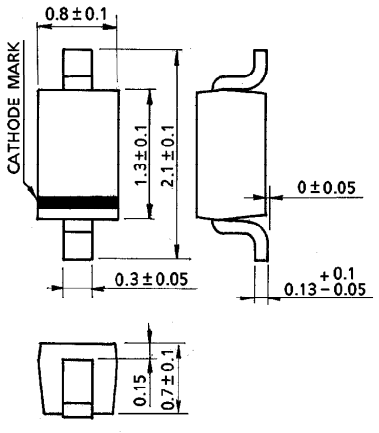
TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

# 015Z2.0~015Z12

CONSTANT VOLTAGE REGULATION APPLICATIONS

Unit in mm

- Small Package
- Nominal voltage tolerance about ±2.5% (2.0V~12V)




| | |
|---|---|
| SSC | |
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 1-1F1A |

Weight : 1.9mg

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Power Dissipation | P* | 200 | mW |
| Junction Temperature | $T_j$ | 125 | °C |
| Storage Temperature Range | $T_{stg}$ | −55~125 | °C |

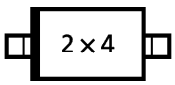
* Mounted on a glass epoxy circuit board of 20×20mm, Pad dimension of 4×4mm.

ELECTRICAL CHARACTERISTICS

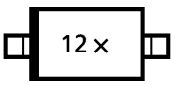
(See Page 2~3)

Marking

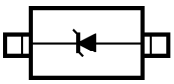
Example 1 : 015Z2.4-×




Example 2 : 015Z12-×




PIN ASSIGNMENT (TOP VIEW)



961001EAA2


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- The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| TYPE No. | | ZENER VOLTAGE ※ $V_Z$ (V) MIN. | ZENER VOLTAGE ※ $V_Z$ (V) MAX. | $I_Z$ (mA) | DYNAMIC IMPEDANCE $Z_Z$ (Ω) MAX. | DYNAMIC IMPEDANCE $I_Z$ (mA) | KNEE DYNAMIC IMPEDANCE $Z_{ZK}$ (Ω) MAX. | KNEE DYNAMIC IMPEDANCE $I_Z$ (mA) | REVERSE CURRENT $I_R$ (μA) MAX. | REVERSE CURRENT $V_R$ (V) |
|---|---|---|---|---|---|---|---|---|---|---|
| 015Z2.0 ※※ | X | 1.85 | 2.05 | 5 | 100 | 5 | 1000 | 0.5 | 120 | 0.5 |
| | Z | 1.95 | 2.15 | | | | | | | |
| 015Z2.2 ※※ | X | 2.05 | 2.26 | 5 | 100 | 5 | 1000 | 0.5 | 120 | 1.0 |
| | Z | 2.16 | 2.38 | | | | | | | |
| 015Z2.4 | X | 2.28 | 2.50 | 5 | 100 | 5 | 1000 | 0.5 | 120 | 1.0 |
| | Z | 2.40 | 2.60 | | | | | | | |
| 015Z2.7 | X | 2.50 | 2.75 | 5 | 110 | 5 | 1000 | 0.5 | 120 | 1.0 |
| | Z | 2.65 | 2.90 | | | | | | | |
| 015Z3.0 | X | 2.80 | 3.05 | 5 | 120 | 5 | 1000 | 0.5 | 50 | 1.0 |
| | Z | 2.95 | 3.20 | | | | | | | |
| 015Z3.3 | X | 3.10 | 3.35 | 5 | 130 | 5 | 1000 | 0.5 | 20 | 1.0 |
| | Z | 3.25 | 3.50 | | | | | | | |
| 015Z3.6 | X | 3.40 | 3.65 | 5 | 130 | 5 | 1000 | 0.5 | 10 | 1.0 |
| | Z | 3.55 | 3.80 | | | | | | | |
| 015Z3.9 | X | 3.70 | 3.97 | 5 | 130 | 5 | 1000 | 0.5 | 10 | 1.0 |
| | Z | 3.87 | 4.10 | | | | | | | |
| 015Z4.3 | X | 4.00 | 4.23 | 5 | 130 | 5 | 1000 | 0.5 | 5 | 1.0 |
| | Y | 4.13 | 4.35 | | | | | | | |
| | Z | 4.25 | 4.50 | | | | | | | |
| 015Z4.7 | X | 4.40 | 4.63 | 5 | 120 | 5 | 1000 | 0.5 | 5 | 1.0 |
| | Y | 4.53 | 4.76 | | | | | | | |
| | Z | 4.66 | 4.90 | | | | | | | |
| 015Z5.1 | X | 4.80 | 5.07 | 5 | 70 | 5 | 1000 | 0.5 | 1 | 1.5 |
| | Y | 4.97 | 5.24 | | | | | | | |
| | Z | 5.14 | 5.40 | | | | | | | |
| 015Z5.6 | X | 5.30 | 5.63 | 5 | 40 | 5 | 900 | 0.5 | 1 | 2.5 |
| | Y | 5.43 | 5.81 | | | | | | | |
| | Z | 5.61 | 6.00 | | | | | | | |
| 015Z6.2 | X | 5.80 | 6.20 | 5 | 30 | 5 | 500 | 0.5 | 1 | 3.0 |
| | Y | 6.00 | 6.39 | | | | | | | |
| | Z | 6.19 | 6.60 | | | | | | | |
| 015Z6.8 | X | 6.40 | 6.80 | 5 | 25 | 5 | 150 | 0.5 | 0.5 | 5.0 |
| | Y | 6.60 | 7.02 | | | | | | | |
| | Z | 6.82 | 7.20 | | | | | | | |

