

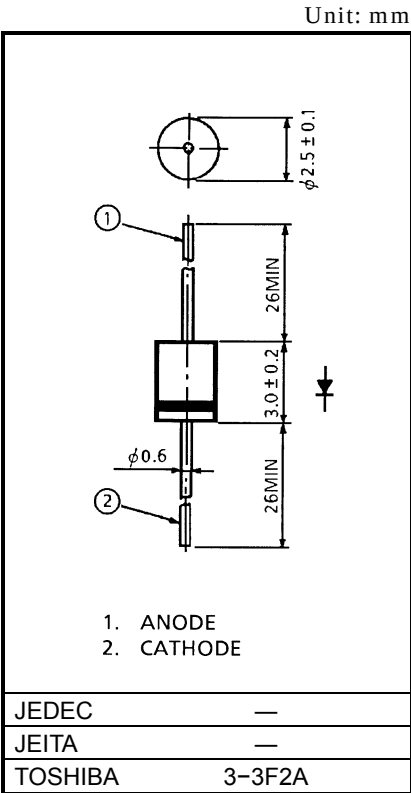
1ZB6.8~1ZB390

CONSTANT VOLTAGE REGULATION  
TRANSIENT SUPPRESSORS

- Average Power Dissipation :  $P = 1.0\text{W}$
- Peak Reverse Power Dissipation :  $P_{RSM} = 200\text{W}$  at  $t_w = 200\mu\text{s}$
- Zener Voltage :  $V_Z = 6.8\sim 390\text{V}$
- Tolerance of Zener Voltage :  $\pm 10\%$
- Plastic Mold Package

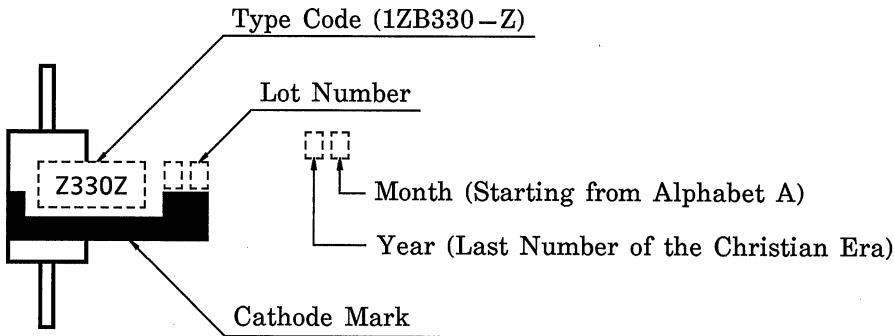
MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

| CHARACTERISTIC            | SYMBOL    | RATING  | UNIT             |
|---------------------------|-----------|---------|------------------|
| Power Dissipation         | P         | 1.0     | W                |
| Junction Temperature      | $T_j$     | -40~150 | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | -40~150 | $^\circ\text{C}$ |



