



Micro Commercial Components  
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## Features

- High Power Surface Mount Package
- Guard Ring Protection
- Low Forward Voltage
- Integral Heat Sink/Locking Tabs
- Compatible with Automatic Insertion Equipment

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 30°C/W Junction To Tab
- Maximum Thermal Resistance; 10°C/W Junction To Bottom

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|----------------------------------------|---------------------|-----------------------------|
| UPS120E            | UPS120E        | 20V                                    | 14V                 | 20V                         |
| UPS130E            | UPS130E        | 30V                                    | 21V                 | 30V                         |
| UPS140E            | UPS140E        | 40V                                    | 28V                 | 40V                         |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

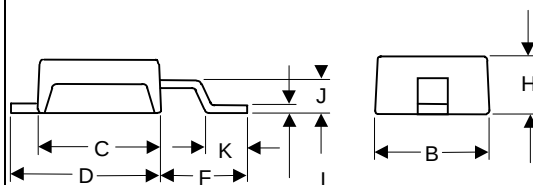
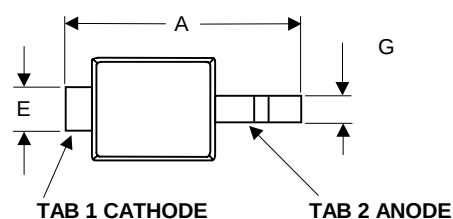
|                                                                 |             |                |                                                       |
|-----------------------------------------------------------------|-------------|----------------|-------------------------------------------------------|
| Average Forward Current                                         | $I_{F(AV)}$ | 1.0A           | $T_J = 130^\circ\text{C}$                             |
| Peak Forward Surge Current                                      | $I_{FSM}$   | 50A            | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage<br>UPS120E<br>UPS130-140E | $V_F$       | .45 V<br>.55 V | $I_{FM} = 1.0\text{A};$<br>$T_J = 25^\circ\text{C}^*$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage         | $I_R$       | 1.0uA<br>500uA | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ |
| Typical Junction Capacitance                                    | $C_J$       | 150pF          | Measured at 1.0MHz, $V_R=4.0\text{V}$                 |

\*Pulse test: Pulse width 200  $\mu\text{sec}$ , Duty cycle 2%

## UPS120E THRU UPS140E

## 1 Amp Schottky Rectifier 20 to 40 Volts

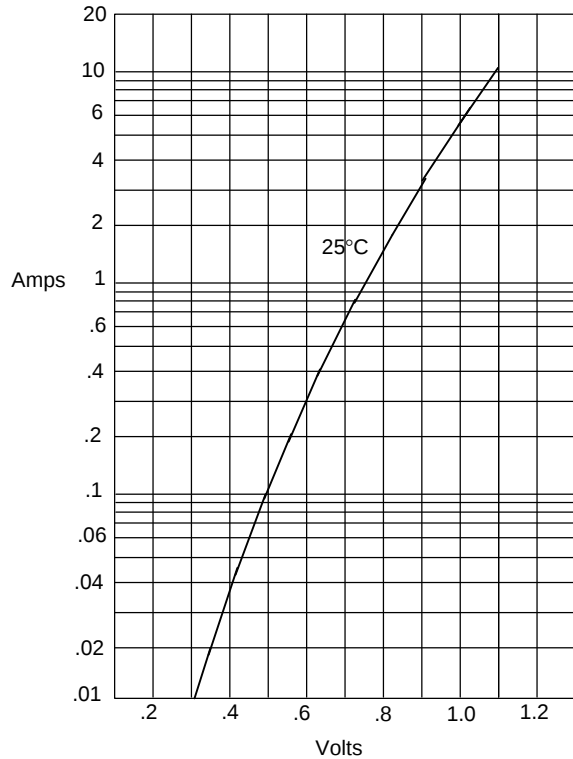
### DO-216AA (POWERMITE™)



| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .143   | .153 | 3.63 | 3.89 |      |
| B   | .070   | .080 | 1.78 | 2.03 |      |
| C   | .070   | .080 | 1.78 | 2.03 |      |
| D   | .087   | .097 | 2.21 | 2.46 |      |
| E   | .029   | .039 | 0.74 | 0.99 |      |
| F   | .051   | .061 | 1.30 | 1.55 |      |
| G   | ----   | .026 | ---- | 0.66 |      |
| H   | .035   | .045 | 0.89 | 1.14 |      |
| J   | .021   | .031 | 0.53 | 0.79 |      |
| K   | ----   | .025 | ---- | 0.64 |      |
| L   | ----   | .006 | ---- | 0.15 |      |

