

# UGSA10J

## Ultra fast Plastic Power Rectifiers

VOLTAGE: 600V

CURRENT:10.0A

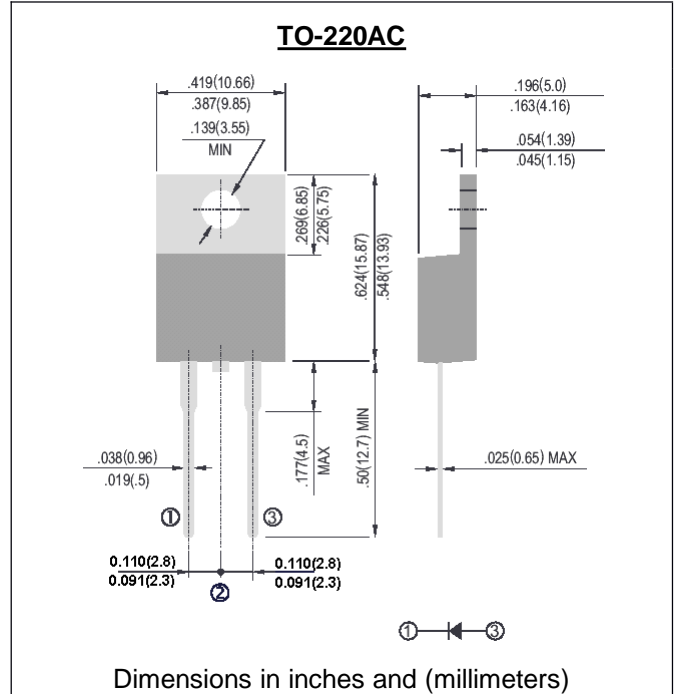


### FEATURE

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultra fast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated junction
- High voltage and high reliability
- High speed switching
- Low forward voltage

### MECHANICAL DATA

Case: JEDEC TO-220 molded plastic body over passivated chip  
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026  
Polarity: Color band denotes cathode end  
Mounting Position: Any



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

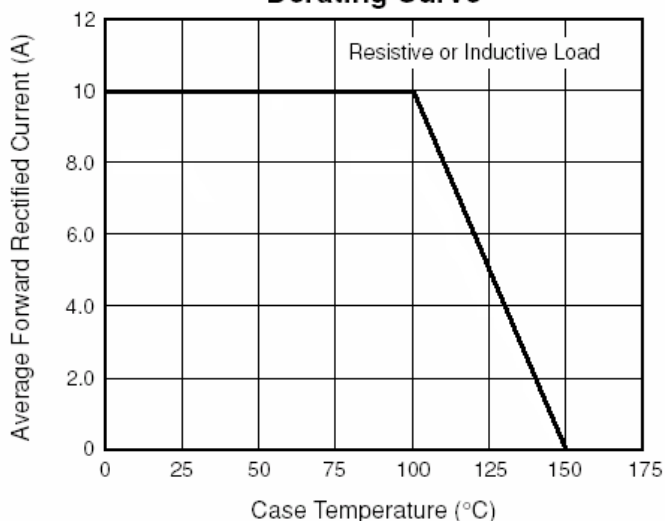
(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

|  | SYMBOL                            | UGSA10J     | units    |
|--|-----------------------------------|-------------|----------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>rrm</sub>                  | 600         | V        |
| Maximum RMS Voltage  | V <sub>rms</sub>                  | 420         | V        |
| Maximum DC blocking Voltage  | V <sub>dc</sub>                   | 600         | V        |
| Maximum Average Forward Rectified<br>at T <sub>c</sub> =100°C                        | I <sub>f(av)</sub>                | 10.0        | A        |
| Peak Forward Surge Current 8.3ms single<br>half sine-wave superimposed on rated load | I <sub>fsm</sub>                  | 100         | A        |
| Maximum Forward Voltage at rated Forward<br>Current and 25°C at 10A                  | V <sub>f</sub>                    | 1.75        | V        |
| Maximum Reverse Recovery Time (Note 1)   | T <sub>rr</sub>                   | 25          | nS       |
| Typical thermal resistance junction to case  | R <sub>th(jc)</sub>               | 5.0         | °C/W     |
| Maximum DC Reverse Current Ta =25°C<br>at rated DC blocking voltage Ta =125°C        | I <sub>r</sub>                    | 10<br>100   | μA<br>μA |
| Storage and Operating Temperature Range  | T <sub>stg</sub> , T <sub>j</sub> | -55 to +150 | °C       |

