

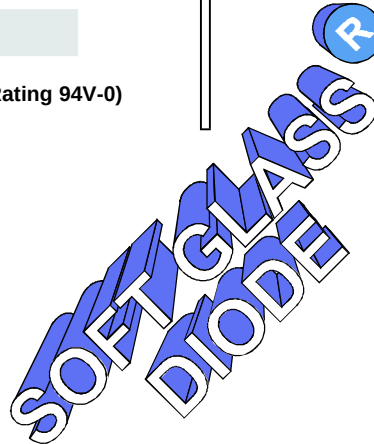
## 4 AMP ULTRAFAST RECOVERY DIODES

### FEATURES

- PROPRIETARY **SOFT GLASS®** JUNCTION PASSIVATION FOR SUPERIOR RELIABILITY AND PERFORMANCE
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical  $\leq 2\%$ , Max.  $\leq 10\%$  of Die Area)
- LOW SWITCHING NOISE
- LOW THERMAL RESISTANCE
- HIGH SWITCHING CAPABILITY
- LOW FORWARD VOLTAGE DROP

### MECHANICAL DATA

- Case: JEDEC DO-27 molded plastic (U/L Flammability Rating 94V-0)
- Terminals: Plated axial leads
- Solderability: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.04 Ounces (1.12 Grams)

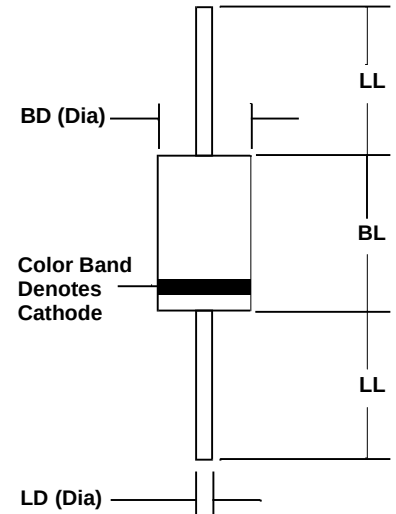


### MECHANICAL SPECIFICATION

ACTUAL SIZE OF  
DO-27 PACKAGE

SERIES UFR400 - UFR410

DO - 27



| Sym | Minimum |      | Maximum |      |
|-----|---------|------|---------|------|
|     | In      | mm   | In      | mm   |
| BL  |         |      | 0.365   | 9.28 |
| BD  |         |      | 0.205   | 5.2  |
| LL  | 1.00    | 25.4 |         |      |
| LD  | 0.048   | 1.2  | 0.052   | 1.3  |

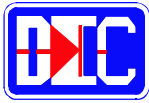
### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive loads, derate current by 20%.

