

RKZ-KL Series

Silicon Planar Zener Diode for Surge Absorption and Stabilizer

REJ03G1519-0100

Rev.1.00

May 09, 2007

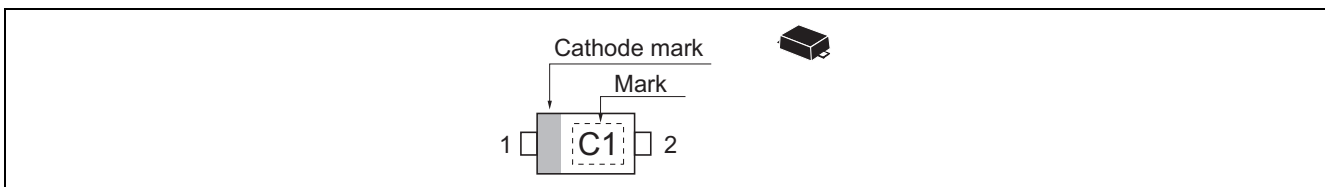
Features

- Emboss Taping Reel Pack.
- Extremely small Flat Lead Package (EFP) is suitable for surface mount design.

Ordering Information

| Part No. | Laser Mark | Package Name | Package Code |
|---------------|------------------|--------------|--------------|
| RKZ-KL Series | Let to Mark Code | EFP | PXSF0002ZA-A |

Pin Arrangement



Absolute Maximum Ratings

(Ta = 25°C)

| Item | Symbol | Value | Unit |
|----------------------|--------|-------------|------|
| Power dissipation | Pd *1 | 100 | mW |
| Junction temperature | Tj | 150 | °C |
| Storage temperature | Tstg | -55 to +150 | °C |

Note: 1. With P.C. Board.

Electrical Characteristics

(Ta = 25°C)

