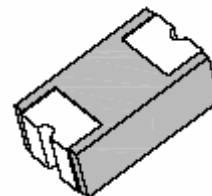


## 1.0A Sintered Glass Passivated Ultra Fast Low Profile Rectifier

### Features

- Low power loss, High efficiency
- For surface mounted applications
- High current capability
- High surge capacity
- Plastic package has UL Flammability Classification 94V-0
- RoHS Compliance



C1206



### Mechanical Data

|                           |                                                                      |
|---------------------------|----------------------------------------------------------------------|
| <b>Case:</b>              | Packed with FRP substrate and epoxy underfilled                      |
| <b>Terminals:</b>         | Pure Tin plated (Lead-Free), solderable per MIL-STD-750, Method 2026 |
| <b>Polarity:</b>          | Laser marking                                                        |
| <b>Mounting Position:</b> | Any                                                                  |
| <b>Weight:</b>            | 0.012 gram                                                           |

### Maximum Ratings and Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol                   | Description                                         | TCDU 1DW | TCDU 1GW | TCDU 1JW | TCDU 1KW | TCDU 1MW | TCDU 1WW | Unit | Conditions                                                          |
|--------------------------|-----------------------------------------------------|----------|----------|----------|----------|----------|----------|------|---------------------------------------------------------------------|
| <b>V<sub>RRM</sub></b>   | Max. Repetitive Peak Reverse Voltage                | 200      | 400      | 600      | 800      | 1000     | 1500     | V    |                                                                     |
| <b>V<sub>DC</sub></b>    | Max. DC Blocking Voltage                            | 200      | 400      | 600      | 800      | 1000     | 1500     | V    |                                                                     |
| <b>V<sub>RMS</sub></b>   | Max. RMS Voltage                                    | 140      | 280      | 420      | 560      | 700      | 1050     | V    |                                                                     |
| <b>V<sub>F</sub></b>     | Max. Forward Voltage                                | 1.0      |          | 1.7      |          |          | 6.0      | V    | Pulse width=300μS, 1% duty cycle, I <sub>F</sub> =1.0A              |
| <b>I<sub>F(AV)</sub></b> | Average Forward Rectified Current                   | 1.0      |          |          |          |          |          | A    | See Fig.1                                                           |
| <b>I<sub>FSM</sub></b>   | Peak Forward Surge Current                          | 30       |          |          | 25       |          | 15       | A    |                                                                     |
| <b>I<sub>R</sub></b>     | Reverse Current @ V <sub>R</sub> = V <sub>RRM</sub> | 1.0      |          | 5.0      |          |          |          | μA   | T <sub>A</sub> =25°C                                                |
|                          |                                                     | 50       |          |          |          |          |          | μA   | T <sub>A</sub> =125°C                                               |
| <b>T<sub>rr</sub></b>    | Max. Reverse Recovery Time                          | 50       |          |          | 75       |          | 50       | nS   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A. |
| <b>C<sub>J</sub></b>     | Diode Junction Capacitance                          | 10       |          |          |          |          |          | pF   | f=1MHz<br>V <sub>R</sub> = 4V                                       |

# Sintered Glass Passivated Ultra Fast Low Profile Rectifier

## TCDU1DW - TCDU1WW

| Symbol         | Description                                      | TCDU 1DW    | TCDU 1GW | TCDU 1JW | TCDU 1KW | TCDU 1MW | TCDU 1WW | Unit | Conditions |
|----------------|--------------------------------------------------|-------------|----------|----------|----------|----------|----------|------|------------|
| $T_J, T_{STG}$ | Operating Junction and Storage Temperature Range | -65 to +175 |          |          |          |          |          | ° C  |            |

