | I <sub>ZT</sub> for<br>mA | V <sub>ZT</sub> <sup>2)</sup><br>V | r <sub>ZJT</sub><br>Ω | r <sub>ZJK</sub> at<br>Ω | I <sub>ZK</sub><br>mA | T <sub>a</sub> =25°C<br>μA | T <sub>a</sub> =125°C<br>μA | I <sub>R</sub> at V <sub>R</sub><br>V | TKvz<br>%/K                       |
| ZMM 1 <sup>3)</sup> | 0.75                              | 5                         | 0.7...0.8                          | <8                    | <50                      | 1                     | --                         | --                          | --                                    | -0.26...-0.23                     |
| ZMM 2V0             | 2.0                               | 5                         | 1.80...2.15                        | <85                   | <600                     | 1                     | <100                       | <200                        | 1                                     | -0.09...-0.06                     |
| ZMM 2V2             | 2.2                               | 5                         | 2.08...2.33                        | <85                   | <600                     | 1                     | <75                        | <160                        | 1                                     | -0.09...-0.06                     |
| ZMM 2V4             | 2.4                               | 5                         | 2.28...2.56                        | <85                   | <600                     | 1                     | <50                        | <100                        | 1                                     | -0.09...-0.06                     |
| ZMM 2V7             | 2.7                               | 5                         | 2.5...2.9                          | <85                   | <600                     | 1                     | <10                        | <50                         | 1                                     | -0.09...-0.06                     |
| ZMM 3V0             | 3.0                               | 5                         | 2.8...3.2                          | <85                   | <600                     | 1                     | <4                         | <40                         | 1                                     | -0.08...-0.05                     |
| ZMM 3V3             | 3.3                               | 5                         | 3.1...3.5                          | <85                   | <600                     | 1                     | <2                         | <40                         | 1                                     | -0.08...-0.05                     |
| ZMM 3V6             | 3.6                               | 5                         | 3.4...3.8                          | <85                   | <600                     | 1                     | <2                         | <40                         | 1                                     | -0.08...-0.05                     |
| ZMM 3V9             | 3.9                               | 5                         | 3.7...4.1                          | <85                   | <600                     | 1                     | <2                         | <40                         | 1                                     | -0.08...-0.05                     |
| ZMM 4V3             | 4.3                               | 5                         | 4.0...4.6                          | <75                   | <600                     | 1                     | <1                         | <20                         | 1                                     | -0.06...-0.03                     |
| ZMM 4V7             | 4.7                               | 5                         | 4.4...5.0                          | <60                   | <600                     | 1                     | <0.5                       | <10                         | 1                                     | -0.05...+0.02                     |
| ZMM 5V1             | 5.1                               | 5                         | 4.8...5.4                          | <35                   | <550                     | 1                     | <0.1                       | <2                          | 1                                     | -0.02...+0.02                     |
| ZMM 5V6             | 5.6                               | 5                         | 5.2...6.0                          | <25                   | <450                     | 1                     | <0.1                       | <2                          | 1                                     | -0.05...+0.05                     |
| ZMM 6V2             | 6.2                               | 5                         | 5.8...6.6                          | <10                   | <200                     | 1                     | <0.1                       | <2                          | 2                                     | 0.03...0.06                       |
| ZMM 6V8             | 6.8                               | 5                         | 6.4...7.2                          | <8                    | <150                     | 1                     | <0.1                       | <2                          | 3                                     | 0.03...0.07                       |
| ZMM 7V5             | 7.5                               | 5                         | 7.0...7.9                          | <7                    | <50                      | 1                     | <0.1                       | <2                          | 5                                     | 0.03...0.07                       |
| ZMM 8V2             | 8.2                               | 5                         | 7.7...8.7                          | <7                    | <50                      | 1                     | <0.1                       | <2                          | 6.2                                   | 0.03...0.08                       |
| ZMM 9V1             | 9.1                               | 5                         | 8.5...9.6                          | <10                   | <50                      | 1                     | <0.1                       | <2                          | 6.8                                   | 0.03...0.09                       |
| ZMM 10              | 10                                | 5                         | 9.4...10.6                         | <15                   | <70                      | 1                     | <0.1                       | <2                          | 7.5                                   | 0.03...0.1                        |
| ZMM 11              | 11                                | 5                         | 10.4...11.6                        | <20                   | <70                      | 1                     | <0.1                       | <2                          | 8.2                                   | 0.03...0.11                       |
| ZMM 12              | 12                                | 5                         | 11.4...12.7                        | <20                   | <90                      | 1                     | <0.1                       | <2                          | 9.1                                   | 0.03...0.11                       |
| ZMM 13              | 13                                | 5                         | 12.4...14.1                        | <26                   | <110                     | 1                     | <0.1                       | <2                          | 10                                    | 0.03...0.11                       |
| ZMM 15              | 15                                | 5                         | 13.8...15.6                        | <30                   | <110                     | 1                     | <0.1                       | <2                          | 11                                    | 0.03...0.11                       |
| ZMM 16              | 16                                | 5                         | 15.3...17.1                        | <40                   | <170                     | 1                     | <0.1                       | <2                          | 12                                    | 0.03...0.11                       |
| ZMM 18              | 18                                | 5                         | 16.8...19.1                        | <50                   | <170                     | 1                     | <0.1                       | <2                          | 13                                    | 0.03...0.11                       |