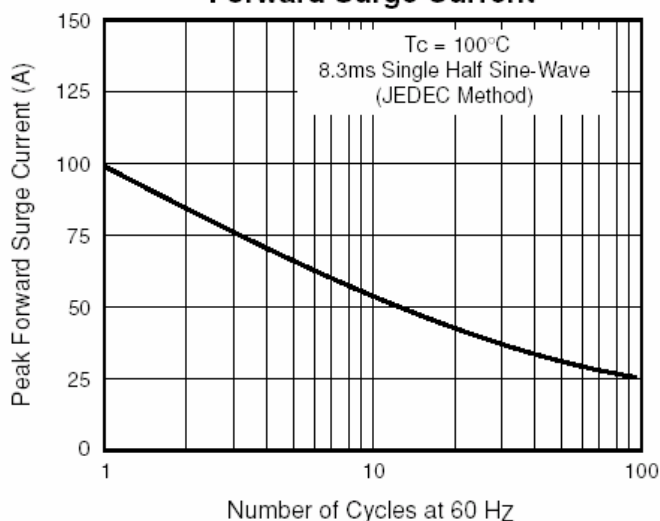
#### Note:

1. Reverse Recovery Condition I<sub>f</sub> =0.5A, I<sub>r</sub> =1.0A, I<sub>rr</sub> =0.25A

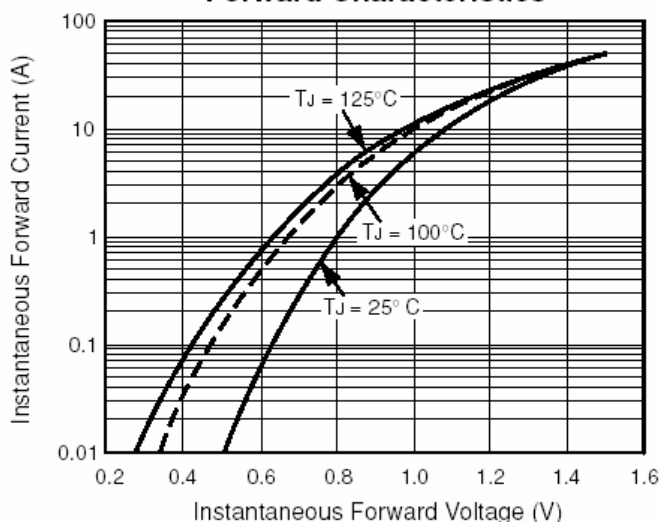
**Fig. 1 – Maximum Forward Current Derating Curve**



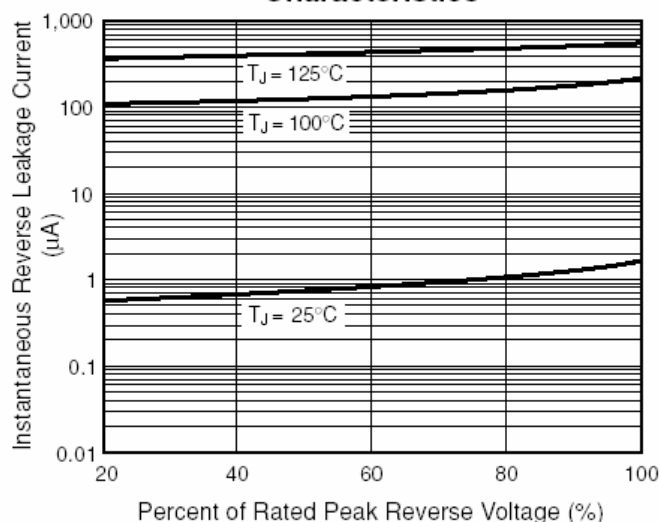
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



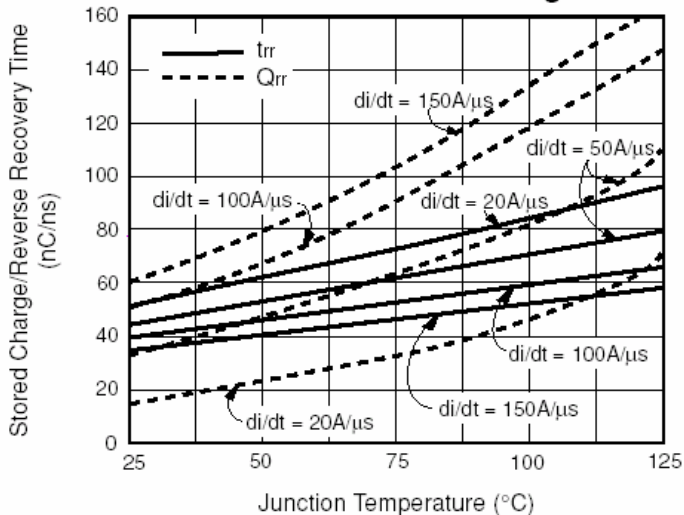
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig 5 – Reverse Switching Characteristics Per Leg**



**Fig. 6 – Typical Junction Capacitance**