### Typical Characteristics Curves

Fig.1- Forward Current Derating Curve

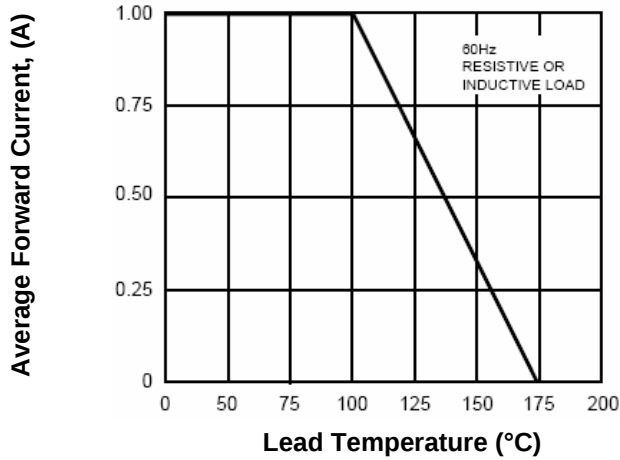


Fig.2- Maximum Non-Repetitive Forward Surge Current

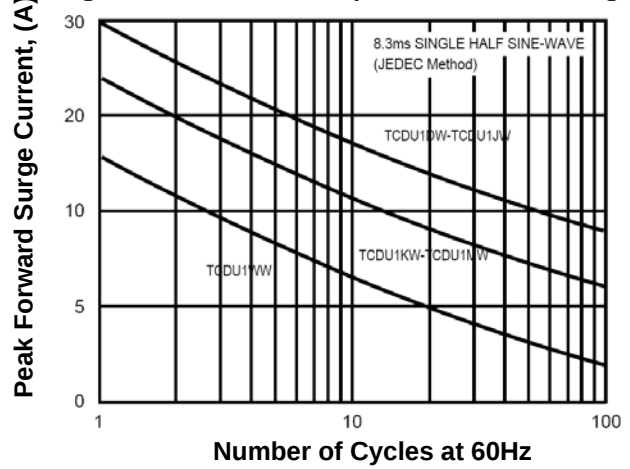


Fig.3- Typical Forward Characteristics

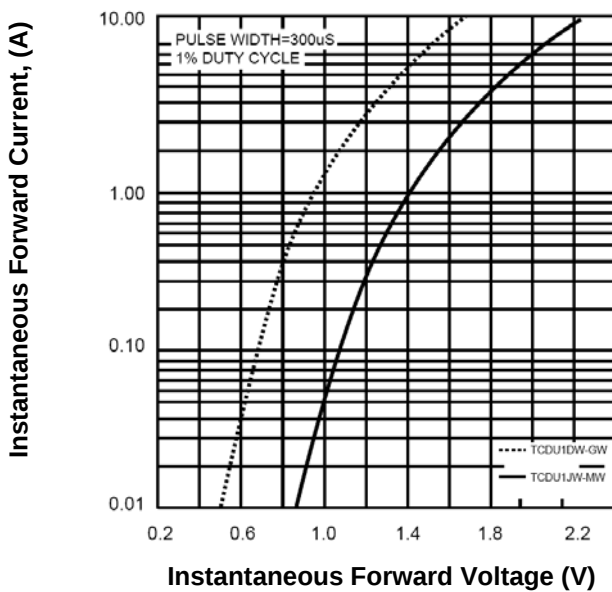
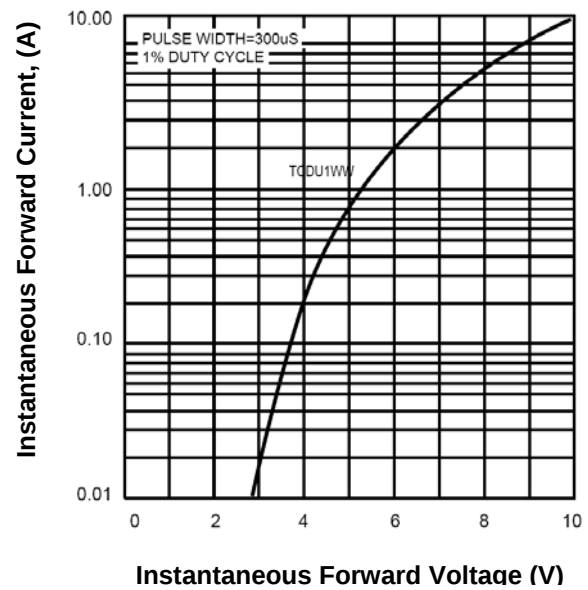


Fig.4- Typical Forward Characteristics



# Sintered Glass Passivated Ultra Fast Low Profile Rectifier

## TCDU1DW - TCDU1WW

Instantaneous Reverse Leakage Current, ( $\mu\text{A}$ )

Fig.5-Typical Reverse Characteristics

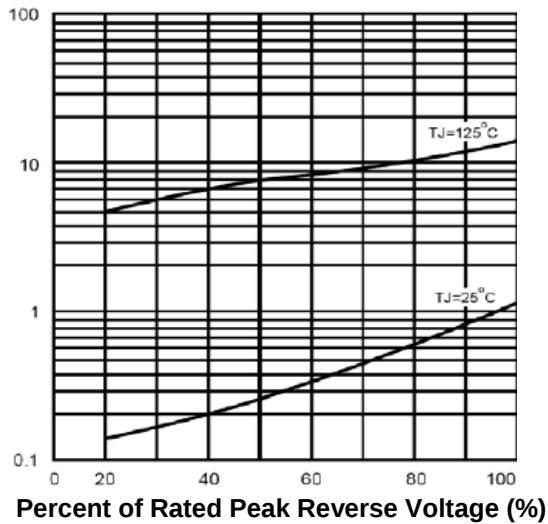
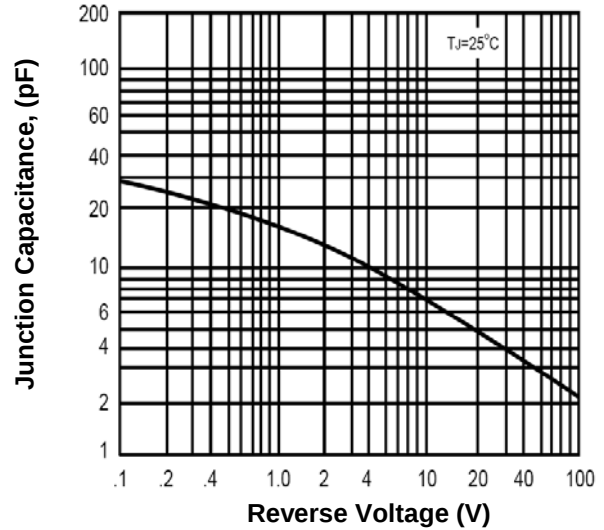
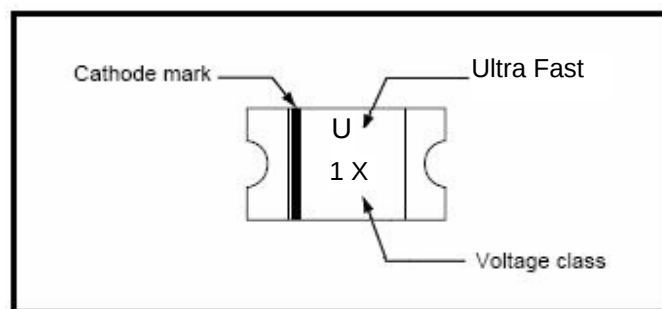