| PARAMETER (TEST CONDITIONS)                                                                                                 | SYMBOL                               | RATINGS                    |         |         |         |         |                            |         |         |         |       | UNITS |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------|---------|---------|---------|---------|----------------------------|---------|---------|---------|-------|-------|
| Series Number                                                                                                               |                                      | UFR 400                    | UFR 401 | UFR 402 | UFR 403 | UFR 404 | UFR 406                    | UFR 408 | UFR 409 | UFR 410 |       |       |
| Maximum DC Blocking Voltage                                                                                                 | V <sub>RM</sub>                      | 50                         | 100     | 200     | 300     | 400     | 600                        | 800     | 900     | 1000    | VOLTS |       |
| Maximum RMS Voltage                                                                                                         | V <sub>RMS</sub>                     | 35                         | 70      | 140     | 210     | 280     | 420                        | 560     | 630     | 700     |       |       |
| Maximum Peak Recurrent Reverse Voltage                                                                                      | V <sub>RRM</sub>                     | 50                         | 100     | 200     | 300     | 400     | 600                        | 800     | 900     | 1000    |       |       |
| Average Forward Rectified Current @ T <sub>A</sub> = (as shown)                                                             | I <sub>O</sub>                       | 4<br>@T <sub>A</sub> =80°C |         |         |         |         | 4<br>@T <sub>A</sub> =55°C |         |         |         | AMPS  |       |
| Peak Forward Surge Current ( 8.3mS single half sine wave superimposed on rated load)                                        | I <sub>FSM</sub>                     | 200                        |         |         |         |         |                            |         |         |         |       |       |
| Maximum Forward Voltage at:<br>3-Amps DC<br>4-Amps DC                                                                       | V <sub>FM</sub>                      | 1.20<br>1.25               |         |         |         |         | 1.70<br>1.85               |         |         |         | VOLTS |       |
| Maximum Average DC Reverse Current<br>At Rated DC Blocking Voltage<br>@ T <sub>J</sub> = 25 °C<br>@ T <sub>J</sub> = 125 °C | I <sub>RM</sub>                      | 5<br>50                    |         |         |         |         | 10<br>50                   |         |         |         | μA    |       |
| Typical Thermal Resistance:<br>Junction to Lead<br>Junction to Air                                                          | R <sub>θJL</sub><br>R <sub>θJA</sub> | 7.5<br>18.0                |         |         |         |         |                            |         |         |         |       | °C/W  |
| Typical Junction Capacitance (Note 1)                                                                                       | C <sub>J</sub>                       | 45                         |         |         |         |         |                            |         |         |         |       | pF    |
| Maximum Reverse Recovery Time (I <sub>F</sub> =0.5A, I <sub>R</sub> =1A, I <sub>RR</sub> =0.25A)                            | T <sub>RR</sub>                      | 50                         |         |         | 60      |         |                            | 75      |         |         | nSec  |       |
| Junction Operating and Storage Temperature Range                                                                            | T <sub>J</sub> , T <sub>STG</sub>    | -65 to +175                |         |         |         |         |                            |         |         |         |       | °C    |

NOTES: (1) Measured at 1MHz and an applied reverse voltage of 4 volts.

