

RECTIFIERS

High Efficiency, 2.5A

UES1101 BYV27-50
 UES1102 BYV27-100
 UES1103 BYV27-150

2

FEATURES

- Very Fast Recovery Times
- Very Low Forward Voltage
- Small Size
- Convenient Package

DESCRIPTION

An axial leaded power rectifier useful in many switching applications. Particularly suited where very fast recovery and low forward voltage are required.

ABSOLUTE MAXIMUM RATINGS

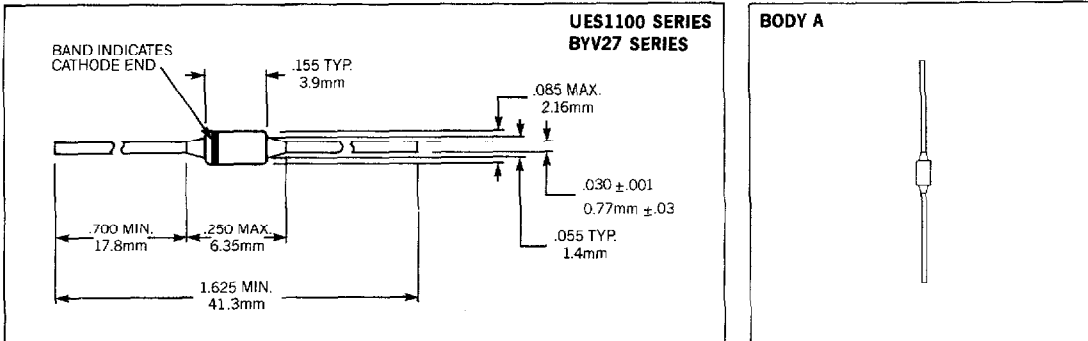
| | UES1101 | UES1102 | UES1103 | BYV27-50 | BYV27-100 | BYV27-150 |
|--|-----------------|---------|---------|----------|-----------|-----------|
| Peak Inverse Voltage, V_R | 50V | 100V | 150V | 50V | 100V | 150V |
| Maximum Average D.C. Output at $T_L = 75^\circ\text{C}$, $L = \frac{3}{8}"$, I_o | 2.5A | 2.5A | 2.5A | 2.5A | 2.0A | 2.0A |
| Non-Repetitive Surge Current at 8.3ms, I_{FSM} | 35A | 35A | 35A | 35A | 50A | 50A |
| Thermal Resistance at $L = \frac{3}{8}"$, $R_{\theta JC}$ | 38°C/W | 38°C/W | 38°C/W | 38°C/W | 46°C/W | 46°C/W |
| Junction Operating Temperature, T_J | 175°C | 175°C | 175°C | 175°C | 165°C | 165°C |
| Operating and Storage Temperature Range | -55°C to +175°C | | | | | |

ELECTRICAL SPECIFICATIONS

| Type | Maximum Reverse Voltage V_R | Maximum Forward Voltage @ | | Maximum Reverse Current @ Rated V_R | | Maximum Reverse Recovery Time* |
|------------------------------------|-------------------------------|---------------------------|---------------------------|---------------------------------------|---------------------------|--------------------------------|
| | | $T_J = 25^\circ\text{C}$ | $T_J = 100^\circ\text{C}$ | $T_J = 25^\circ\text{C}$ | $T_J = 100^\circ\text{C}$ | |
| UES1101 UES1102 UES1103 | 50V 100V 150V | .975V @ 2A | .895V @ 2A | 2 μA | 50 μA | 25nS |
| BYV27-50 BYV27-100 BYV27-150 | 50V 100V 150V | 1.25V @ 5A | .85V @ 2.5A | 1 μA | 150 μA | 25nS |

*Measured in circuit $I_F = \frac{1}{2}\text{A}$, $I_R = 1.0\text{A}$, $I_{REC} = \frac{1}{2}\text{A}$

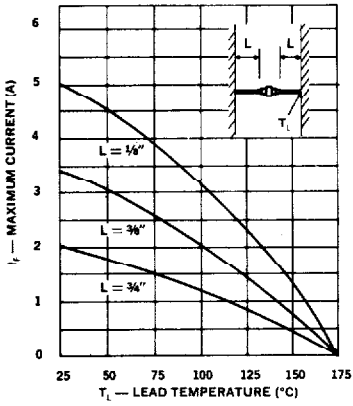
MECHANICAL SPECIFICATIONS



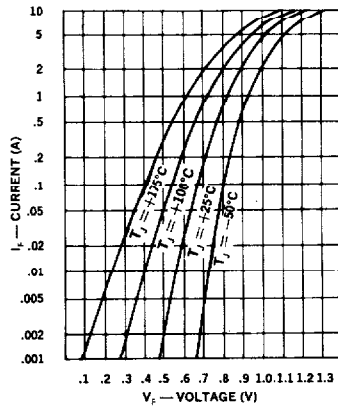
THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 10

Microsemi Corp.
Watertown
 The diode experts

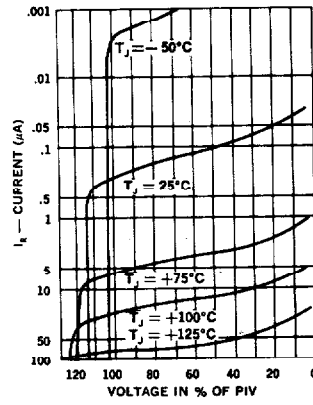
Output Current vs. Lead Temperature



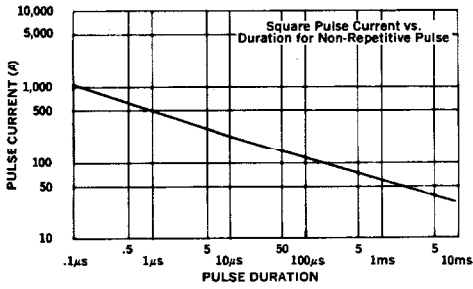
Typical Forward Current vs. Forward Voltage



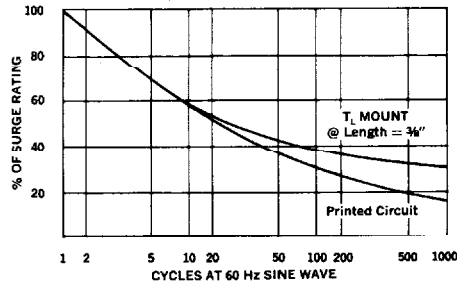
Typical Reverse Current vs. Voltage



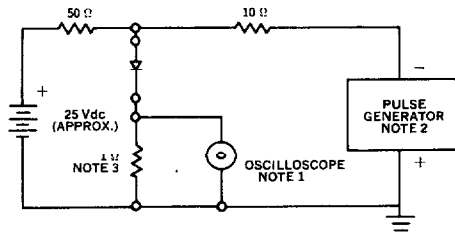
Forward Pulse Current vs. Duration



Multiple Surge Current vs. Duration



Reverse-Recovery Circuit



- Notes:**
- Oscilloscope: Rise time $\leq 3\text{ns}$; input impedance = 50Ω .
 - Pulse Generator: Rise time $\leq 8\text{ns}$; source impedance 10Ω .
 - Current viewing resistor, non-inductive, coaxial recommended.