Fig.6-Typical Junction Capacitance



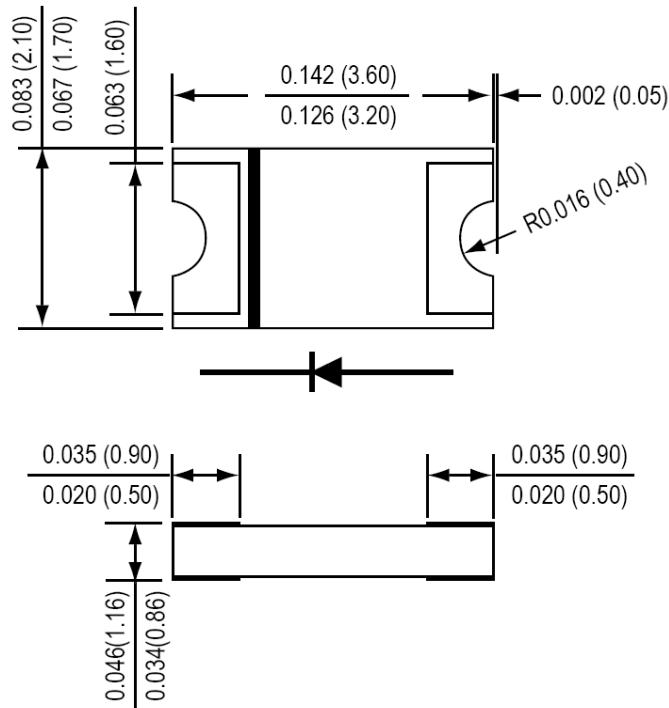
### Marking Information:



# Sintered Glass Passivated Ultra Fast Low Profile Rectifier

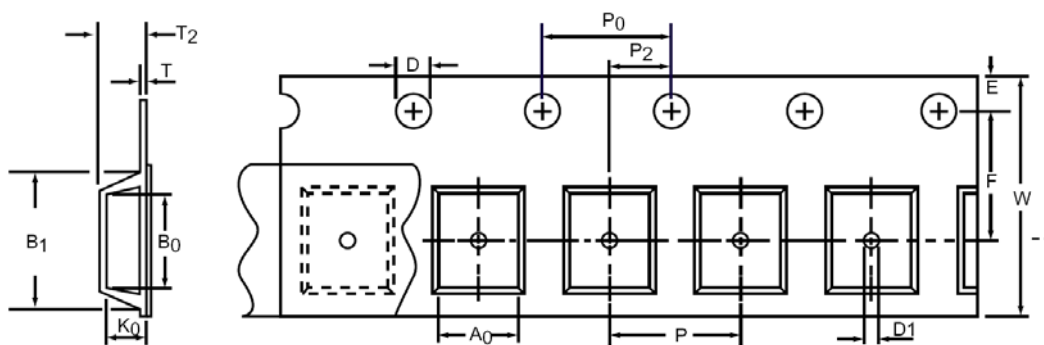
## TCDU1DW - TCDU1WW

### Dimensions in inches (mm)



C1206

### Taping Information (in mm)



| Product Type | D              | P <sub>0</sub> | P              | W              | E         |
|--------------|----------------|----------------|----------------|----------------|-----------|
| 1206         | 1.50±0.10      | 4.00±0.10      | 4.00±0.10      | 120.0±0.30     | 1.75±0.1  |
| Tape Size    | B <sub>1</sub> | T              | T <sub>2</sub> | D <sub>1</sub> | F         |
| 12           | 8.20max.       | 0.40max.       | 1.75±0.1       | 1.5min.        | 5.50±0.05 |

# Sintered Glass Passivated Ultra Fast Low Profile Rectifier

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## TCDU1DW - TCDU1WW

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