

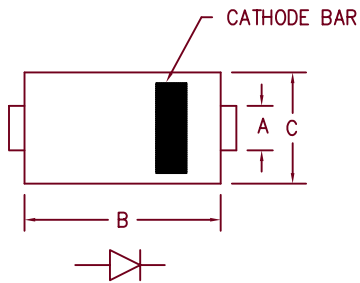


**THE DATASHEET OF  
UFS180JE3/TR13**

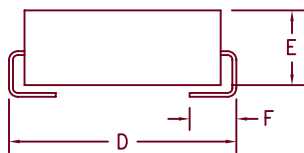


# Ultra Fast Recovery Rectifiers

## UFS160J — UFS180J



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | .073    | .087    | 1.85       | 2.21    |       |
| B    | .160    | .180    | 4.06       | 4.57    |       |
| C    | .130    | .155    | 3.30       | 3.94    |       |
| D    | .205    | .220    | 5.21       | 5.59    |       |
| E    | .075    | .130    | 1.91       | 3.30    |       |
| F    | .030    | .060    | .760       | 1.52    |       |



### DO-214BA Package

| Microsemi Catalog Number | Industry Part Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|----------------------|------------------------------|---------------------------------|
| UFS160J                  | ER1J<br>MURS160T3    | 600V                         | 600V                            |
| UFS170J                  |                      | 700V                         | 700V                            |
| UFS180J                  | ER1K                 | 800V                         | 800V                            |

- Ultra Fast Recovery
- 175°C Junction Temperature
- VRRM 600 to 800 Volts
- 1 Amp Current Rating
- <sup>†</sup>RR 60nS Max.

### Electrical Characteristics

|                              |                             |  |
|------------------------------|-----------------------------|--|
| Average forward current      | I <sub>F(AV)</sub> 1.0 Amps | T <sub>L</sub> = 140°C, Square wave, R <sub>θJL</sub> = 15°C/W |
| Maximum surge current        | I <sub>FSM</sub> 25 Amps    | 8.3ms, half sine, T <sub>J</sub> = 175°C                       |
| Max peak forward voltage     | V <sub>FM</sub> .89 Volts   | I <sub>FM</sub> = 0.1A; T <sub>J</sub> = 25°C*                 |
| Max peak forward voltage     | V <sub>FM</sub> 1.2 Volts   | I <sub>FM</sub> = 1.0A; T <sub>J</sub> = 25°C*                 |
| Max reverse recovery time    | <sup>†</sup> RR 60 nS       | 1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C                          |
| Max peak reverse current     | I <sub>RM</sub> 20 μA       | V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C                    |
| Typical junction capacitance | C <sub>J</sub> 5.5 pF       | V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C                    |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

|                               |                  |                                   |
|-------------------------------|------------------|-----------------------------------|
| Storage temperature range     | T <sub>STG</sub> | -55°C to 175°C                    |
| Operating junction temp range | T <sub>J</sub>   | -55°C to 175°C                    |
| Maximum thermal resistance    | R <sub>θJL</sub> | 15°C/W Junction to lead           |
| Weight                        |                  | .0047 ounces (.013 grams) typical |



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# UFS160J — UFS180J

Figure 1  
Typical Forward Characteristics

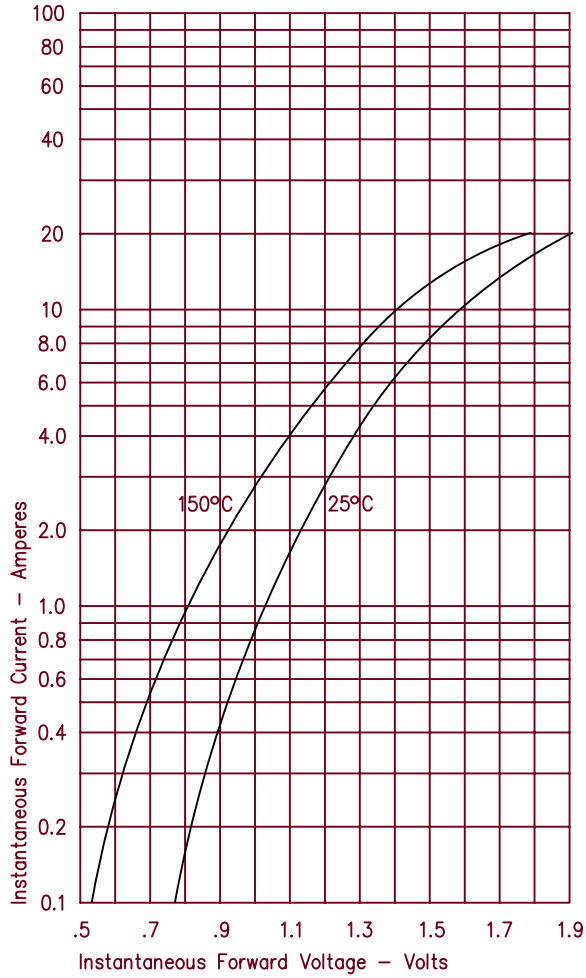


Figure 3  
Typical Junction Capacitance

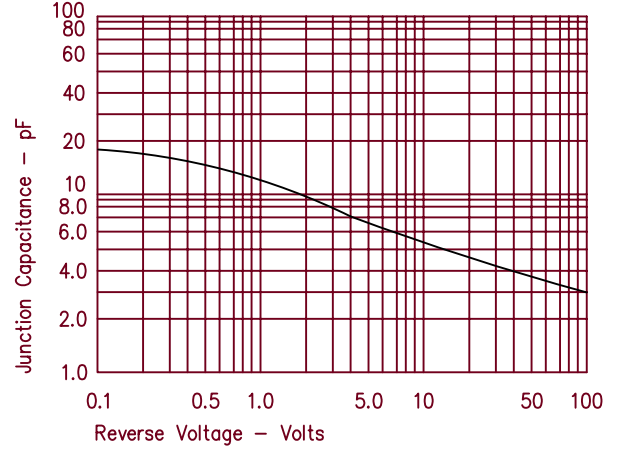
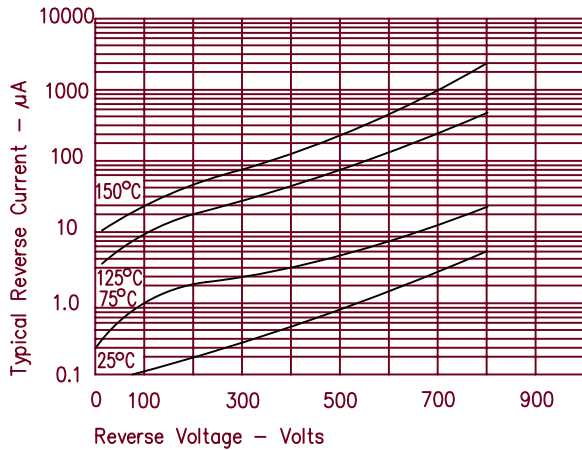


Figure 2  
Typical Reverse Characteristics



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