

# RECTIFIERS

Super-Fast Recovery, 3 Amp and 4 Amp

UTX 3105-UTX 3120  
UTX 4105-UTX 4120

## FEATURES

- Continuous Rating: to 4A
- Controlled Avalanche
- Surge: to 80A
- Recovery Time less than 100ns
- Miniature Package

## DESCRIPTION

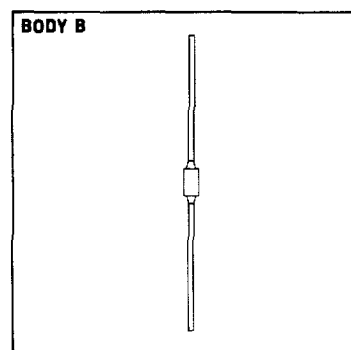
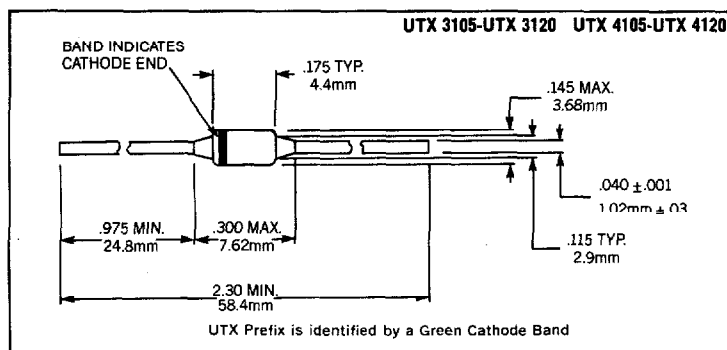
These miniature super-fast recovery rectifiers permit operation at full power at frequencies as high as 100kHz square wave. They have the same unique Microsemi construction as the familiar 2 amp UTX series, but are scaled up in size to provide higher continuous and surge current capability.

## ABSOLUTE MAXIMUM RATINGS

| Peak Inverse Voltage | 3 Amp Series | 4 Amp Series |
|----------------------|--------------|--------------|
| 50V                  | UTX 3105     | UTX 4105     |
| 100V                 | UTX 3110     | UTX 4110     |
| 150V                 | UTX 3115     | UTX 4115     |
| 200V                 | UTX 3120     | UTX 4120     |

| Maximum Average D.C. Output Current             | 3 AMP SERIES                                 | 4 AMP SERIES |
|-------------------------------------------------|----------------------------------------------|--------------|
| @ $T_A = 25^\circ\text{C}$                      | 3.0A                                         | 4.0A         |
| @ $T_A = 100^\circ\text{C}$                     | 1.5A                                         | 2.0A         |
| Non-Repetitive Sinusoidal Surge Current (8.3ms) | 60A                                          | 80A          |
| Operating Temperature Range                     | $-195^\circ\text{C}$ to $+175^\circ\text{C}$ |              |
| Storage Temperature Range                       | $-195^\circ\text{C}$ to $+200^\circ\text{C}$ |              |
| Thermal Resistance                              | See Lead Temperature Derating Curve          |              |

## MECHANICAL SPECIFICATIONS



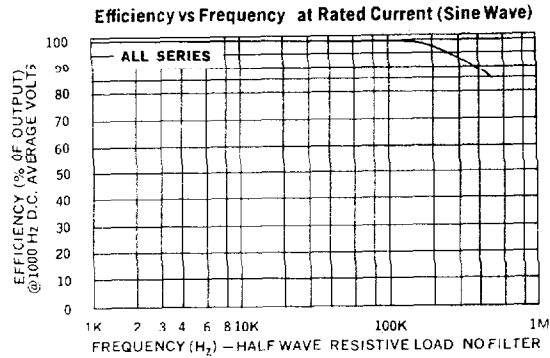
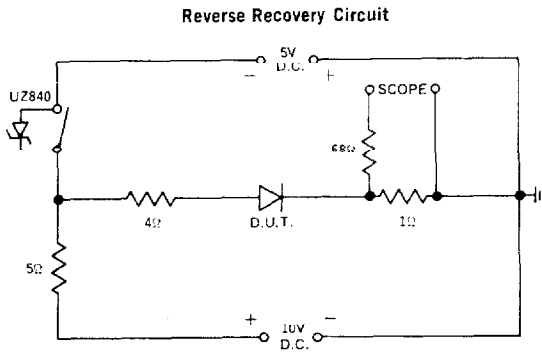
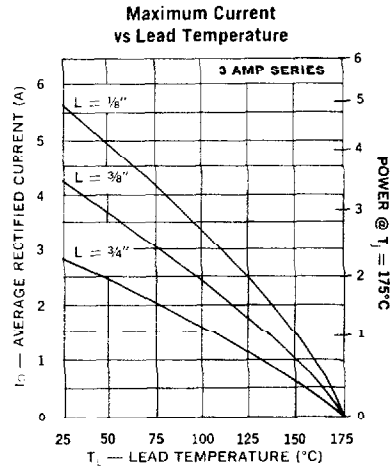
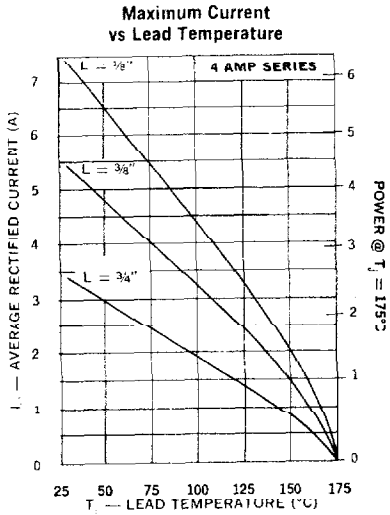
**ELECTRICAL SPECIFICATIONS (at 25°C unless noted)**

