

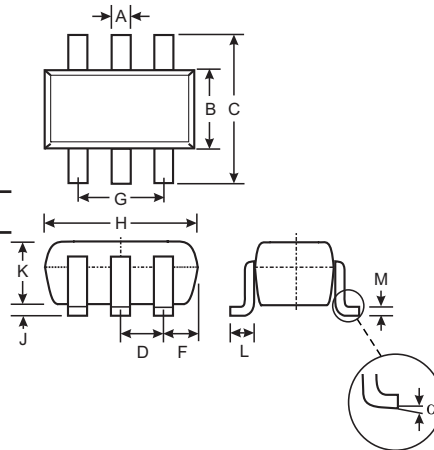
## SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS

### Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free/RoHS Compliant (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

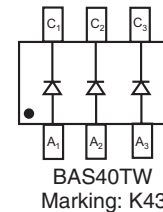
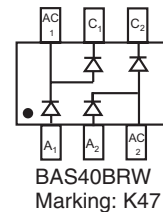
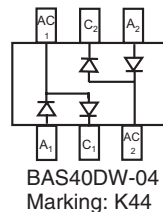
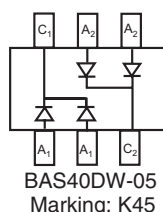
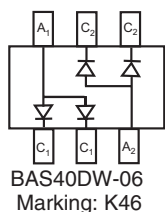
### Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking: See Diagrams Below & Page 3
- Weight: 0.006 grams (approximate)



| SOT-363              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 0.10         | 0.30 |
| B                    | 1.15         | 1.35 |
| C                    | 2.00         | 2.20 |
| D                    | 0.65 Nominal |      |
| F                    | 0.30         | 0.40 |
| H                    | 1.80         | 2.20 |
| J                    | —            | 0.10 |
| K                    | 0.90         | 1.00 |
| L                    | 0.25         | 0.40 |
| M                    | 0.10         | 0.25 |
| α                    | 0°           | 8°   |
| All Dimensions in mm |              |      |

### TOP VIEW



### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                                                                         | Symbol                                                 | Value                      | Unit |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 40                         | V    |
| RMS Reverse Voltage                                                                    | V <sub>R(RMS)</sub>                                    | 28                         | V    |
| Forward Continuous Current (Note 1)                                                    | I <sub>FM</sub>                                        | 200                        | mA   |
| Non-Repetitive Peak Forward Surge Current @ t < 1.0s                                   | I <sub>FSM</sub>                                       | 600                        | mA   |
| Power Dissipation (Note 1)                                                             | P <sub>d</sub>                                         | 200                        | mW   |
| Thermal Resistance Junction to Ambient Air (Note 1)                                    | R <sub>θJA</sub>                                       | 625                        | °C/W |
| Operating and Storage Temperature Range                                                | T <sub>J</sub> ,<br>T <sub>STG</sub>                   | -55 to +125<br>-65 to +125 | °C   |

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                     | Symbol             | Min | Max         | Unit     | Test Condition                                                                                            |
|------------------------------------|--------------------|-----|-------------|----------|-----------------------------------------------------------------------------------------------------------|
| Reverse Breakdown Voltage (Note 2) | V <sub>(BR)R</sub> | 40  | —           | V        | I <sub>R</sub> = 10μA                                                                                     |
| Forward Voltage                    | V <sub>F</sub>     | —   | 380<br>1000 | mV<br>mV | I <sub>F</sub> = 1.0mA, t <sub>p</sub> < 300μs<br>I <sub>F</sub> = 40mA, t <sub>p</sub> < 300μs           |
| Reverse Current (Note 2)           | I <sub>R</sub>     | —   | 200         | nA       | V <sub>R</sub> = 30V                                                                                      |
| Total Capacitance                  | C <sub>T</sub>     | —   | 5.0         | pF       | V <sub>R</sub> = 0, f = 1.0MHz                                                                            |
| Reverse Recovery Time              | t <sub>rr</sub>    | —   | 5.0         | ns       | I <sub>F</sub> = I <sub>R</sub> = 10mA,<br>I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω |

- Notes:
1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration test pulse used to minimize self-heating effect.
  3. No purposefully added lead.

