

## 4 AMP ULTRAFAST RECOVERY DIODES

### FEATURES

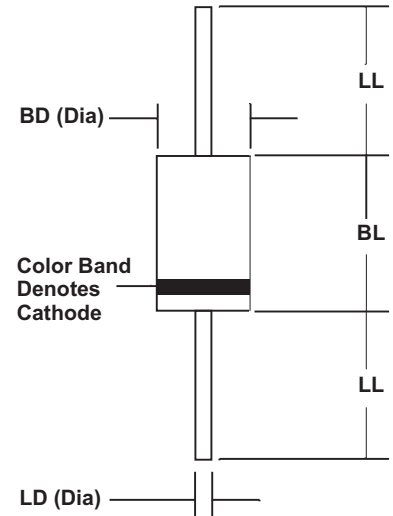
- PROPRIETARY **SOFT GLASS<sup>®</sup>** JUNCTION PASSIVATION FOR SUPERIOR RELIABILITY AND PERFORMANCE
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical  $\leq 2\%$ , Max.  $\leq 10\%$  of Die Area)
- LOW SWITCHING NOISE
- LOW THERMAL RESISTANCE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

### MECHANICAL SPECIFICATION

ACTUAL SIZE OF  
DO-27 PACKAGE

SERIES UFR400 - UFR410

DO - 27



### MECHANICAL DATA

- Case: JEDEC DO-27 molded epoxy (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)

RoHS COMPLIANT

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

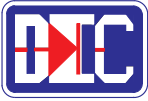
### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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
		UFR 400	UFR 401	UFR 402	UFR 403	UFR 404	UFR 406	UFR 408	UFR 409	UFR 410		
Series Number												
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>	@T <sub>A</sub> =80°C					@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: 3-Amps DC 4-Amps DC	V <sub>FM</sub>	1.20 1.25					1.70 1.85					VOLTS
Maximum Average DC Reverse Current At Rated DC Blocking Voltage @ T <sub>J</sub> = 25 °C @ T <sub>J</sub> = 125 °C	I <sub>RM</sub>	5 50					10 50					
Typical Thermal Resistance: Junction to Lead Junction to Air	R <sub>θJL</sub> R <sub>θJA</sub>	7.5 18.0										°C/W
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	45										
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										

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

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

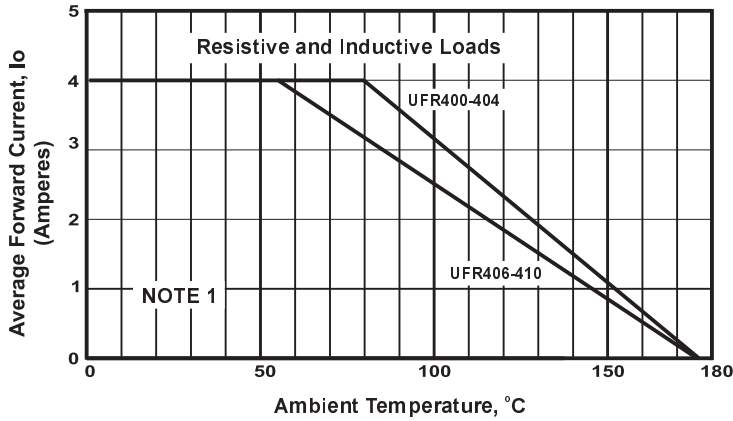


FIGURE 1. FORWARD CURRENT DERATING CURVE

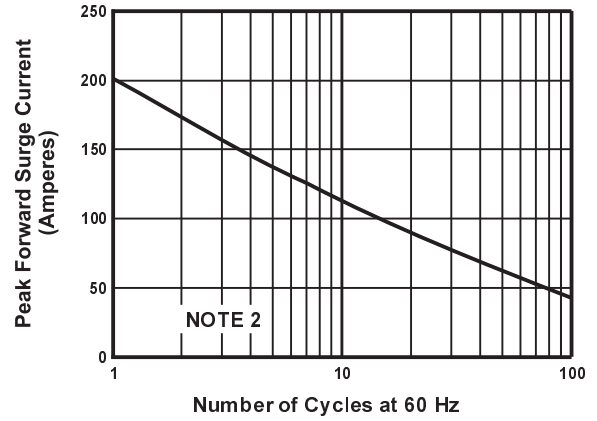


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

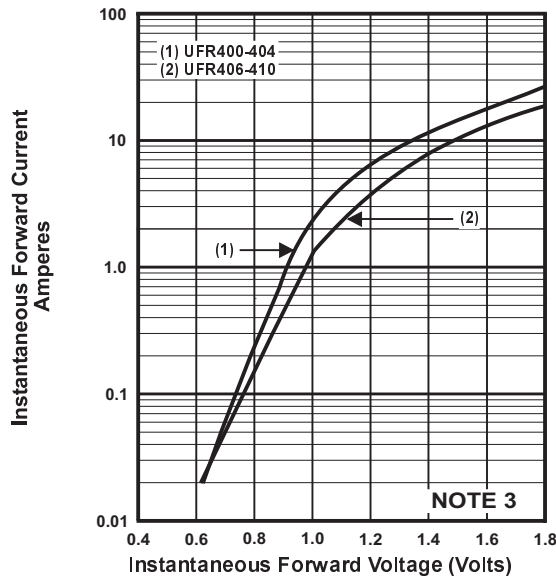


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

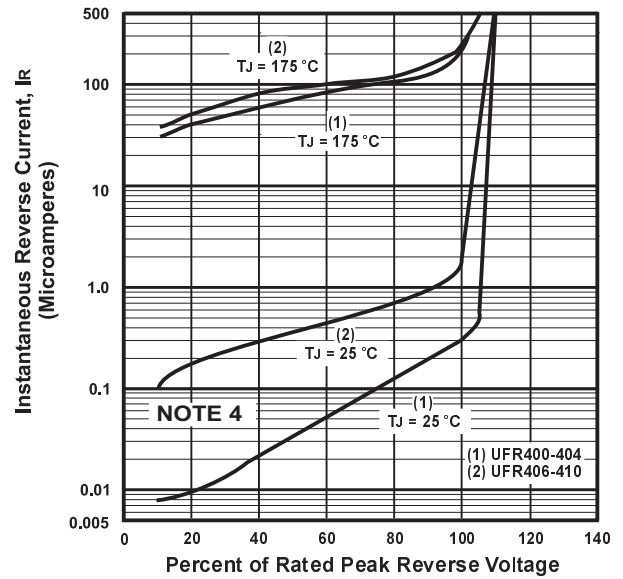


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

#### 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.

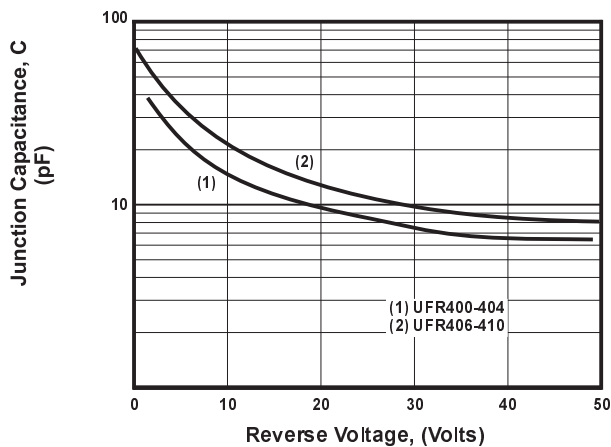


FIGURE 5. TYPICAL JUNCTION CAPACITANCE