

# 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

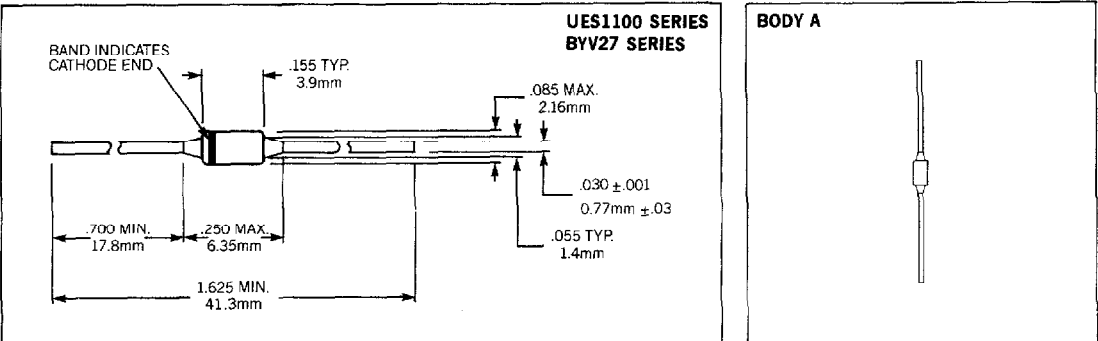
|                                                                                      | UES1101         | UES1102         | UES1103         | BYV27-50        | BYV27-100       | BYV27-150       |
|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Peak Inverse Voltage, $V_R$                                                          | 50V             | 100V            | 150V            | 50V             | 100V            | 150V            |
| Maximum Average D.C. Output at $T_J = 75^\circ\text{C}$ , $L = \frac{3}{8}"$ , $I_o$ | 2.5A            | 2.5A            | 2.5A            | 2.0A            | 2.0A            | 2.0A            |
| Non-Repetitive Surge Current at 8.3ms, $I_{FSM}$                                     | 35A             | 35A             | 35A             | 50A             | 50A             | 50A             |
| Thermal Resistance at $L = \frac{3}{8}"$ , $R_{\theta JA}$                           | 38°C/W          | 38°C/W          | 38°C/W          | 46°C/W          | 46°C/W          | 46°C/W          |
| Junction Operating Temperature, $T_J$                                                | 175°C           | 175°C           | 175°C           | 165°C           | 165°C           | 165°C           |
| Operating and Storage Temperature Range                                              | -55°C to +175°C | -55°C to +175°C | -55°C to +175°C | -55°C to +175°C | -55°C to +175°C | -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<br>UES1102<br>UES1103      | 50V<br>100V<br>150V           | .975V<br>@<br>2A          | .895V<br>@<br>2A          | 2 $\mu\text{A}$                       | 50 $\mu\text{A}$          | 25nS                           |
| BYV27-50<br>BYV27-100<br>BYV27-150 | 50V<br>100V<br>150V           | 1.25V<br>@<br>5A          | .85V<br>@<br>2.5A         | 1 $\mu\text{A}$                       | 150 $\mu\text{A}$         | 25nS                           |

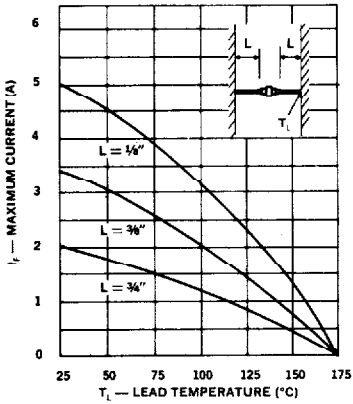
\*Measured in circuit  $I_F = \frac{1}{2}\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{REC} = \frac{1}{4}\text{A}$

### MECHANICAL SPECIFICATIONS

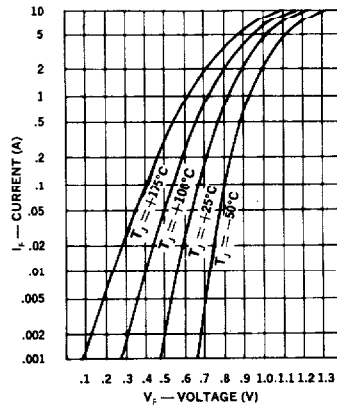


THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 10

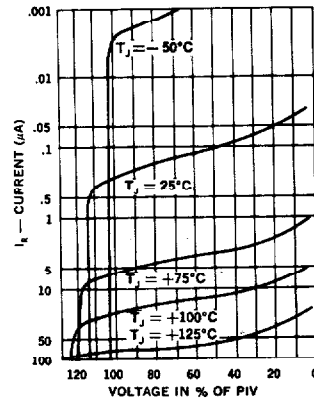
Output Current  
vs. Lead Temperature



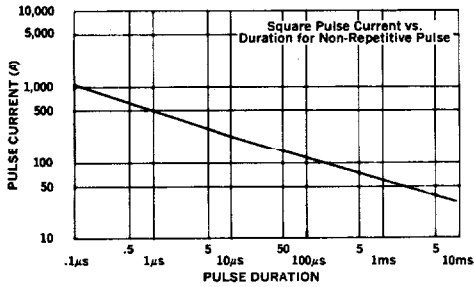
Typical Forward Current  
vs. Forward Voltage



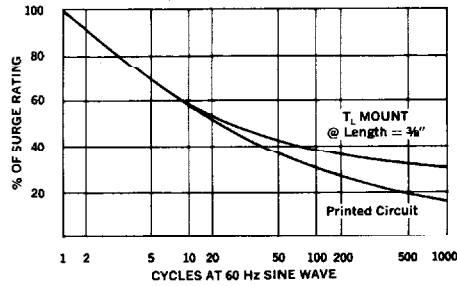
Typical Reverse Current  
vs. Voltage



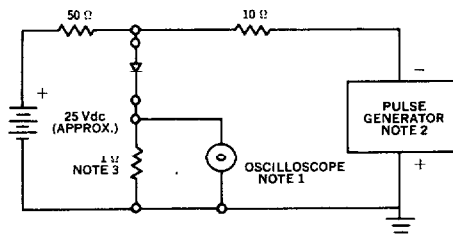
Forward Pulse Current  
vs. Duration



Multiple Surge Current  
vs. Duration



Reverse-Recovery Circuit



Notes:

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