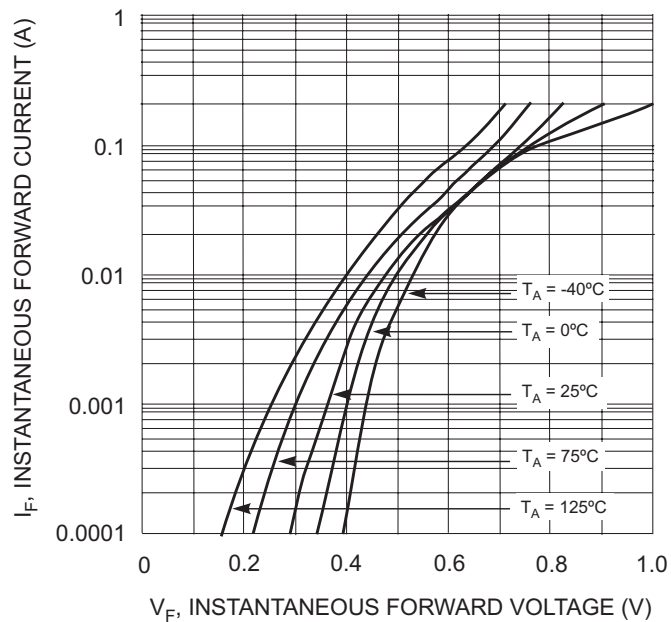


Fig. 1 Typical Forward Voltage

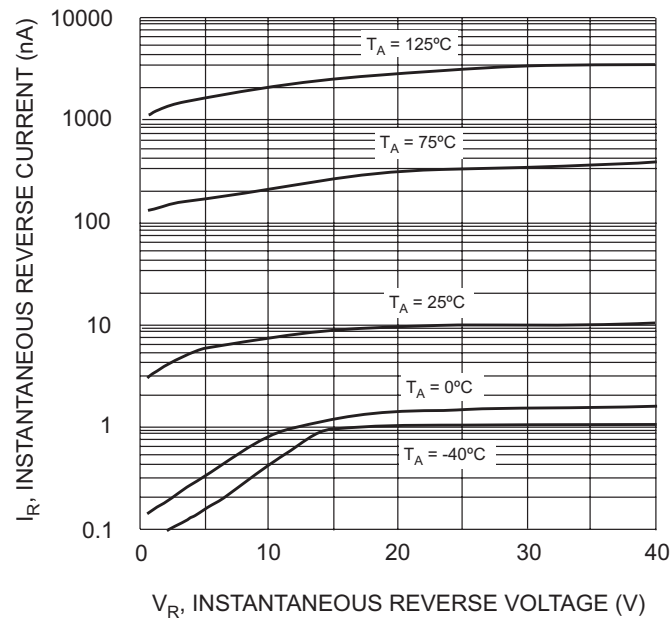


Fig. 2 Typical Reverse Characteristics

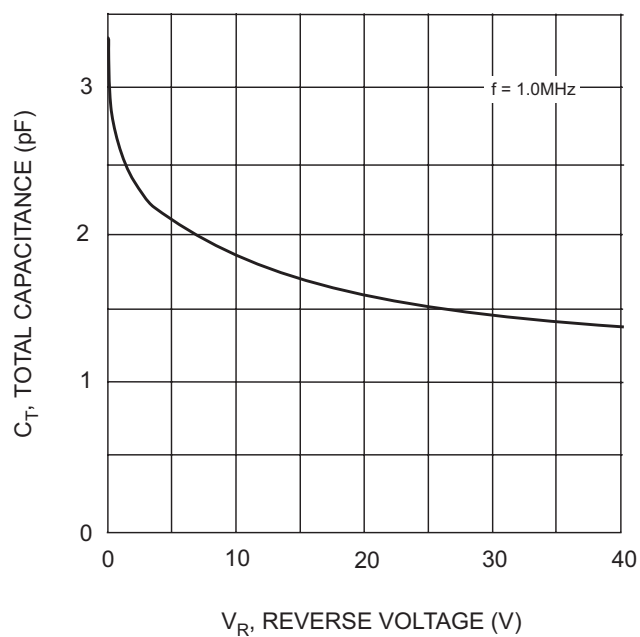


Fig. 3 Typical Capacitance

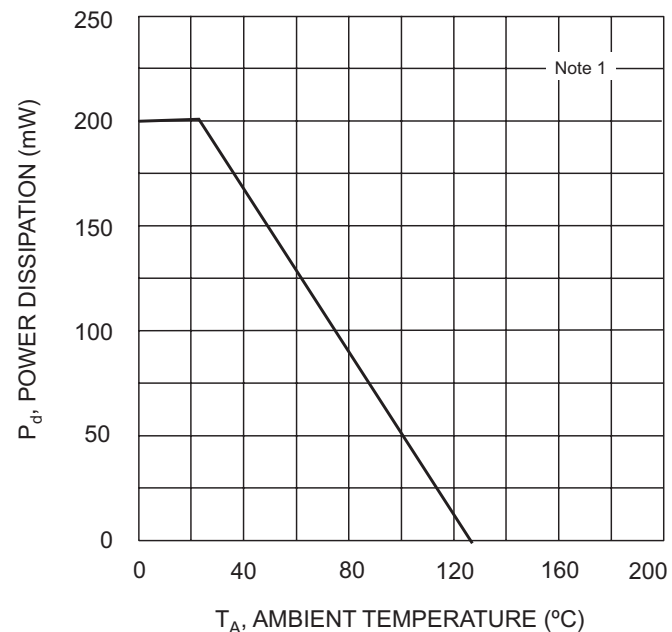


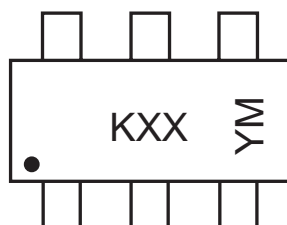
Fig. 4 Power Derating Curve, Total Package

## Ordering Information (Note 4)

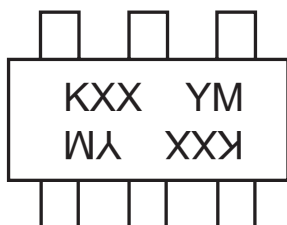
| Device         | Packaging | Shipping         |
|----------------|-----------|------------------|
| BAS40TW-7-F    | SOT-363   | 3000/Tape & Reel |
| BAS40DW-04-7-F | SOT-363   | 3000/Tape & Reel |
| BAS40DW-05-7-F | SOT-363   | 3000/Tape & Reel |
| BAS40DW-06-7-F | SOT-363   | 3000/Tape & Reel |
| BAS40BRW-7-F   | SOT-363   | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



KXX = Product Type Marking Code (See Page 1)  
 For Asymmetrical Configuration, orientation indicator as shown  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September



KXX = Product Type Marking Code (See Page 1)  
 For Symmetrical Configuration, no orientation indicator  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

### Date Code Key

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | L    | M    | N    | P    | R    | S    | T    | U    | V    | W    | X    | Y    | Z    |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3     | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |

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