Weight: 0.18g

MARK



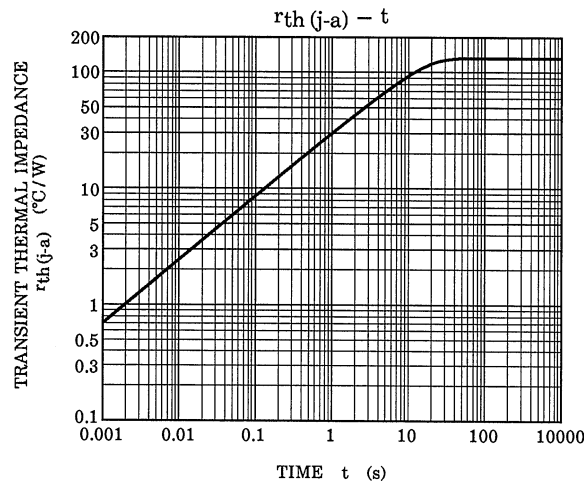
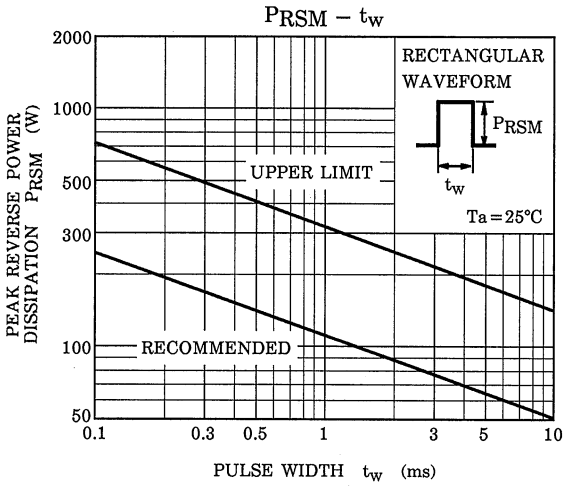
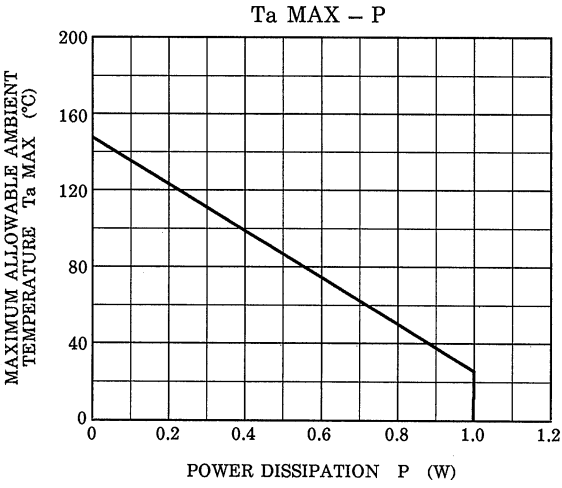
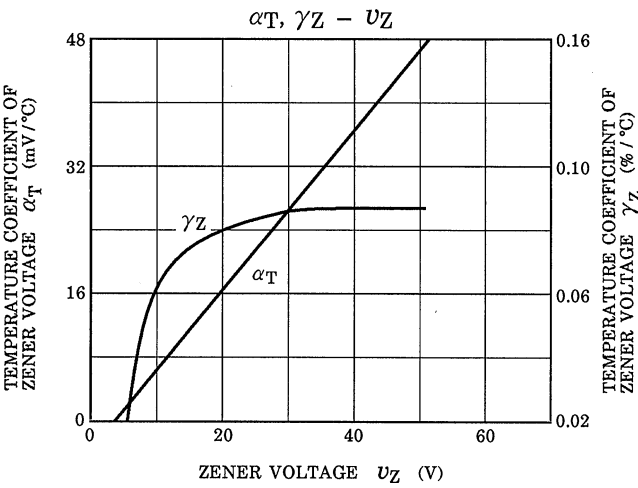
Color : Silver