| ZMM 20              | 20                                | 5                         | 18.8...21.2                        | <55                   | <220                     | 1                     | <0.1                       | <2                          | 15                                    | 0.03...0.11                       |
| ZMM 22              | 22                                | 5                         | 20.8...23.3                        | <55                   | <220                     | 1                     | <0.1                       | <2                          | 16                                    | 0.04...0.12                       |
| ZMM 24              | 24                                | 5                         | 22.8...25.6                        | <80                   | <220                     | 1                     | <0.1                       | <2                          | 18                                    | 0.04...0.12                       |
| ZMM 27              | 27                                | 5                         | 25.1...28.9                        | <80                   | <220                     | 1                     | <0.1                       | <2                          | 20                                    | 0.04...0.12                       |
| ZMM 30              | 30                                | 5                         | 28...32                            | <80                   | <220                     | 1                     | <0.1                       | <2                          | 22                                    | 0.04...0.12                       |
| ZMM 33              | 33                                | 5                         | 31...35                            | <80                   | <220                     | 1                     | <0.1                       | <2                          | 24                                    | 0.04...0.12                       |
| ZMM 36              | 36                                | 5                         | 34...38                            | <80                   | <220                     | 1                     | <0.1                       | <2                          | 27                                    | 0.04...0.12                       |
| ZMM 39              | 39                                | 2.5                       | 37...41                            | <90                   | <500                     | 0.5                   | <0.1                       | <5                          | 30                                    | 0.04...0.12                       |
| ZMM 43              | 43                                | 2.5                       | 40...46                            | <90                   | <500                     | 0.5                   | <0.1                       | <5                          | 33                                    | 0.04...0.12                       |
| ZMM 47              | 47                                | 2.5                       | 44...50                            | <110                  | <600                     | 0.5                   | <0.1                       | <5                          | 36                                    | 0.04...0.12                       |
| ZMM 51              | 51                                | 2.5                       | 48...54                            | <125                  | <700                     | 0.5                   | <0.1                       | <10                         | 39                                    | 0.04...0.12                       |
| ZMM 56              | 56                                | 2.5                       | 52...60                            | <135                  | <700                     | 0.5                   | <0.1                       | <10                         | 43                                    | 0.04...0.12                       |
| ZMM 62              | 62                                | 2.5                       | 58...66                            | <150                  | <1000                    | 0.5                   | <0.1                       | <10                         | 47                                    | 0.04...0.12                       |
| ZMM 68              | 68                                | 2.5                       | 64...72                            | <200                  | <1000                    | 0.5                   | <0.1                       | <10                         | 51                                    | 0.04...0.12                       |
| ZMM 75              | 75                                | 2.5                       | 70...79                            | <250                  | <1000                    | 0.5                   | <0.1                       | <10                         | 56                                    | 0.04...0.12                       |
| ZMM 82              | 82                                | 2.5                       | 77...87                            | <300                  | <1500                    | 0.25                  | <0.1                       | <10                         | 62                                    | 0.05...0.12                       |
| ZMM 91              | 91                                | 1                         | 85...96                            | <450                  | <2000                    | 0.1                   | <0.1                       | <10                         | 68                                    | 0.05...0.12                       |
| ZMM 100             | 100                               | 1                         | 94...106                           | <450                  | <5000                    | 0.1                   | <0.1                       | <10                         | 75                                    | 0.05...0.12                       |
| ZMM 110             | 110                               | 1                         | 104...116                          | <600                  | <5000                    | 0.1                   | <0.1                       | <10                         | 82                                    | 0.05...0.12                       |
| ZMM 120             | 120                               | 1                         | 114...127                          | <800                  | <5500                    | 0.1                   | <0.1                       | <10                         | 91                                    | 0.05...0.12                       |
| ZMM 130             | 130                               | 1                         | 124...141                          | <950                  | <6000                    | 0.1                   | <0.1                       | <10                         | 100                                   | 0.05...0.12                       |
| ZMM 150             | 150                               | 1                         | 138...156                          | <1250                 | <6500                    | 0.1                   | <0.1                       | <10                         | 110                                   | 0.05...0.12                       |
| ZMM 160             | 160                               | 1                         | 153...171                          | <1400                 | <7000                    | 0.1                   | <0.1                       | <10                         | 120                                   | 0.05...0.12                       |
| ZMM 180             | 180                               | 1                         | 168...191                          | <1700                 | <8500                    | 0.1                   | <0.1                       | <10                         | 130                                   | 0.05...0.12                       |
| ZMM 200             | 200                               | 1                         | 188...212                          | <2000                 | <10000                   | 0.1                   | <0.1                       | <10                         | 150                                   | 0.05...0.12                       |

