

3 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

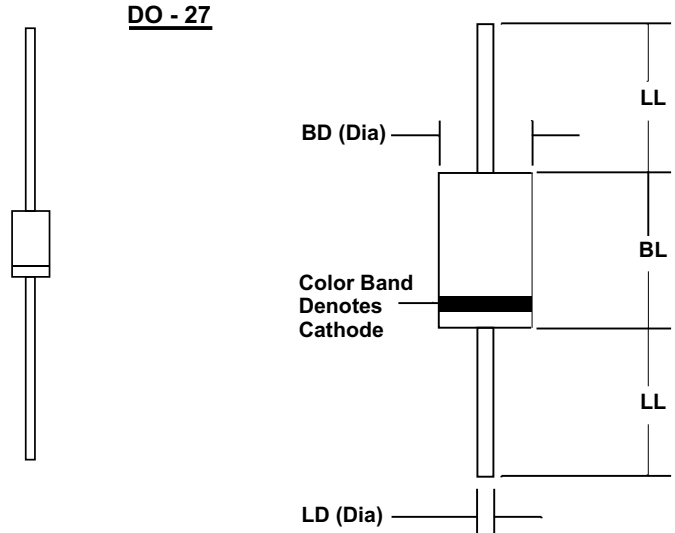
- Case: JEDEC DO-27 molded epoxy (U/L Flammability Rating 94V-0)
- Terminals: Plated axial leads
- Solderability: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Color band denotes cathode
- Mounting Position: Any
- Weight: 0.04 Ounces (1.12 Grams)

RoHS COMPLIANT

MECHANICAL SPECIFICATION

ACTUAL SIZE OF DO-27 PACKAGE

SERIES UFR300 - UFR310



| 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 |

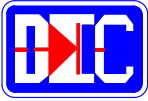
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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 |
|---|-----------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| | | UFR300 | UFR301 | UFR302 | UFR303 | UFR304 | UFR305 | UFR306 | UFR308 | UFR310 | | |
| Series Number | | | | | | | | | | | | |
| Maximum DC Blocking Voltage | V _{RM} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | | |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 210 | 280 | 350 | 420 | 560 | 700 | VOLTS | |
| Maximum Peak Recurrent Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 800 | 1000 | | |
| Average Forward Rectified Current @ T _A = 55 °C | I _O | 3 | | | | | | | | | | |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I _{FSM} | 160 | | | | | | | | | | AMPS |
| Maximum Forward Voltage at 3 Amps DC | V _{FM} | 1.25 | | | | | 1.7 | | | | | VOLTS |
| Maximum Average DC Reverse Current @ T _C = 25 °C At Rated DC Blocking Voltage @ T _C = 125 °C | I _{RM} | 5 | | | | | 50 | | | | | μA |
| Typical Thermal Resistance, Junction to Lead | R _{θJA} | 20 | | | | | | | | | | °C/W |
| Typical Junction Capacitance (Note 1) | C _J | 45 | | | | | | | | | | pF |
| Maximum Reverse Recovery Time (I _F =0.5A, I _R =1A, I _{RR} =0.25A) | T _{RR} | 50 | | | | | 75 | | | | | nSec |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | | | | | | | | | | °C |