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| TYPE     | ZENER CHARACTERISTICS      |      |      |                                          |                                           | TEMPERATUR<br>ECOEFFICIENT<br>OF ZENER<br>VOLTAGE<br>$\alpha_T$ (mV / °C) |      | FORWARD<br>VOLTAGE |                                          | REVERSE<br>CURRENT |                                          |
|----------|----------------------------|------|------|------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------|------|--------------------|------------------------------------------|--------------------|------------------------------------------|
|          | ZENER VOLTAGE<br>$V_Z$ (V) |      |      | ZENER<br>IMPEDANCE<br>$r_d$ ( $\Omega$ ) | MEASURE-<br>MENT<br>CURRENT<br>$I_Z$ (mA) |                                                                           |      | $V_F$ (V)          | MEASURE-<br>MENT<br>CURRENT<br>$I_F$ (A) | $I_R$ ( $\mu$ A)   | MEASURE-<br>MENT<br>VOLTAGE<br>$V_R$ (V) |
|          | MIN                        | TYP. | MAX  |                                          |                                           | MAX                                                                       | TYP. |                    |                                          |                    |                                          |
| 1ZB6.8   | 6.2                        | 6.8  | 7.4  | 60                                       | 10                                        | 3                                                                         | 4    | 1.2                | 0.2                                      | 10                 | 3                                        |
| 1ZB7.5   | 6.8                        | 7.5  | 8.3  | 30                                       | 10                                        | 4                                                                         | 5    | 1.2                | 0.2                                      | 10                 | 4.5                                      |
| 1ZB8.2   | 7.4                        | 8.2  | 9.1  | 30                                       | 10                                        | 4                                                                         | 6    | 1.2                | 0.2                                      | 10                 | 4.9                                      |
| 1ZB9.1   | 8.2                        | 9.1  | 10.1 | 30                                       | 10                                        | 5                                                                         | 8    | 1.2                | 0.2                                      | 10                 | 5.5                                      |
| 1ZB10    | 9.0                        | 10   | 11.0 | 30                                       | 10                                        | 6                                                                         | 9    | 1.2                | 0.2                                      | 10                 | 6                                        |
| 1ZB11    | 9.9                        | 11   | 12.1 | 30                                       | 10                                        | 7                                                                         | 11   | 1.2                | 0.2                                      | 10                 | 7                                        |
| 1ZB12    | 10.8                       | 12   | 13.2 | 30                                       | 10                                        | 8                                                                         | 13   | 1.2                | 0.2                                      | 10                 | 8                                        |
| 1ZB13    | 11.7                       | 13   | 14.3 | 30                                       | 10                                        | 9                                                                         | 14   | 1.2                | 0.2                                      | 10                 | 9                                        |
| 1ZB15    | 13.5                       | 15   | 16.5 | 30                                       | 10                                        | 11                                                                        | 17   | 1.2                | 0.2                                      | 10                 | 10                                       |
| 1ZB16    | 14.4                       | 16   | 17.6 | 30                                       | 10                                        | 12                                                                        | 19   | 1.2                | 0.2                                      | 10                 | 11                                       |
| 1ZB18    | 16.2                       | 18   | 19.8 | 30                                       | 10                                        | 14                                                                        | 23   | 1.2                | 0.2                                      | 10                 | 13                                       |
| 1ZB20    | 18.0                       | 20   | 22.0 | 30                                       | 10                                        | 16                                                                        | 26   | 1.2                | 0.2                                      | 10                 | 14                                       |
| 1ZB22    | 19.8                       | 22   | 24.2 | 30                                       | 10                                        | 18                                                                        | 28   | 1.2                | 0.2                                      | 10                 | 16                                       |
| 1ZB24    | 21.6                       | 24   | 26.4 | 30                                       | 10                                        | 20                                                                        | 32   | 1.2                | 0.2                                      | 10                 | 17                                       |
| 1ZB27    | 24.3                       | 27   | 29.7 | 30                                       | 10                                        | 23                                                                        | 36   | 1.2                | 0.2                                      | 10                 | 19                                       |
| 1ZB30    | 27.0                       | 30   | 33.0 | 30                                       | 10                                        | 25                                                                        | 40   | 1.2                | 0.2                                      | 10                 | 21                                       |
| 1ZB33    | 29.7                       | 33   | 36.3 | 30                                       | 10                                        | 26                                                                        | 41   | 1.2                | 0.2                                      | 10                 | 26.4                                     |
| 1ZB36    | 32.4                       | 36   | 39.6 | 30                                       | 9                                         | 28                                                                        | 45   | 1.2                | 0.2                                      | 10                 | 28.8                                     |
| 1ZB43    | 38.7                       | 43   | 47.3 | 40                                       | 7                                         | 33                                                                        | 53   | 1.2                | 0.2                                      | 10                 | 34.4                                     |
| 1ZB47    | 42.3                       | 47   | 51.7 | 65                                       | 6                                         | 38                                                                        | 60   | 1.2                | 0.2                                      | 10                 | 37.6                                     |
| 1ZB51    | 45.9                       | 51   | 56.1 | 65                                       | 6                                         | 43                                                                        | 68   | 1.2                | 0.2                                      | 10                 | 40.8                                     |
| 1ZB68    | 61.2                       | 68   | 74.8 | 120                                      | 4                                         | 57                                                                        | 90   | 1.2                | 0.2                                      | 10                 | 54.4                                     |
| 1ZB75    | 67.5                       | 75   | 82.5 | 150                                      | 4                                         | 66                                                                        | 104  | 1.2                | 0.2                                      | 10                 | 60                                       |
| 1ZB82    | 73.8                       | 82   | 90.2 | 170                                      | 3                                         | 71                                                                        | 113  | 1.2                | 0.2                                      | 10                 | 65.4                                     |
| 1ZB100   | 90                         | 100  | 110  | 300                                      | 3                                         | 87                                                                        | 138  | 1.2                | 0.2                                      | 10                 | 80                                       |
| 1ZB110   | 99                         | 110  | 121  | 300                                      | 3                                         | 96                                                                        | 152  | 1.2                | 0.2                                      | 10                 | 88                                       |
| 1ZB150   | 135                        | 150  | 165  | 450                                      | 2                                         | 136                                                                       | 212  | 1.2                | 0.2                                      | 10                 | 120                                      |
| 1ZB180   | 162                        | 180  | 198  | 500                                      | 1.5                                       | 161                                                                       | 255  | 1.2                | 0.2                                      | 10                 | 144                                      |
| 1ZB200   | 180                        | 200  | 220  | 500                                      | 0.5                                       | 170                                                                       | 269  | 1.2                | 0.2                                      | 10                 | 160                                      |
| 1ZB200-Y | 190                        | 200  | 210  |                                          |                                           | 170                                                                       | 269  |                    |                                          |                    | 160                                      |
| 1ZB200-Z | 200                        | 210  | 220  |                                          |                                           | 178                                                                       | 286  |                    |                                          |                    | 168                                      |
| 1ZB220   | 198                        | 220  | 242  | 5000                                     | 0.5                                       | 200                                                                       | 309  | 1.2                | 0.2                                      | 10                 | 176                                      |
| 1ZB220-Y | 210                        | 220  | 230  |                                          |                                           | 200                                                                       | 309  |                    |                                          |                    | 176                                      |
| 1ZB220-Z | 220                        | 230  | 240  |                                          |                                           | 207                                                                       | 320  |                    |                                          |                    | 184                                      |