| Type                                         | PIV                         | Maximum Forward Voltage Drop* | Maximum Leakage Current @ PIV |            | Maximum Reverse Recovery Time** |
|----------------------------------------------|-----------------------------|-------------------------------|-------------------------------|------------|---------------------------------|
|                                              |                             |                               | 25°C                          | 100°C      |                                 |
| UTX 4105<br>UTX 4110<br>UTX 4115<br>UTX 4120 | 50V<br>100V<br>150V<br>200V | 1V @ 3 Adc                    | 5 $\mu$ A                     | 75 $\mu$ A | 100ns                           |
| UTX 3105<br>UTX 3110<br>UTX 3115<br>UTX 3120 | 50V<br>100V<br>150V<br>200V | 1V @ 2 Adc                    | 5 $\mu$ A                     | 75 $\mu$ A | 100ns                           |

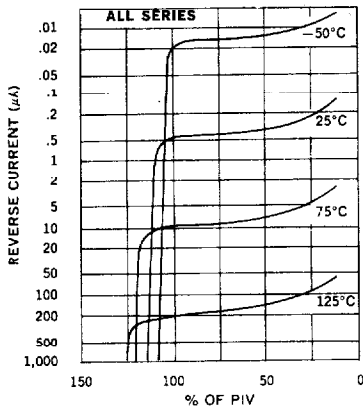
\*Forward voltage is measured at least 1 second after application of current.

\*\*Recovery time is measured from 1A to 1A recovering to 0.5A.

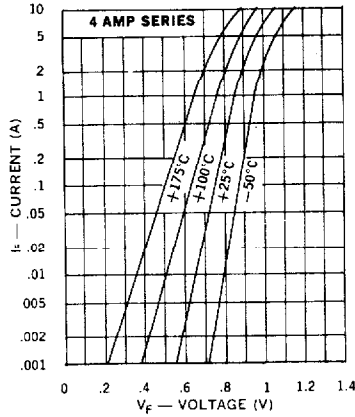
2



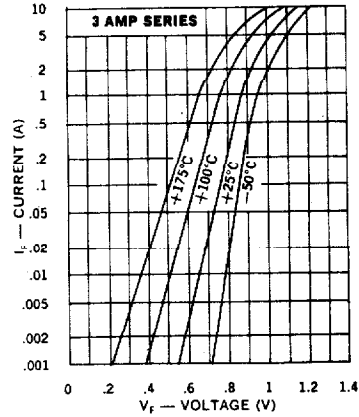
Typical Leakage Current vs PIV



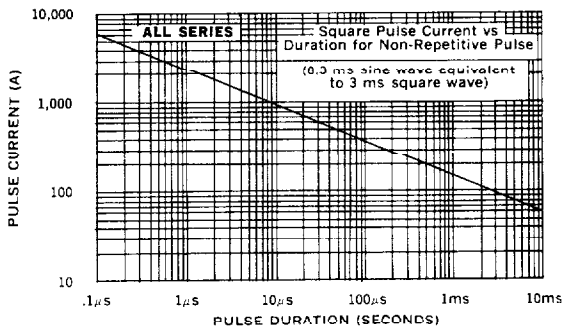
Typical Forward Current vs Forward Voltage



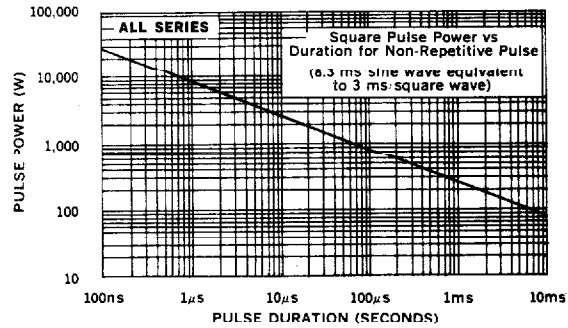
Typical Forward Current vs Forward Voltage



Forward Pulse Current vs Pulse Duration



Reverse Pulse Power vs Pulse Duration



Allowable Forward Surge vs Number of Cycles