- 1) Tested with pulses t<sub>p</sub> = 20 ms.
- 2) Valid provided that electrodes are kept at ambient temperature
- 3) The ZMM1 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode electrode to the negative pole.



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103

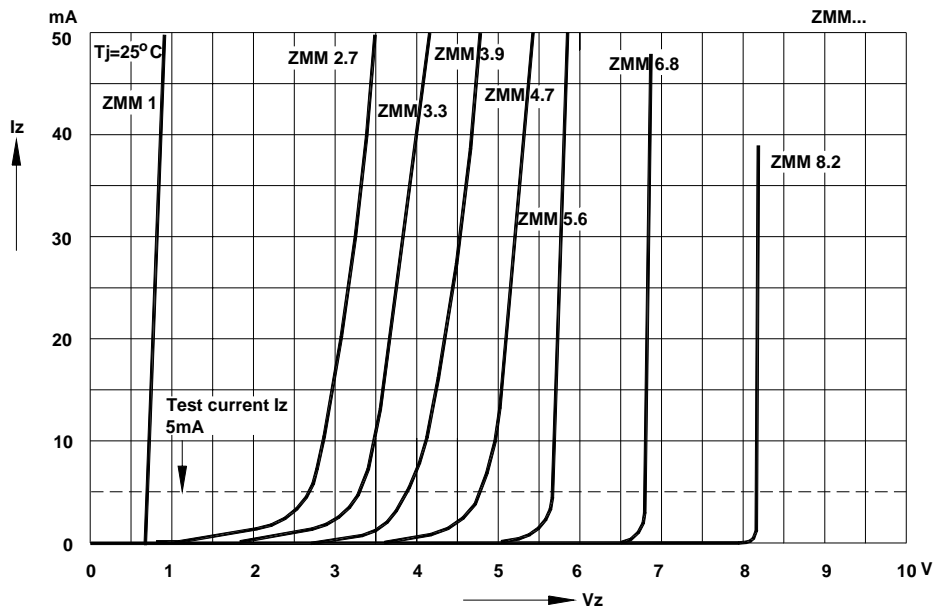
ISO 14001:2004  
Certificate No. 7116

ISO 9001:2000  
Certificate No. 0506098

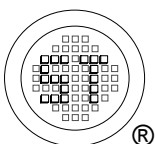
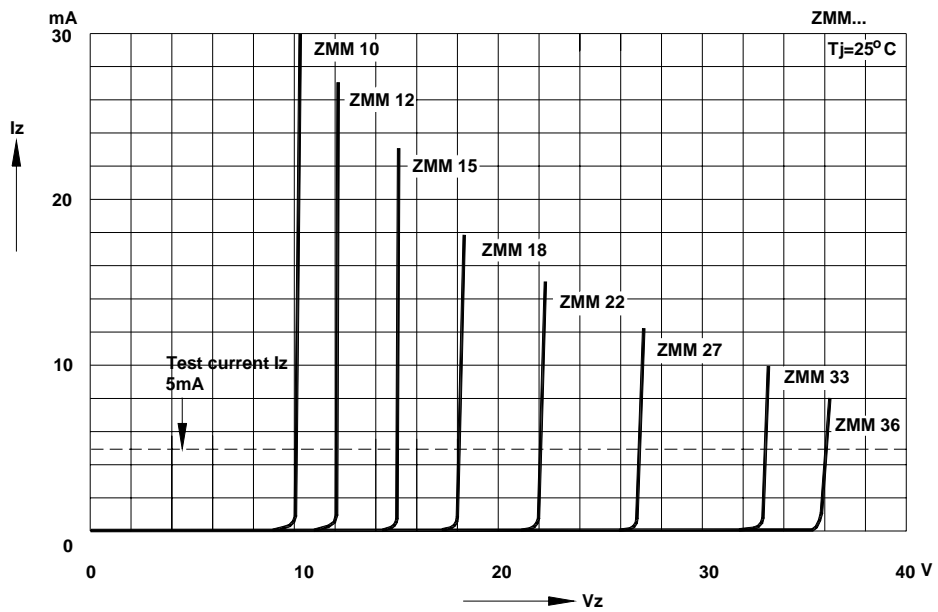
Dated : 20/09/2005

