

## SOT-23 Plastic-Encapsulate Diodes

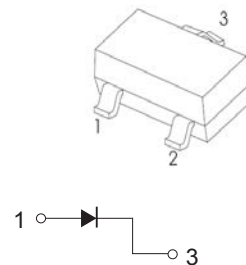
## FEATURES

- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- For general purpose switching applications
- High conductance

## MARKING: KA3



SOT-23

Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>a</sub>=25℃

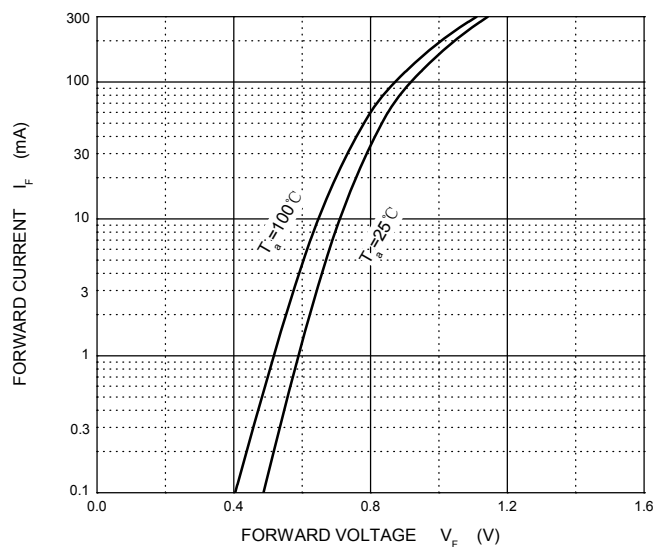
| Parameter                                          | Symbol                            | Limit     | Unit |
|----------------------------------------------------|-----------------------------------|-----------|------|
| Non-Repetitive Peak Reverse Voltage                | V <sub>RM</sub>                   | 100       | V    |
| Peak Repetitive Peak Reverse Voltage               | V <sub>RRM</sub>                  | 75        | V    |
| Working Peak Reverse Voltage                       | V <sub>RWM</sub>                  |           |      |
| DC Blocking Voltage                                | V <sub>R</sub>                    |           |      |
| RMS Reverse Voltage                                | V <sub>R(RMS)</sub>               | 53        | V    |
| Forward Continuous Current                         | I <sub>FM</sub>                   | 500       | mA   |
| Average Rectified Output Current                   | I <sub>O</sub>                    | 250       | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I <sub>FSM</sub>                  | 2.0       | A    |
| Power Dissipation                                  | P <sub>d</sub>                    | 350       | mW   |
| Thermal Resistance from Junction to Ambient        | R <sub>θJA</sub>                  | 357       | ℃ /W |
| Operation Junction and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -55 ~+150 | ℃    |

Electrical Ratings @T<sub>a</sub>=25℃

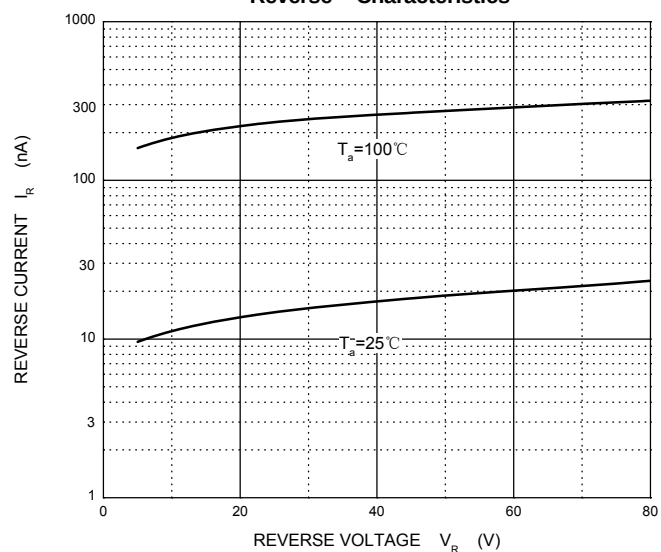
| Parameter                     | Symbol          | Min. | Typ. | Max.  | Unit | Conditions                                                                                        |
|-------------------------------|-----------------|------|------|-------|------|---------------------------------------------------------------------------------------------------|
| Forward voltage               | V <sub>F1</sub> | 0.62 |      | 0.72  | V    | I <sub>F</sub> =5mA                                                                               |
|                               | V <sub>F2</sub> |      |      | 0.855 | V    | I <sub>F</sub> =10mA                                                                              |
|                               | V <sub>F3</sub> |      |      | 1.0   | V    | I <sub>F</sub> =100mA                                                                             |
|                               | V <sub>F4</sub> |      |      | 1.25  | V    | I <sub>F</sub> =150mA                                                                             |
| Reverse current               | I <sub>R1</sub> |      |      | 2.5   | μA   | V <sub>R</sub> =75V                                                                               |
|                               | I <sub>R2</sub> |      |      | 25    | nA   | V <sub>R</sub> =20V                                                                               |
| Capacitance between terminals | C <sub>T</sub>  |      |      | 4     | pF   | V <sub>R</sub> =0V, f=1MHz                                                                        |
| Reverse recovery time         | t <sub>rr</sub> |      |      | 4     | ns   | I <sub>F</sub> =I <sub>R</sub> =10mA<br>I <sub>rr</sub> =0.1I <sub>R</sub> , R <sub>L</sub> =100Ω |