※ : Test time : t=30ms

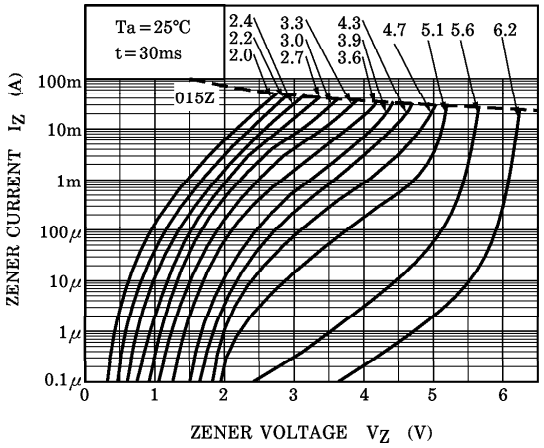
※※ : Product by order.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

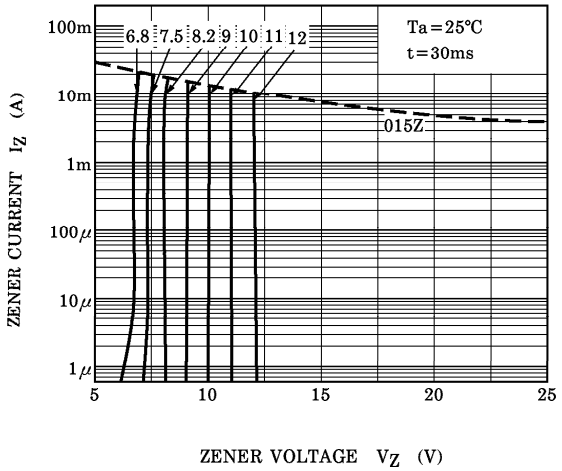
| TYPE No. | | ZENER VOLTAGE ※ $V_Z$ (V) | | $I_Z$ (mA) | DYNAMIC IMPEDANCE $Z_Z$ (Ω) | $I_Z$ (mA) | KNEE DYNAMIC IMPEDANCE $Z_{ZK}$ (Ω) | $I_Z$ (mA) | REVERSE CURRENT $I_R$ (μA) | $V_R$ (V) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | MIN. | MAX. | | MAX. | | MAX. | | MAX. | |
| 015Z7.5 | X | 7.00 | 7.43 | 5 | 23 | 5 | 120 | 0.5 | 0.5 | 6.0 |
| | Y | 7.23 | 7.66 | | | | | | | |
| | Z | 7.46 | 7.90 | | | | | | | |
| 015Z8.2 | X | 7.70 | 8.16 | 5 | 20 | 5 | 120 | 0.5 | 0.5 | 6.5 |
| | Y | 7.96 | 8.43 | | | | | | | |
| | Z | 8.23 | 8.70 | | | | | | | |