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

3.01 UFR300



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RATING & CHARACTERISTIC CURVES FOR SERIES UFR300 - UFR310

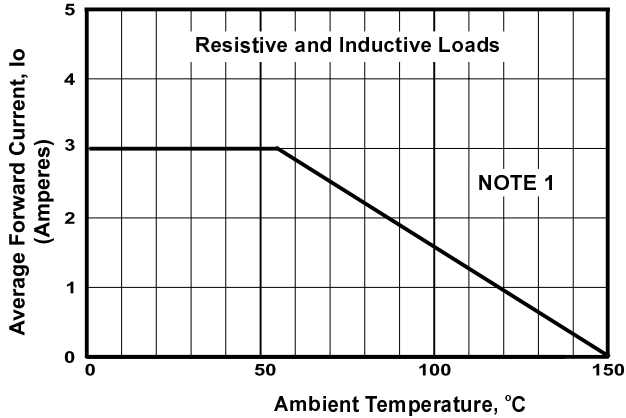


FIGURE 1. FORWARD CURRENT DERATING CURVE

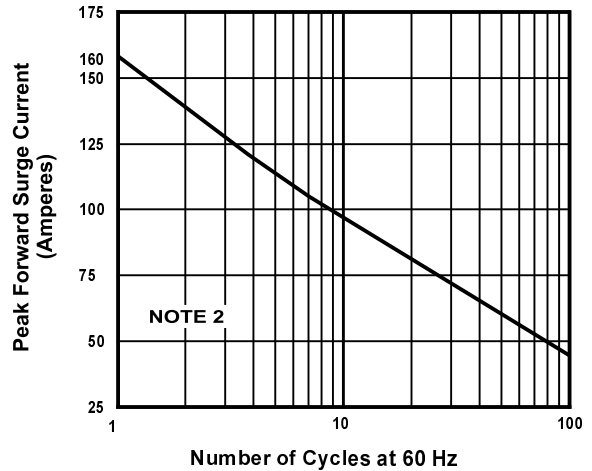


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

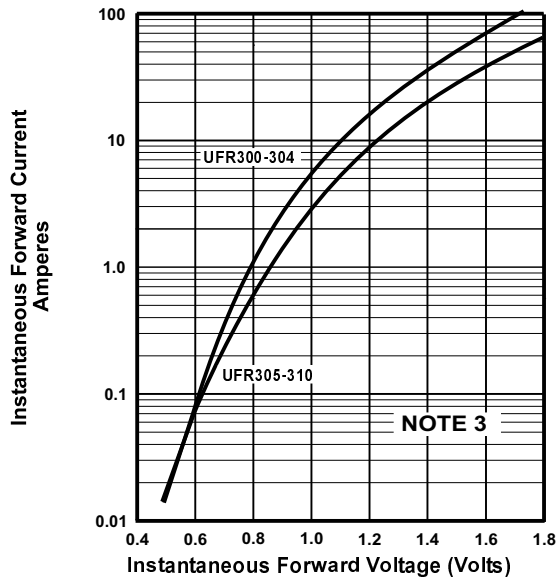


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

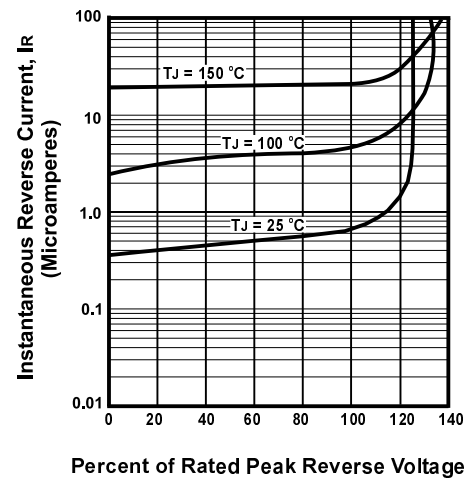


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

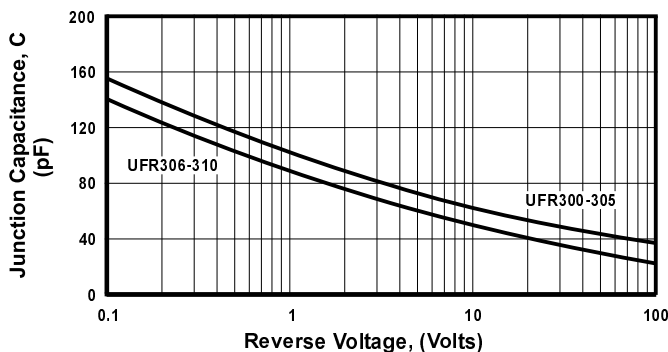


FIGURE 5. TYPICAL JUNCTION CAPACITANCE

NOTES

- (1) Single Phase, Half Wave, 60 Hz; 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 μSec , 2.0% Duty Cycle