## Typical Characteristics

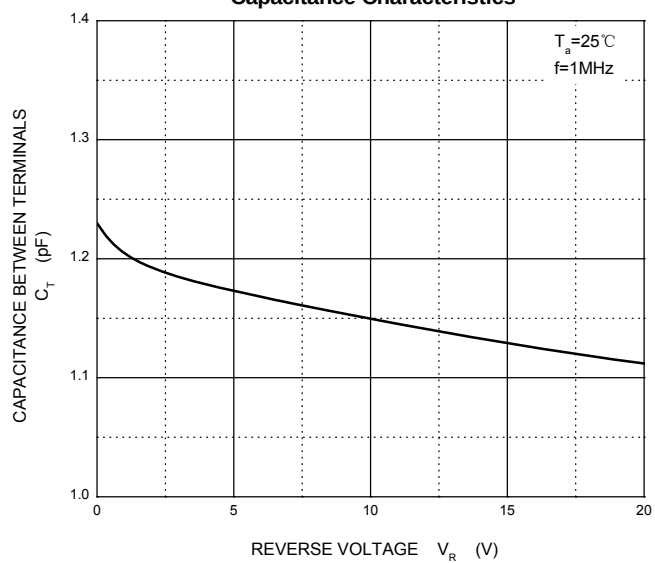
### Forward Characteristics



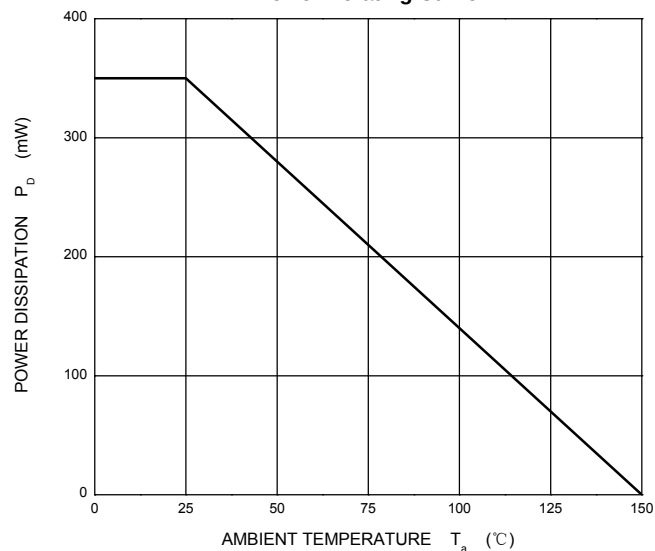
### Reverse Characteristics

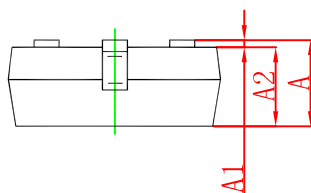
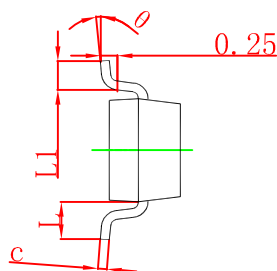
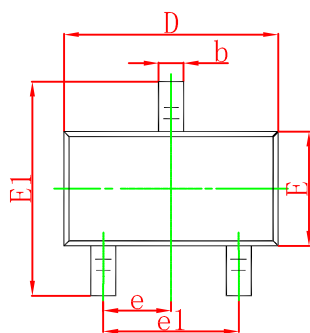


### Capacitance Characteristics



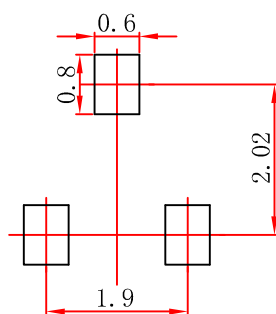
### Power Derating Curve





| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

## SOT-23 Suggested Pad Layout



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05\text{mm}$ .  
 3. The pad layout is for reference purposes only.