| 015Z9.1 | X | 8.50 | 9.00 | 5 | 18 | 5 | 120 | 0.5 | 0.5 | 7.0 |
| | Y | 8.80 | 9.30 | | | | | | | |
| | Z | 9.10 | 9.60 | | | | | | | |
| 015Z10 | X | 9.40 | 9.93 | 5 | 15 | 5 | 120 | 0.5 | 0.5 | 8.0 |
| | Y | 9.73 | 10.26 | | | | | | | |
| | Z | 10.06 | 10.60 | | | | | | | |
| 015Z11 | X | 10.40 | 10.98 | 5 | 15 | 5 | 120 | 0.5 | 0.5 | 8.5 |
| | Y | 10.73 | 11.26 | | | | | | | |
| | Z | 11.06 | 11.60 | | | | | | | |
| 015Z12 | X | 11.40 | 11.93 | 5 | 15 | 5 | 110 | 0.5 | 0.5 | 9.0 |
| | Y | 11.73 | 12.26 | | | | | | | |
| | Z | 12.06 | 12.60 | | | | | | | |

※ : Test time : t=30ms

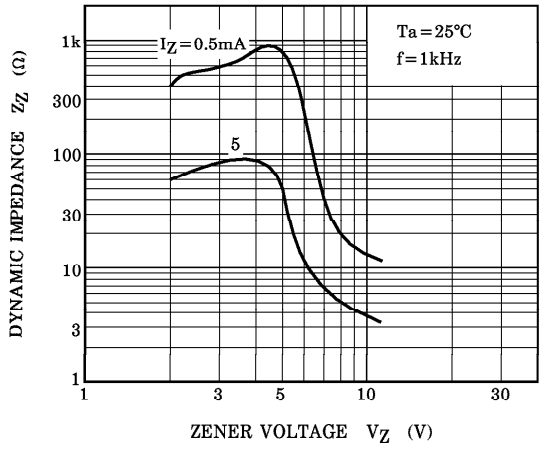
$I_Z - V_Z$ ($V_Z$ : 2.0~6.2)



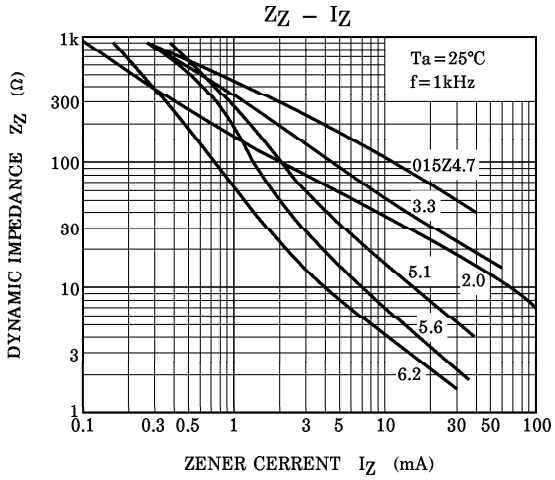

$I_Z - V_Z$ ($V_Z$ : 6.8~12)