| Part No. | Zener Voltage | | Reverse Current | | Dynamic Resistance | | ESD-Capability *2 | |
|------------|---------------|-------|-----------------|---------|--------------------|--------|-------------------|-----------|
| | Vz (V) *1 | | Test Condition | IR (μA) | Test Condition | rd (Ω) | Test Condition | — (kV) *2 |
| | Min | Max | Iz (mA) | Max | VR (V) | Max | Iz (mA) | Min |
| RKZ2.0BKL | 1.90 | 2.20 | 5 | 120 | 0.5 | 100 | 5 | 30 |
| RKZ2.2BKL | 2.10 | 2.40 | 5 | 120 | 0.7 | 100 | 5 | 30 |
| RKZ2.4BKL | 2.30 | 2.60 | 5 | 120 | 1.0 | 100 | 5 | 30 |
| RKZ2.7B2KL | 2.65 | 2.90 | 5 | 120 | 1.0 | 110 | 5 | 30 |
| RKZ3.0B2KL | 2.95 | 3.20 | 5 | 50 | 1.0 | 120 | 5 | 30 |
| RKZ3.3B2KL | 3.25 | 3.50 | 5 | 20 | 1.0 | 130 | 5 | 30 |
| RKZ3.6B2KL | 3.55 | 3.80 | 5 | 10 | 1.0 | 130 | 5 | 30 |
| RKZ3.9B2KL | 3.87 | 4.10 | 5 | 10 | 1.0 | 130 | 5 | 30 |
| RKZ4.3B2KL | 4.15 | 4.34 | 5 | 10 | 1.0 | 130 | 5 | 30 |
| RKZ4.7B2KL | 4.55 | 4.75 | 5 | 10 | 1.0 | 130 | 5 | 30 |
| RKZ5.1B2KL | 4.98 | 5.20 | 5 | 5 | 1.5 | 130 | 5 | 30 |
| RKZ5.6B2KL | 5.49 | 5.73 | 5 | 5 | 2.5 | 80 | 5 | 30 |
| RKZ6.2B2KL | 6.06 | 6.33 | 5 | 2 | 3.0 | 50 | 5 | 30 |
| RKZ6.8B2KL | 6.65 | 6.93 | 5 | 2 | 3.5 | 30 | 5 | 30 |
| RKZ7.5B2KL | 7.28 | 7.60 | 5 | 2 | 4.0 | 30 | 5 | 30 |
| RKZ8.2B2KL | 8.02 | 8.36 | 5 | 2 | 5.0 | 30 | 5 | 30 |
| RKZ9.1B2KL | 8.85 | 9.23 | 5 | 2 | 6.0 | 30 | 5 | 30 |
| RKZ10B2KL | 9.77 | 10.21 | 5 | 2 | 7.0 | 30 | 5 | 30 |
| RKZ11B2KL | 10.76 | 11.22 | 5 | 2 | 8.0 | 30 | 5 | 30 |
| RKZ12B2KL | 11.74 | 12.24 | 5 | 2 | 9.0 | 35 | 5 | 30 |
| RKZ13B2KL | 12.91 | 13.49 | 5 | 2 | 10.0 | 35 | 5 | 30 |
| RKZ15B2KL | 14.34 | 14.98 | 5 | 2 | 11.0 | 40 | 5 | 25 |
| RKZ16B2KL | 15.85 | 16.51 | 5 | 2 | 12.0 | 40 | 5 | 25 |
| RKZ18B2KL | 17.56 | 18.35 | 2 | 2 | 13.0 | 45 | 2 | 25 |
| RKZ20B2KL | 19.52 | 20.39 | 2 | 2 | 15.0 | 50 | 2 | 20 |
| RKZ22B2KL | 21.54 | 22.47 | 2 | 2 | 17.0 | 55 | 2 | 20 |
| RKZ24B2KL | 23.72 | 24.78 | 2 | 2 | 19.0 | 60 | 2 | 15 |
| RKZ27BKL | 25.10 | 28.90 | 2 | 2 | 21.0 | 70 | 2 | 15 |
| RKZ30BKL | 28.00 | 32.00 | 2 | 2 | 23.0 | 80 | 2 | 13 |
| RKZ33BKL | 31.00 | 35.00 | 2 | 2 | 25.0 | 80 | 2 | 8 |
| RKZ36BKL | 34.00 | 38.00 | 2 | 2 | 27.0 | 90 | 2 | 8 |

Notes: 1. Tested with pulse (Pw = 40 ms).

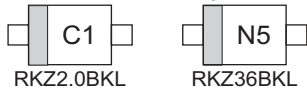
2. C =150 pF, R = 330 Ω, Both forward and reverse direction 10 pulse
Failure criterion ; According to IR spec

3. For EFP package, the material of lead is exposed for cutting plane. There for, soldering nature of lead tip part is considered as unquestioned. Please kindly consider soldering nature.

Mark Code

| Part No. | Mark No. | Part No. | Mark No. |
|------------|----------|------------|----------|
| RKZ2.0BKL | C1 | RKZ9.1B2KL | G3 |
| RKZ2.2BKL | C2 | RKZ10B2KL | G6 |
| RKZ2.4BKL | C3 | RKZ11B2KL | G9 |
| RKZ2.7B2KL | C5 | RKZ12B2KL | J3 |
| RKZ3.0B2KL | C7 | RKZ13B2KL | J6 |
| RKZ3.3B2KL | C9 | RKZ15B2KL | J9 |
| RKZ3.6B2KL | D2 | RKZ16B2KL | M3 |
| RKZ3.9B2KL | D4 | RKZ18B2KL | M6 |
| RKZ4.3B2KL | D6 | RKZ20B2KL | M9 |
| RKZ4.7B2KL | D9 | RKZ22B2KL | P3 |
| RKZ5.1B2KL | E3 | RKZ24B2KL | P6 |
| RKZ5.6B2KL | E6 | RKZ27BKL | P8 |
| RKZ6.2B2KL | E9 | RKZ30BKL | P9 |
| RKZ6.8B2KL | F3 | RKZ33BKL | N4 |
| RKZ7.5B2KL | F6 | RKZ36BKL | N5 |
| RKZ8.2B2KL | F9 | | |