# ZMM 1...ZMM200

**Breakdown characteristics**  
 $T_j = \text{constant (pulsed)}$



**Breakdown characteristics**  
 $T_j = \text{constant (pulsed)}$



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
 Certificate No. 05103



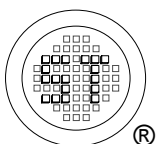
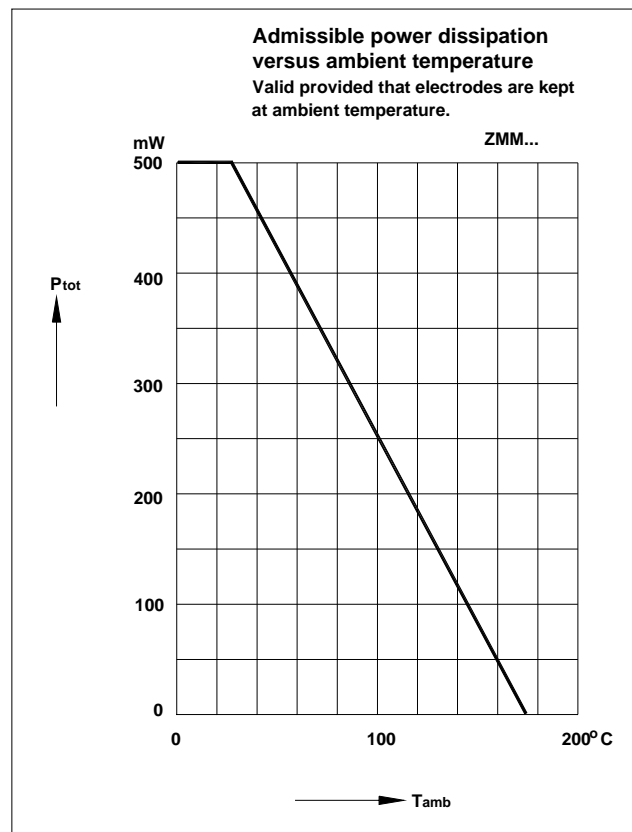
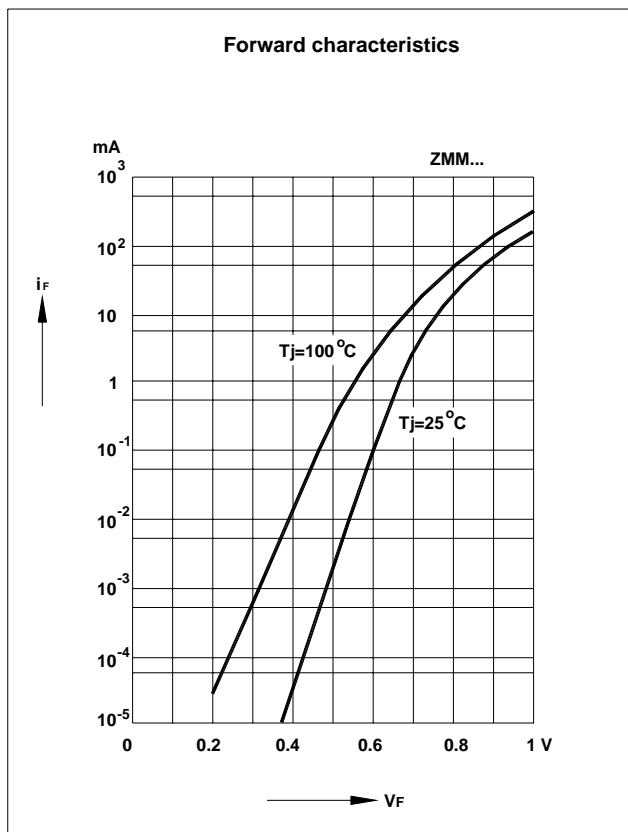
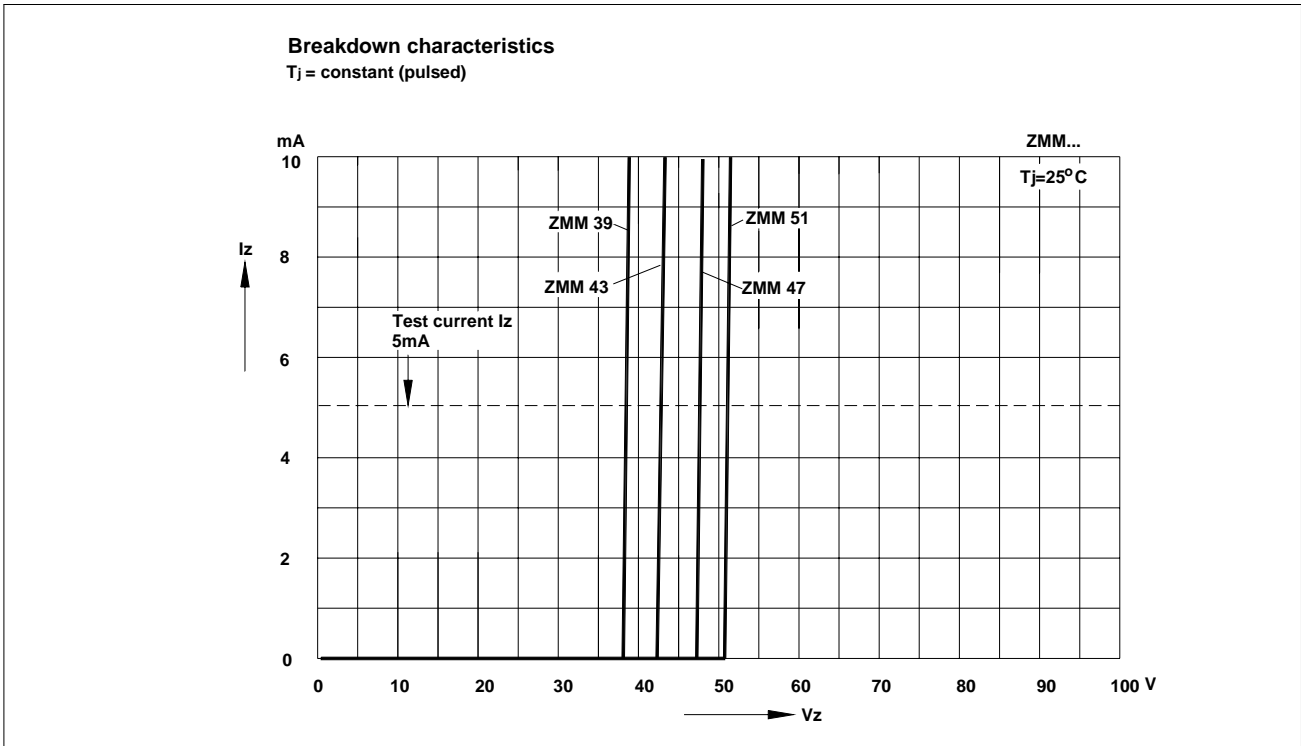
ISO 14001:2004  
 Certificate No. 71116



ISO 9001:2000  
 Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
 Certificate No. 05103