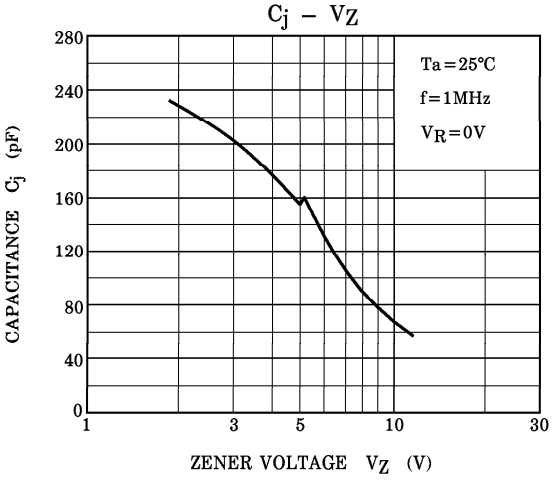

$Z_Z - V_Z$



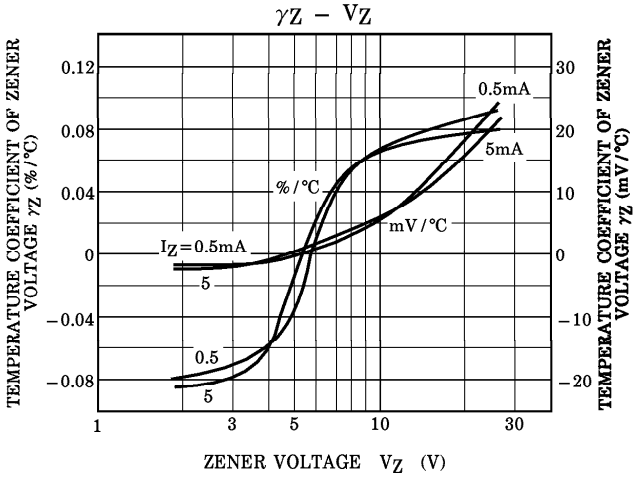

$Z_Z - I_Z$



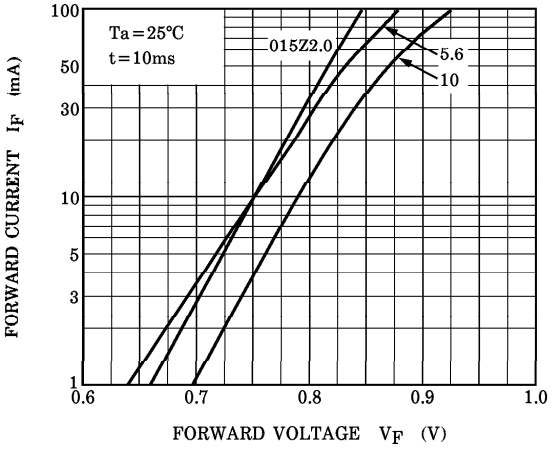

$C_j - V_Z$



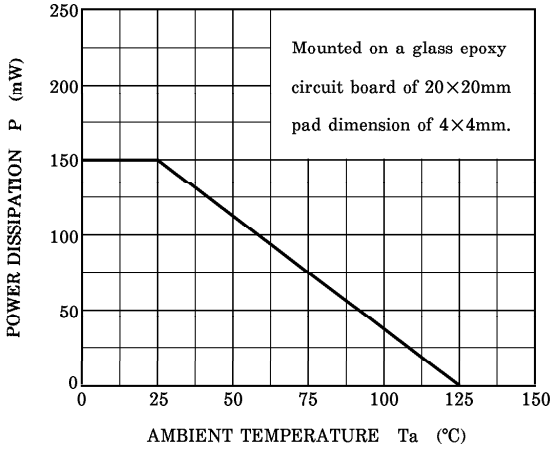

$\gamma Z - V_Z$



$I_F - V_F$


Ta=25°C
t=10ms
015Z2.0
5.6
10
FORWARD CURRENT $I_F$ (mA)
100
50
30
10
5
3
1
0.6
0.7
0.8
0.9
1.0
FORWARD VOLTAGE $V_F$ (V)

P – Ta


Mounted on a glass epoxy
circuit board of 20×20mm
pad dimension of 4×4mm.
POWER DISSIPATION P (mW)
250
200
150
100
50
0
0
25
50
75
100
125
150
AMBIENT TEMPERATURE Ta (°C)

LifeElectronics
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