



# TAYCHIPST ULTRAFAST RECOVERY DIODES

**UFR300 THRU UFR310**

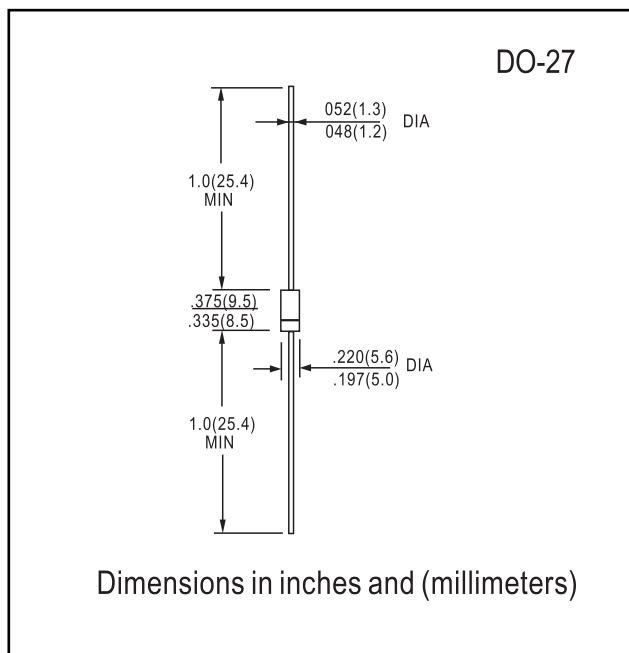
50V-1000V 3.0A

## 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 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)



## MAXIMUM RATINGS AND 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 300	UFR 301	UFR 302	UFR 303	UFR 304	UFR 305	UFR 306	UFR 308	UFR 310		
es Number												
Maximum DC Blocking Voltage	V <sub>RM</sub>	50	100	200	300	400	500	600	800	1000	VOLTS	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	210	280	350	420	560	700		
Maximum Peak Recurrent Reverse Voltage	V <sub>R<sub>RM</sub></sub>	50	100	200	300	400	500	600	800	1000		
Average Forward Rectified Current @ T <sub>A</sub> = 55 °C	I <sub>O</sub>	3										AMPS
Peak Forward Surge Current ( 8.3mS single half sine wave superimposed on rated load)	I <sub>FSM</sub>	160										
Maximum Forward Voltage at 3 Amps DC	V <sub>FM</sub>	1.25					1.7					VOLTS
Maximum Average DC Reverse Current @ T <sub>C</sub> = 25° C At Rated DC Blocking Vol age @ T <sub>C</sub> = 125° C	I <sub>RM</sub>	5					50					μA
Typical Thermal Resistance, Junction to Lead	R <sub>θJA</sub>	20										°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					75					nSec
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150										°C

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



**RATINGS AND CHARACTERISTIC CURVES**

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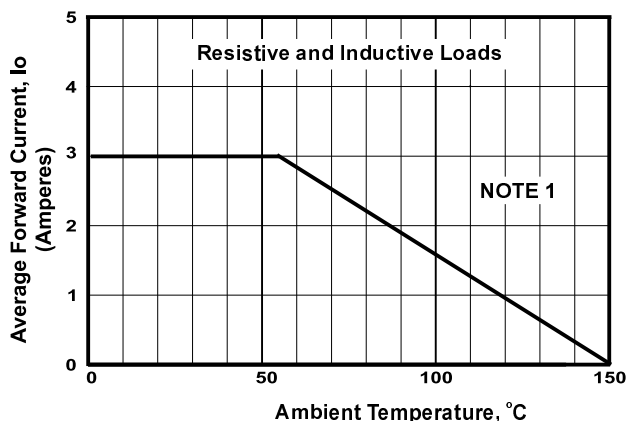


FIGURE 1. FORWARD CURRENT DERATING CURVE

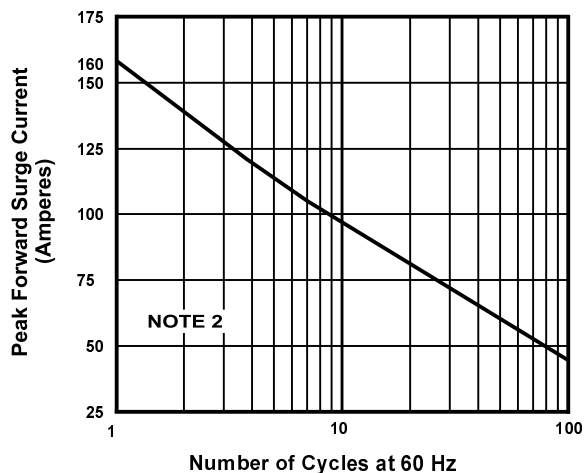


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

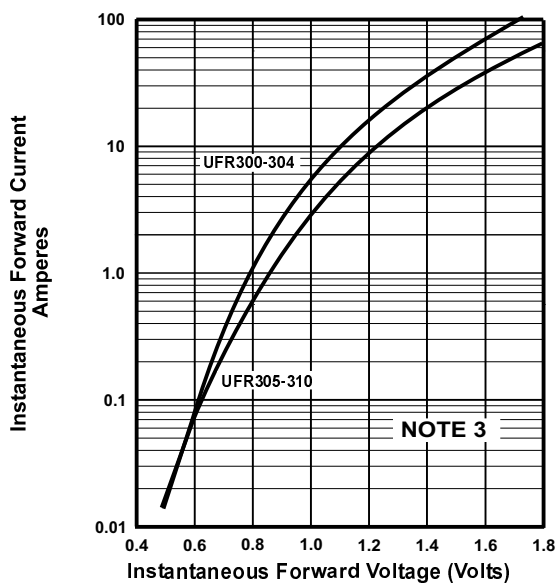


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

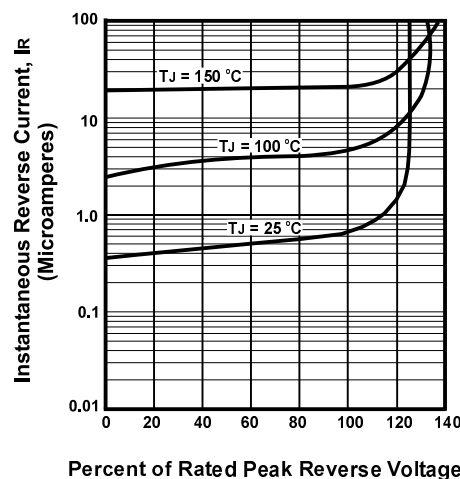


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

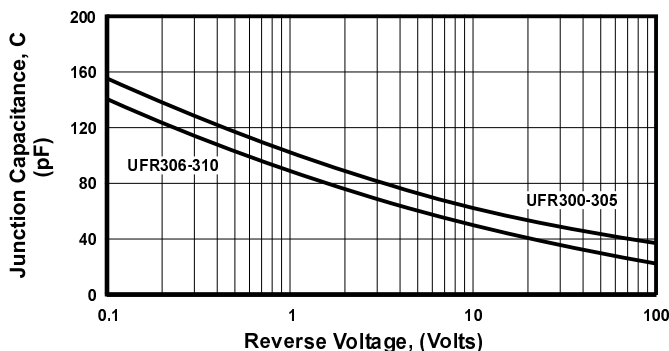


FIGURE 5. TYPICAL JUNCTION CAPACITANCE