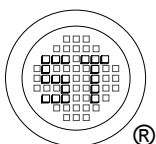
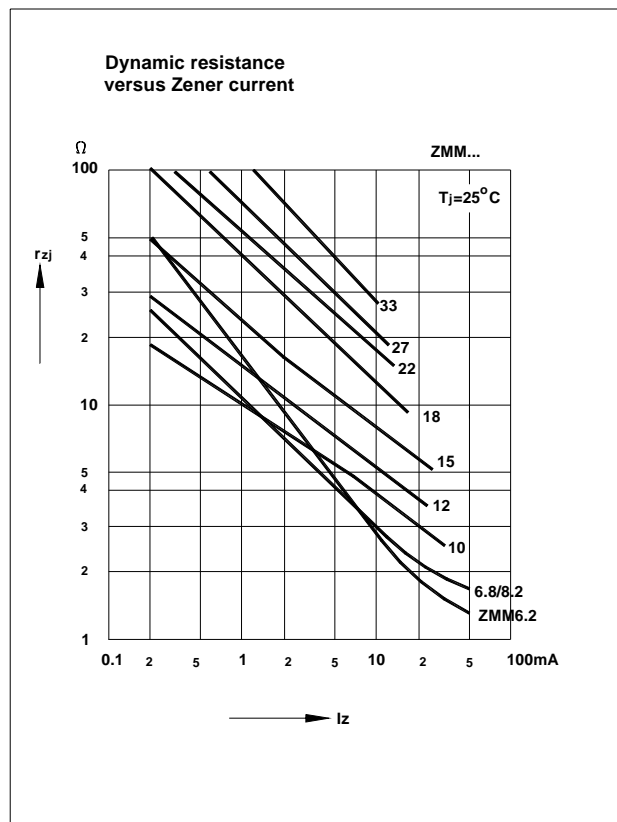
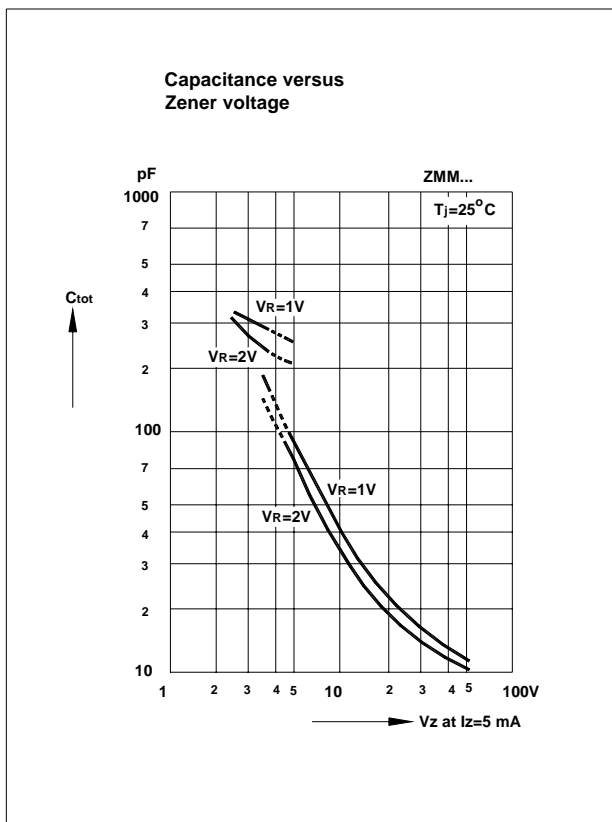
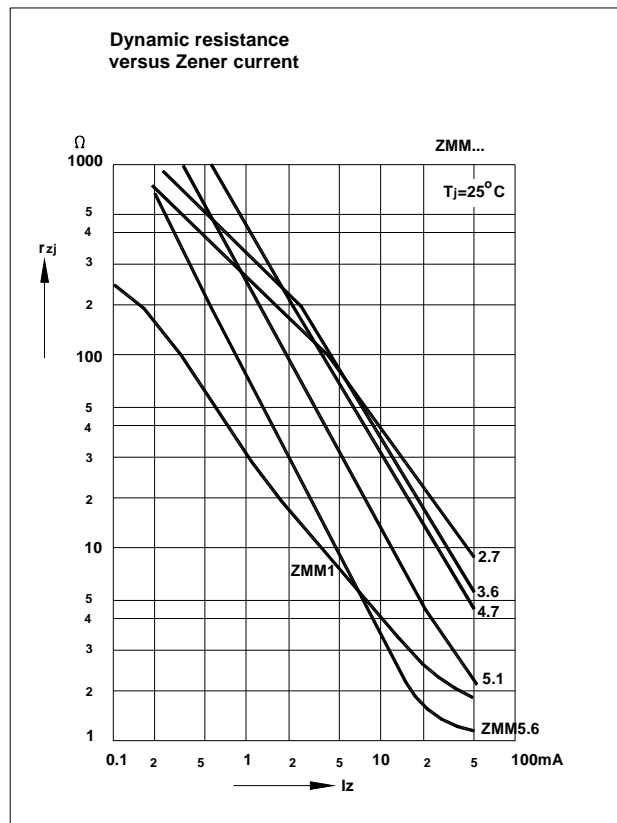
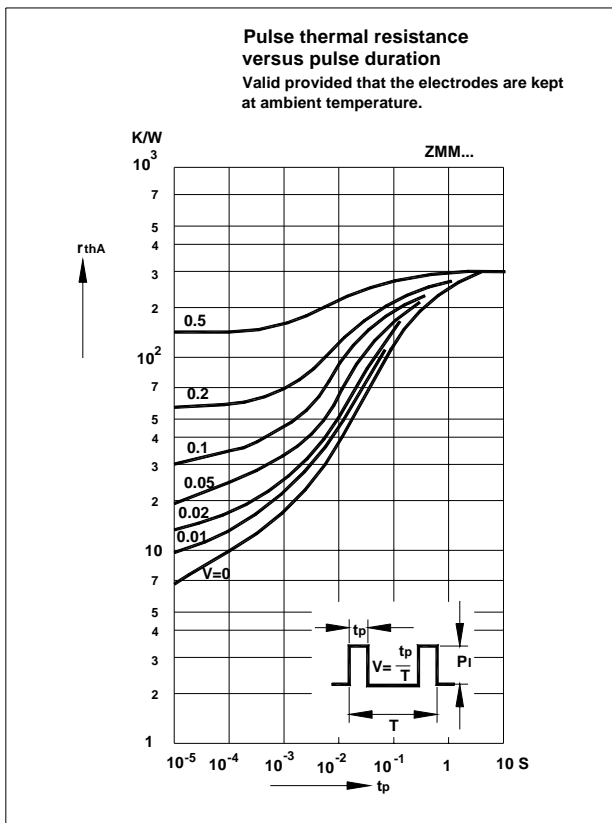
ISO 14001:2004  
 Certificate No. 7116