3.01 ufr400



## 4 AMP ULTRAFAST RECOVERY DIODES

### RATING & CHARACTERISTIC CURVES FOR SERIES UFR400 - UFR410

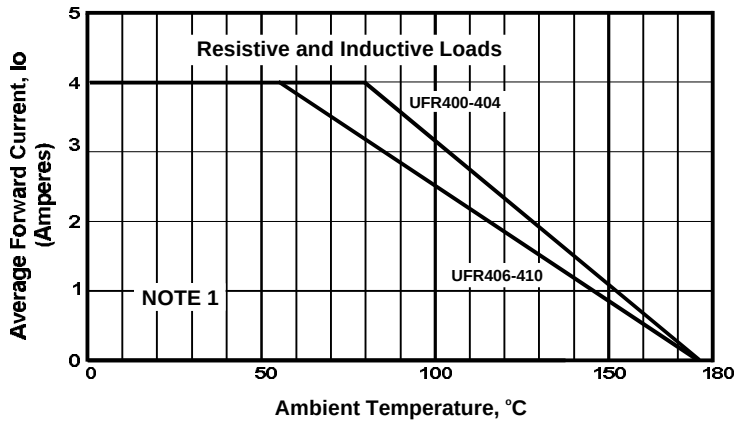


FIGURE 1. FORWARD CURRENT DERATING CURVE

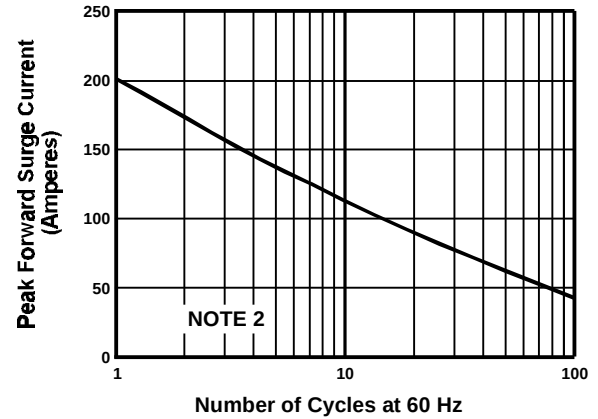


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

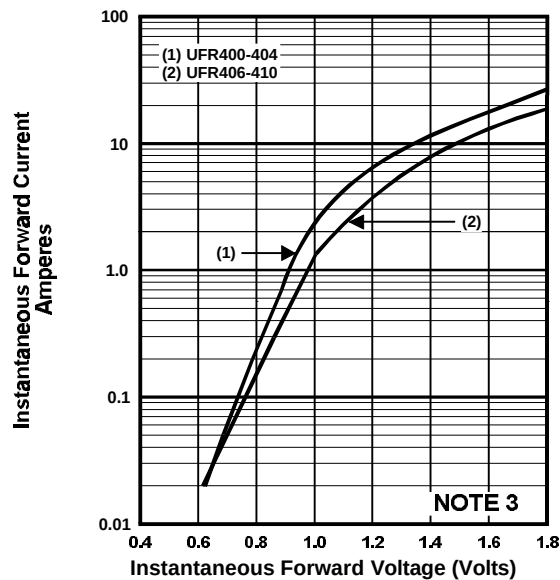


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

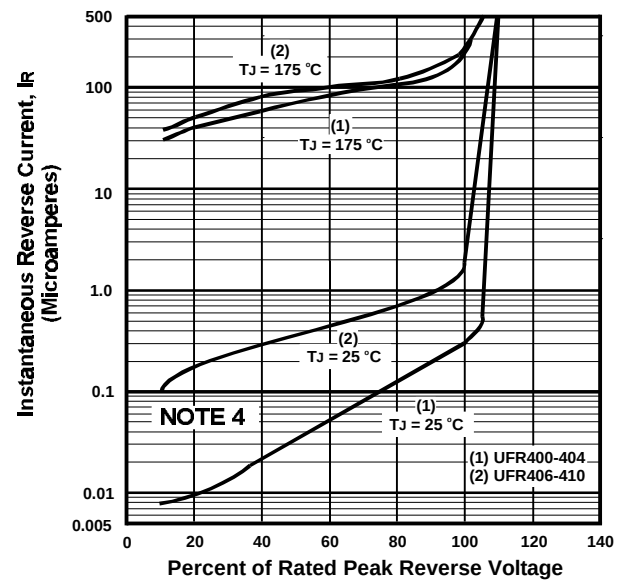


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

#### NOTES

- (1) Lead Length = 0.375" (9.5mm)
- (2) JEDEC Method, 8.3 mSec. Single Half Sine Wave
- (3)  $T_J = 25^\circ\text{C}$ , Pulse Width = 300  $\mu\text{Sec}$ , 2.0% Duty Cycle
- (4) These Curves Are Typical For The Highest Voltage Diode in The Voltage Grouping.

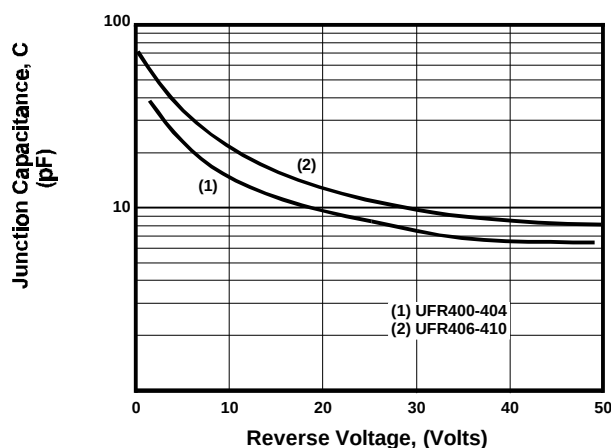


FIGURE 5. TYPICAL JUNCTION CAPACITANCE