**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

| TYPE     | ZENER CHARACTERISTICS      |      |     |                                          |                                           | TEMPERATURE<br>COEFFICIENT<br>OF ZENER<br>VOLTAGE<br>$\alpha_T$ (mV / °C) |      | FORWARD<br>VOLTAGE |                                          | REVERSE<br>CURRENT |                                          |
|----------|----------------------------|------|-----|------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------|------|--------------------|------------------------------------------|--------------------|------------------------------------------|
|          | ZENER VOLTAGE<br>$V_Z$ (V) |      |     | ZENER<br>IMPEDANCE<br>$r_d$ ( $\Omega$ ) | MEASURE-<br>MENT<br>CURRENT<br>$I_Z$ (mA) |                                                                           |      | $V_F$ (V)          | MEASURE-<br>MENT<br>CURRENT<br>$I_F$ (A) | $I_R$ ( $\mu$ A)   | MEASURE-<br>MENT<br>VOLTAGE<br>$V_R$ (V) |
|          | MIN                        | TYP. | MAX | MAX                                      |                                           | TYP.                                                                      | MAX. |                    |                                          |                    |                                          |
| 1ZB240   | 216                        | 240  | 264 | 5000                                     | 0.5                                       | 215                                                                       | 325  | 1.2                | 0.2                                      | 10                 | 192                                      |
| 1ZB240-Y | 230                        | 240  | 250 |                                          |                                           | 215                                                                       | 325  |                    |                                          |                    | 216                                      |
| 1ZB240-Z | 240                        | 250  | 260 |                                          |                                           | 225                                                                       | 338  |                    |                                          |                    | 225                                      |
| 1ZB270   | 243                        | 270  | 297 | 5000                                     | 0.5                                       | 243                                                                       | 385  | 1.2                | 0.2                                      | 10                 | 216                                      |
| 1ZB270-X | 250                        | 260  | 270 |                                          |                                           | 221                                                                       | 350  |                    |                                          |                    | 234                                      |
| 1ZB270-Y | 260                        | 270  | 280 |                                          |                                           | 228                                                                       | 362  |                    |                                          |                    | 243                                      |
| 1ZB270-Z | 270                        | 280  | 290 |                                          |                                           | 236                                                                       | 374  |                    |                                          |                    | 252                                      |
| 1ZB300   | 270                        | 300  | 330 | 5000                                     | 0.5                                       | 270                                                                       | 428  | 1.2                | 0.2                                      | 10                 | 240                                      |
| 1ZB300-X | 280                        | 290  | 300 |                                          |                                           | 244                                                                       | 388  |                    |                                          |                    | 261                                      |
| 1ZB300-Y | 290                        | 300  | 310 |                                          |                                           | 253                                                                       | 402  |                    |                                          |                    | 270                                      |
| 1ZB300-Z | 300                        | 310  | 320 |                                          |                                           | 261                                                                       | 415  |                    |                                          |                    | 279                                      |
| 1ZB330   | 297                        | 330  | 363 | 5000                                     | 0.5                                       | 296                                                                       | 470  | 1.2                | 0.2                                      | 10                 | 264                                      |
| 1ZB330-X | 310                        | 320  | 330 |                                          |                                           | 270                                                                       | 428  |                    |                                          |                    | 288                                      |
| 1ZB330-Y | 320                        | 330  | 340 |                                          |                                           | 278                                                                       | 441  |                    |                                          |                    | 297                                      |
| 1ZB330-Z | 330                        | 340  | 350 |                                          |                                           | 287                                                                       | 455  |                    |                                          |                    | 306                                      |
| 1ZB390   | 351                        | 390  | 429 | 10000                                    | 0.5                                       | 350                                                                       | 555  | 1.2                | 0.2                                      | 10                 | 312                                      |



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