ISO 9001:2000  
 Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



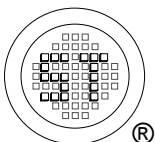
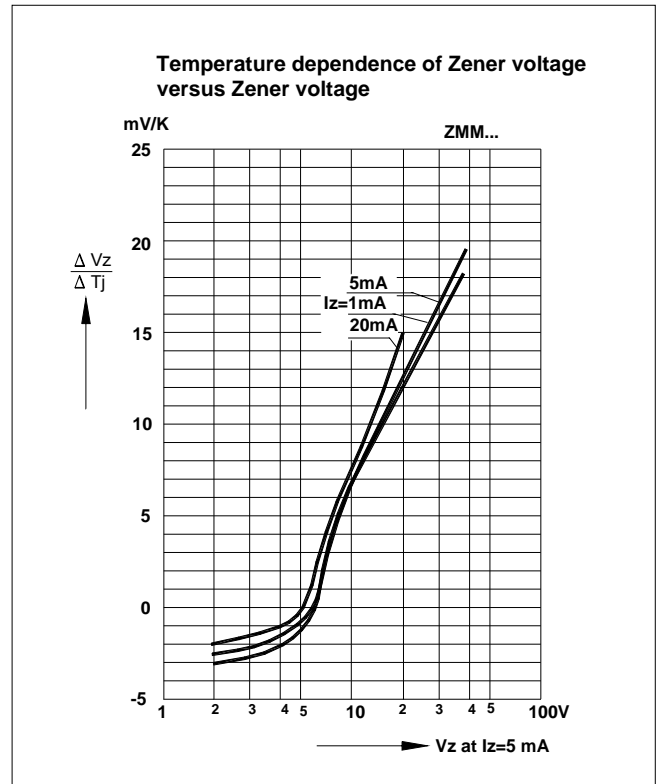
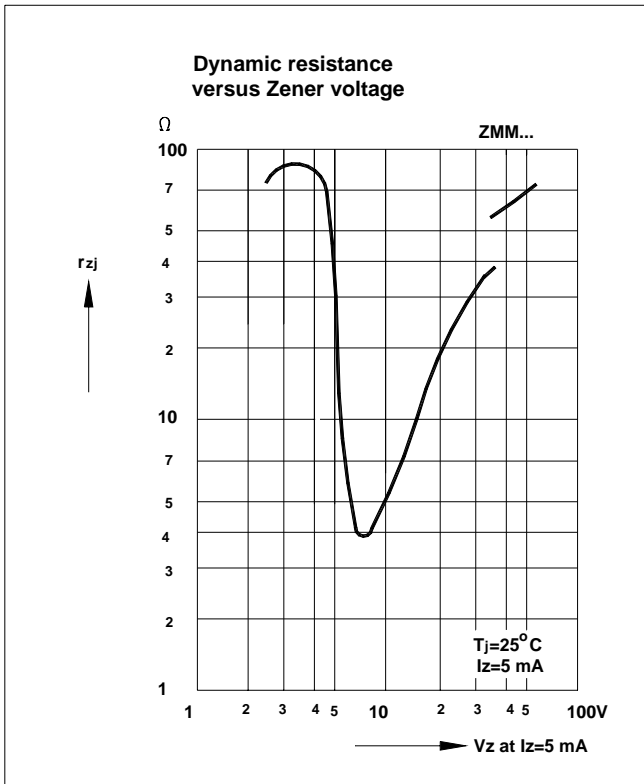
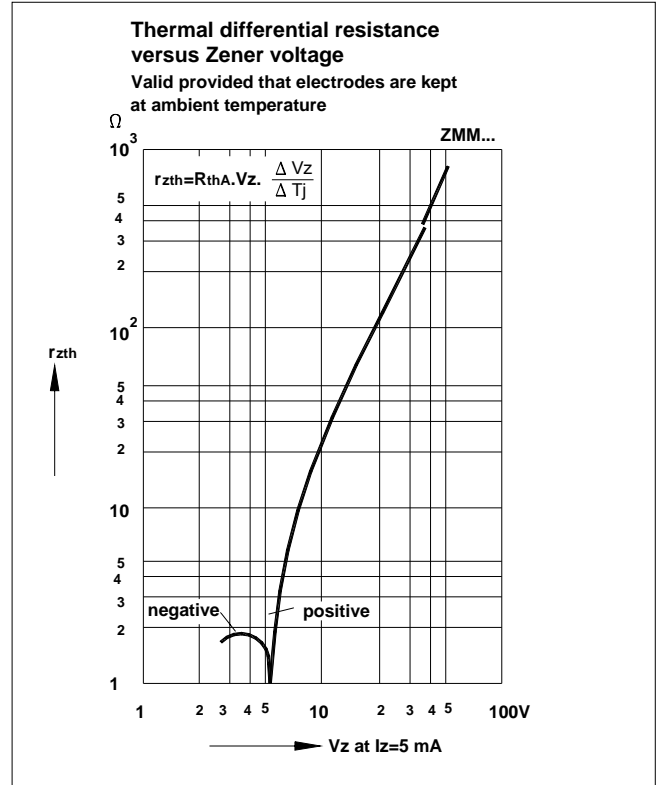
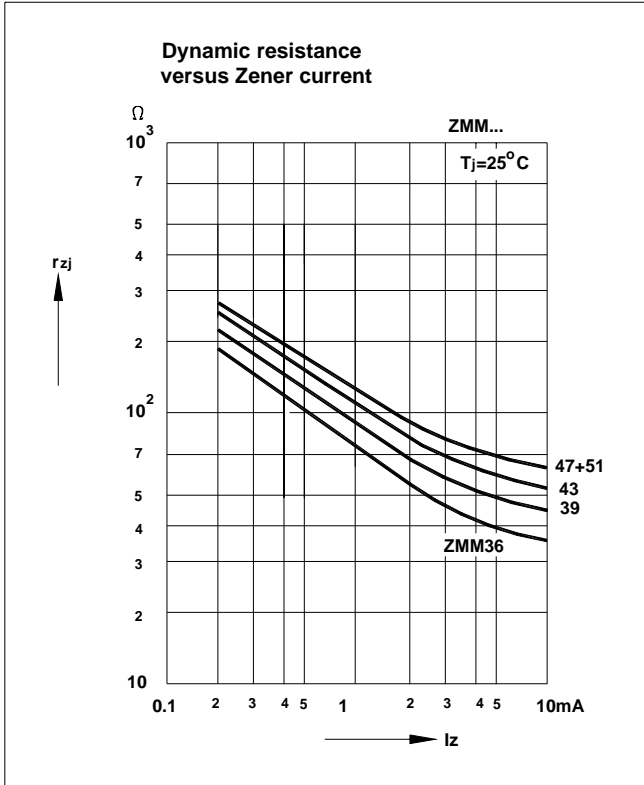
ISO 14001:2004  
Certificate No. 71116



