

CURRENT 6.0 Ampere  
 VOLTAGE RANG 50 to 1000 Volts

## UD6KB05 THRU UD6KB100

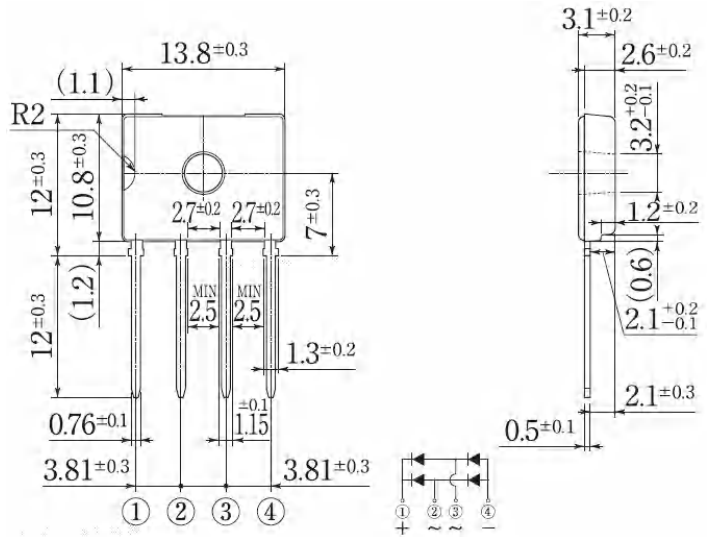
### Features

- This series is SGS listed under the Recognized Component Index, file number SZXEC1902259902
- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Ideal for Printed Circuit Boards

### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 1.7 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**

### D3K



All Dimensions in mm

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

Single Phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

Characteristic	Symbol	UD6K BA05	UD6K BA10	UD6K BA20	UD6K BA40	UD6K BA60	UD6K BA80	UD6K BA100	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @T <sub>A</sub> = 50°C	I <sub>O</sub>	6.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	125							A
Forward Voltage (per element) @I <sub>F</sub> = 0A	V <sub>FM</sub>	1.05							V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	10 500							μA
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	35							K/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150							°C

- Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance junction to ambient mounted on PC board with 12mm<sup>2</sup> copper pad.

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**Rating and Characteristic Curves (TA=25°C Unless otherwise noted)**

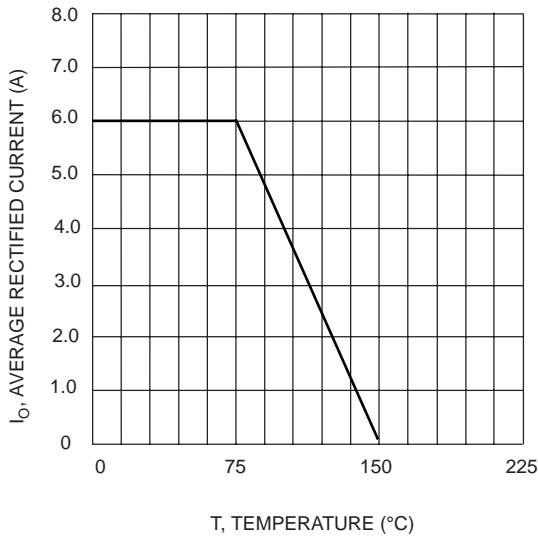


Fig. 1 Forward Current Derating Curve

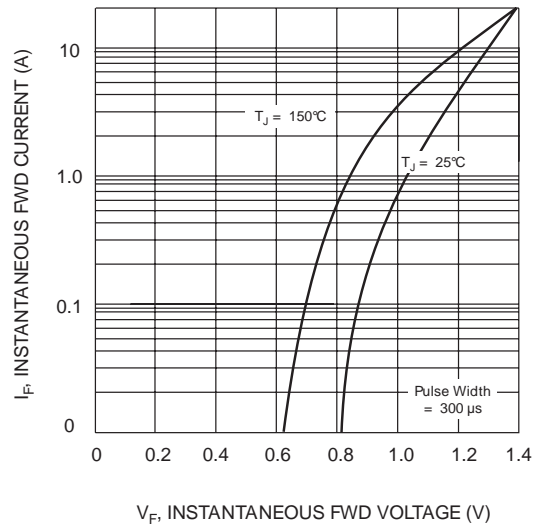


Fig. 2 Typical Fwd Characteristics

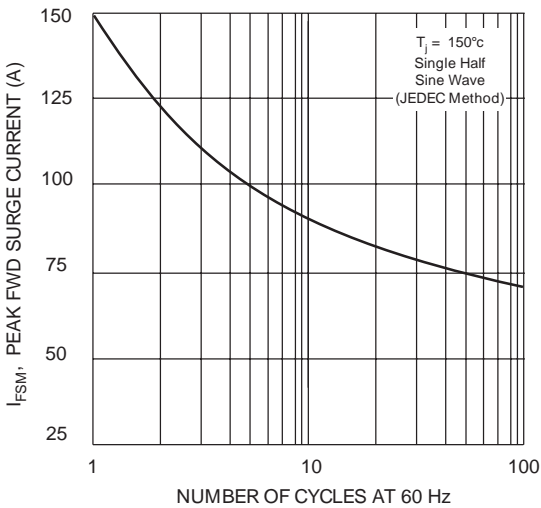


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

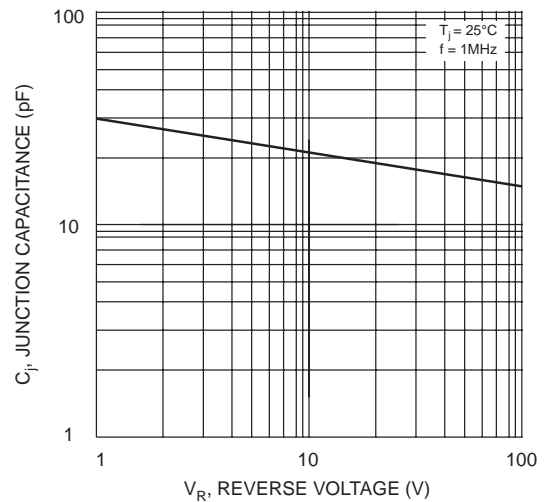


Fig. 4 Typical Junction Capacitance

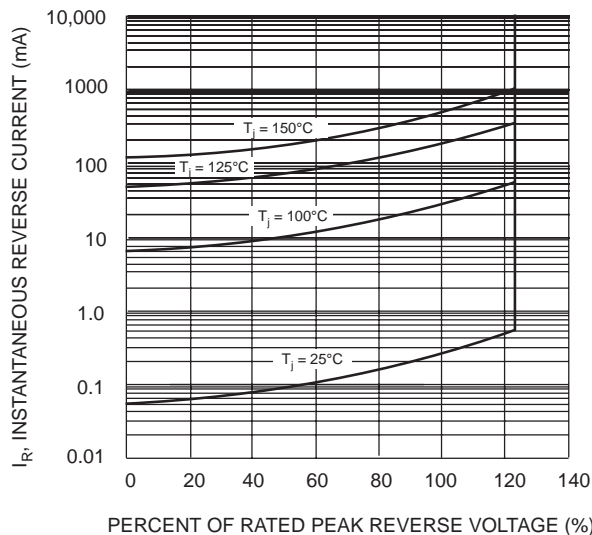


Fig. 5 Typical Reverse Characteristics