Note: 1. Example of Marking



Main Characteristic

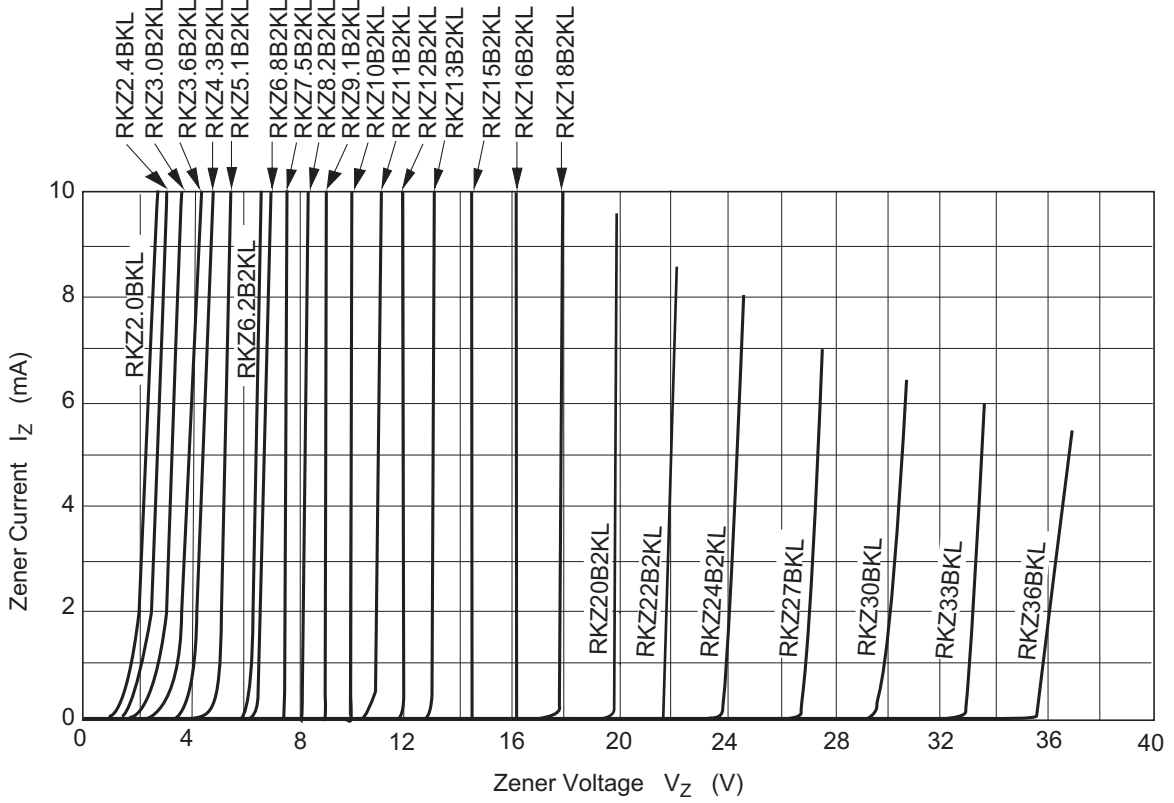


Fig.1 Zener current vs. Zener voltage

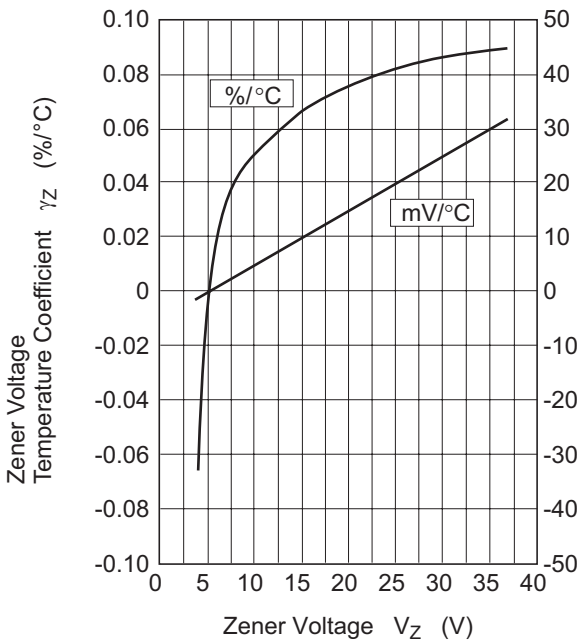


Fig.2 Temperature Coefficient vs. Zener voltage

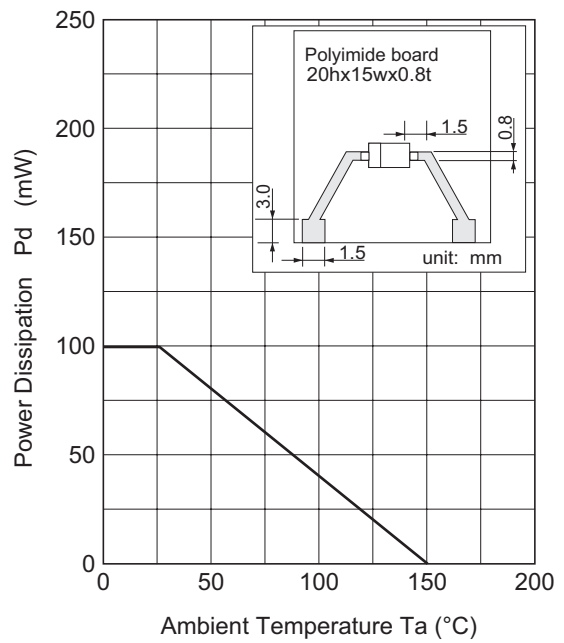
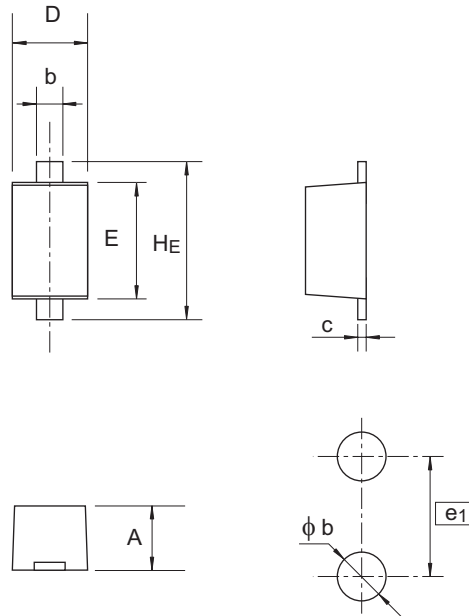


Fig.3 Power Dissipation vs. Ambient Temperature

Package Dimensions

| | | | | |
|--------------|--------------------|--------------|---------------|------------|
| Package Name | JEITA Package Code | RENESAS Code | Previous Code | MASS[Typ.] |
| EFP | — | PXSF0002ZA-A | EFP / EFPV | 0.0007g |



Pattern of terminal position areas

| Reference Symbol | Dimension in Millimeters | | |
|------------------|--------------------------|------|------|
| | Min | Nom | Max |
| A | 0.44 | 0.47 | 0.50 |
| b | 0.25 | 0.30 | 0.35 |
| c | 0.08 | 0.13 | 0.18 |
| D | 0.55 | 0.60 | 0.65 |
| E | 0.75 | 0.80 | 0.85 |
| HE | 0.95 | 1.00 | 1.05 |
| phi b | — | 0.40 | — |
| e1 | — | 1.00 | — |

Notes:

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