ISO 9001:2000  
Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



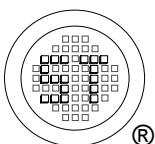
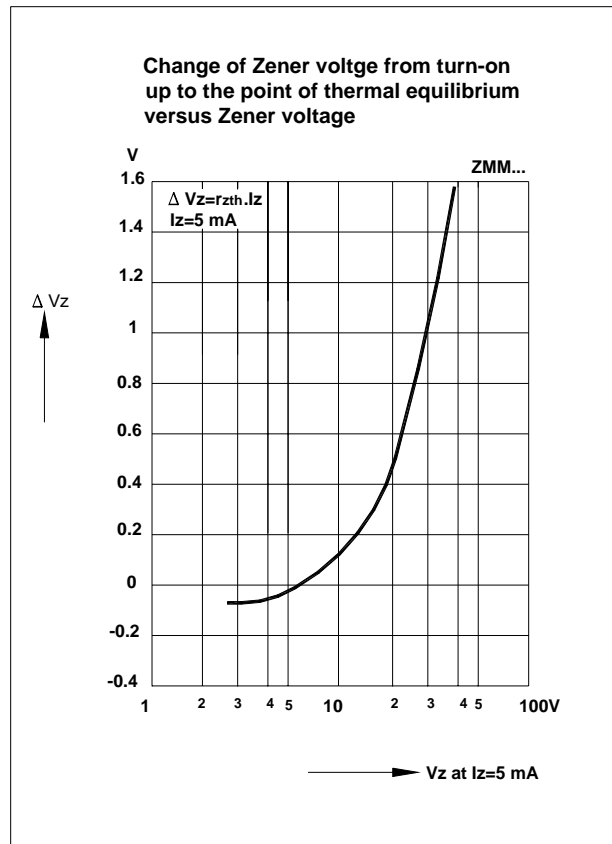
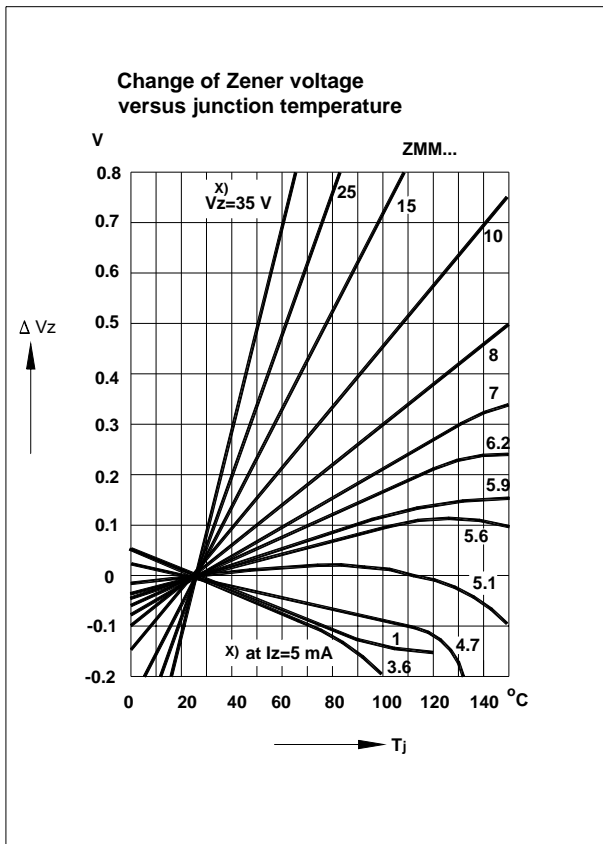
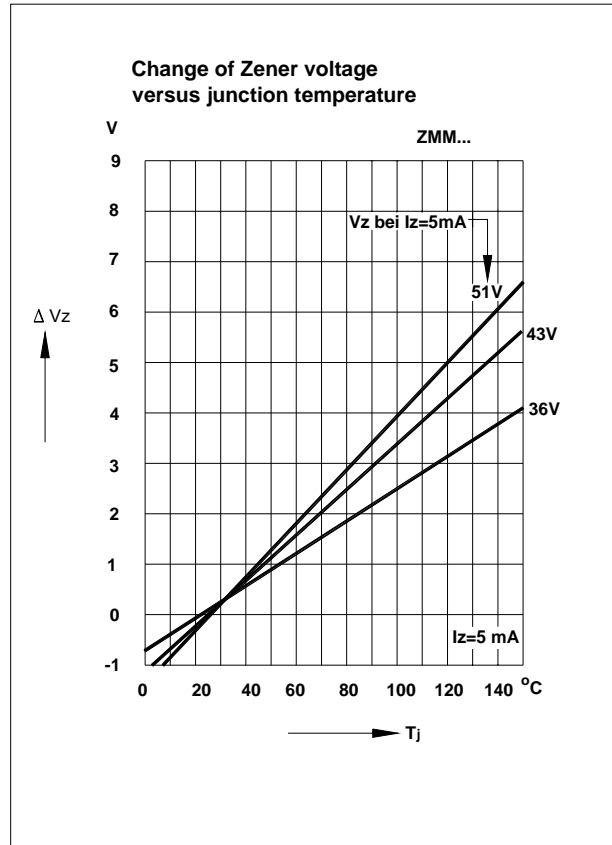
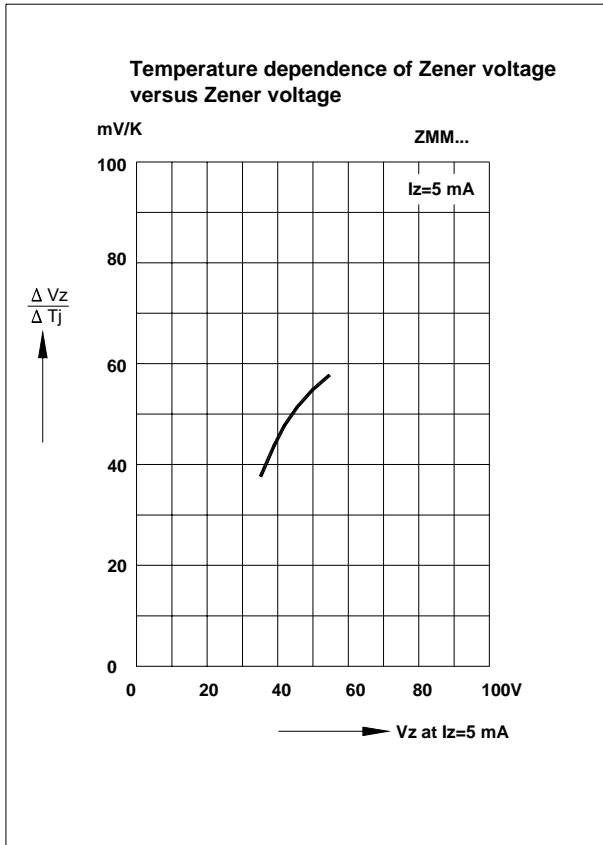
ISO/TS 16949:2002  
Certificate No. 05103