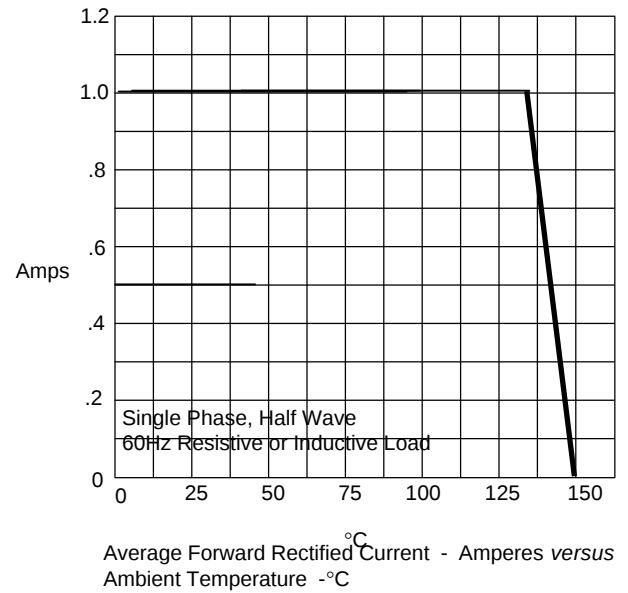
NOTE: POWERMITE™ package is patental by microsemi corp.

Figure 1  
Typical Forward Characteristics



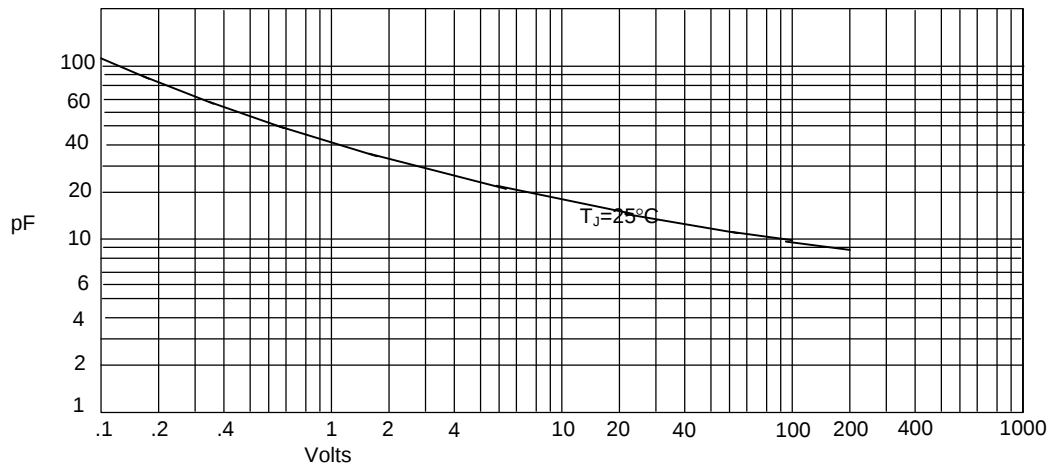
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Single Phase, Half Wave  
60Hz Resistive or Inductive Load

Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

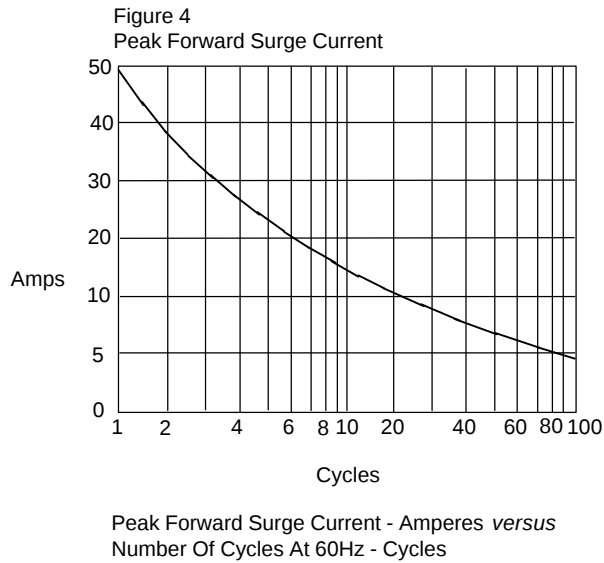
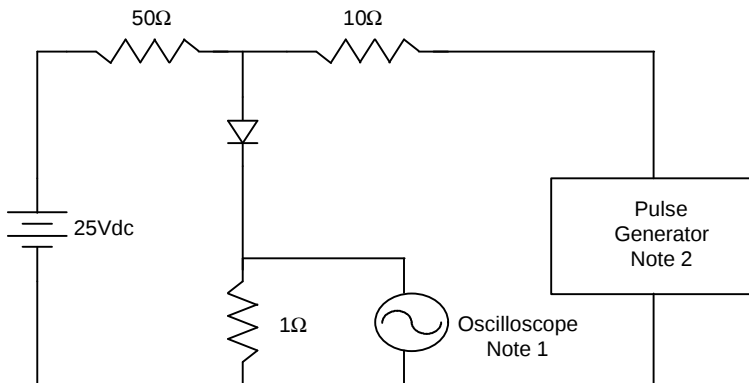


Figure 6  
Reverse Recovery Time Characteristic And Test Circuit Diagram



Notes:

1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.  
Source impedance = 50 ohms
3. Resistors are non-inductive