ISO 14001:2004  
Certificate No. 71116

ISO 9001:2000  
Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company  
 listed on the Hong Kong Stock Exchange, Stock Code: 724)



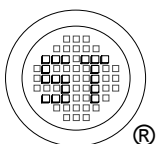
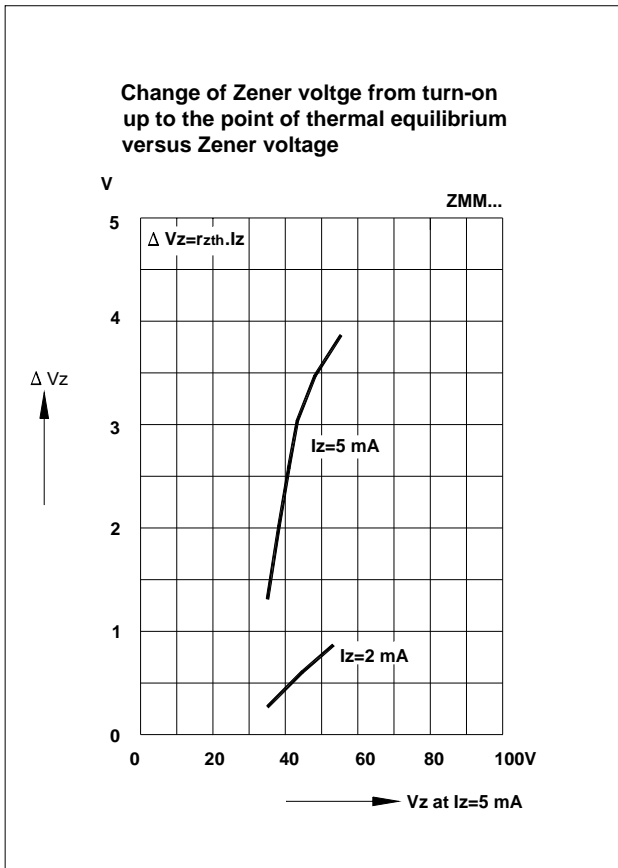
ISO/TS 16949 : 2002  
 Certificate No. 05103

ISO 14001:2004  
 Certificate No. 7116

ISO 9001:2000  
 Certificate No. 0506098

Dated : 20/09/2005

# ZMM 1...ZMM200



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company  
 listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
 Certificate No. 05103



ISO 14001:2004  
 Certificate No. 71116



ISO 9001:2000  
 Certificate No. 0506098

Dated : 20/09/2005



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Zener Diodes](#) category:*

*Click to view products by [Semtech](#) manufacturer:*

Other Similar products are found below :

[RKZ13B2KG#P1](#) [DL5234B](#) [EDZTE6113B](#) [1N4682](#) [1N4691](#) [1N4693](#) [1N4732A](#) [1N4736A](#) [1N4750A](#) [1N4759ARL](#) [1N5241B](#) [1N5365B](#)  
[1N5369B](#) [1N747A](#) [1N959B](#) [1N964B](#) [1N966B](#) [1N968B](#) [1N972B](#) [NTE5121A](#) [NTE5147A](#) [NTE5152A](#) [NTE5155A](#) [NTE5164A](#)  
[JANS1N4974US](#) [1N4692](#) [1N4700](#) [1N4702](#) [1N4704](#) [1N4711](#) [1N4714](#) [1N4737A](#) [1N4745ARL](#) [1N4752A](#) [1N4752ARL](#) [1N4760ARL](#)  
[1N5221B](#) [1N5236B](#) [1N5241BTR](#) [1N5242BTR](#) [1N5350B](#) [1N5352B](#) [1N961BRR1](#) [1N964BRL](#) [RKZ5.1BKU#P6](#) [3SMAJ5946B-TP](#)  
[3SMAJ5950B-TP](#) [3SMBJ5925B-TP](#) [441774C](#) [BZX84C3V9](#)