

### SUPER FAST RECTIFIERS

VOLTAGE RANGE: 50 --- 600 V  
CURRENT: 5.0 A

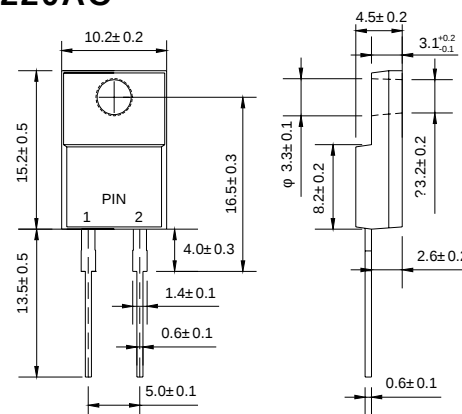
#### FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC ITO-220AC, molded plastic
- ◇ Terminals: Solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Weight: 0.056 ounces, 1.587 gram
- ◇ Mounting position: Any

#### ITO-220AC



Dimensions in millimeters

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|                                                                                                                  |                    | USF 505F         | USF 510F | USF 515F | USF 520F | USF 540F    | USF 560F | UNITS |
|------------------------------------------------------------------------------------------------------------------|--------------------|------------------|----------|----------|----------|-------------|----------|-------|
| Maximum recurrent peak reverse voltage                                                                           | V <sub>RRM</sub>   | 50               | 100      | 150      | 200      | 400         | 600      | V     |
| Maximum RMS voltage                                                                                              | V <sub>RMS</sub>   | 35               | 70       | 105      | 140      | 280         | 420      | V     |
| Maximum DC blocking voltage                                                                                      | V <sub>DC</sub>    | 50               | 100      | 150      | 200      | 400         | 600      | V     |
| Maximum average forw ard rectified current<br>@T <sub>C</sub> =100°C                                             | I <sub>F(AV)</sub> | 5.0              |          |          |          |             |          | A     |
| Peak forw ard surge current<br>8.3ms single half-sine-w ave<br>superimposed on rated load @T <sub>J</sub> =125°C | I <sub>FSM</sub>   | 60               |          |          |          |             |          | A     |
| Maximum instantaneous forw ard voltage<br>@ 5.0A                                                                 | V <sub>F</sub>     | 0.975            |          |          |          | 1.3         | 1.5      | V     |
| Maximum reverse current @T <sub>A</sub> =25°C<br>at rated DC blocking voltage @T <sub>A</sub> =150°C             | I <sub>R</sub>     | 5.0<br>250       |          |          |          | 10.0<br>500 |          | μ A   |
| Maximum reverse recovery time (Note1)                                                                            | t <sub>rr</sub>    | 25               |          |          |          | 50          |          | ns    |
| Operating junction temperature range                                                                             | T <sub>J</sub>     | - 55 ----- + 150 |          |          |          |             |          | °C    |
| Storage temperature range                                                                                        | T <sub>STG</sub>   | - 55 ----- + 150 |          |          |          |             |          | °C    |

NOTE: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $t_{rr} = 0.25\text{A}$ .

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FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

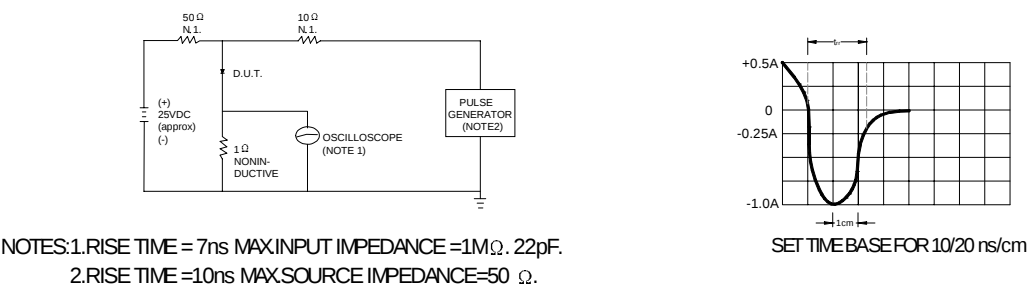


FIG.2 – TYPICAL FORWARD CHARACTERISTIC

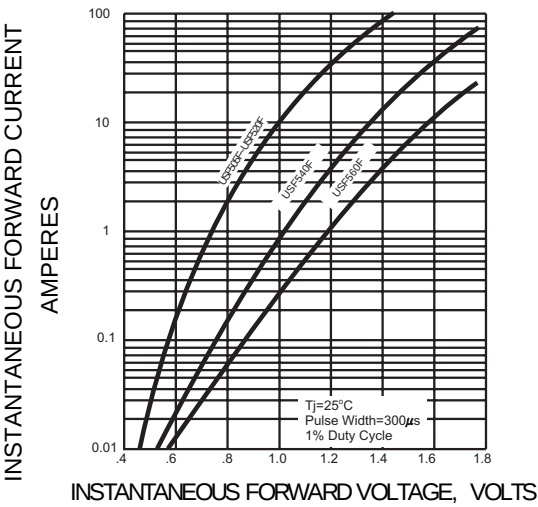


FIG.3 – PEAK FORWARD SURGE CURRENT

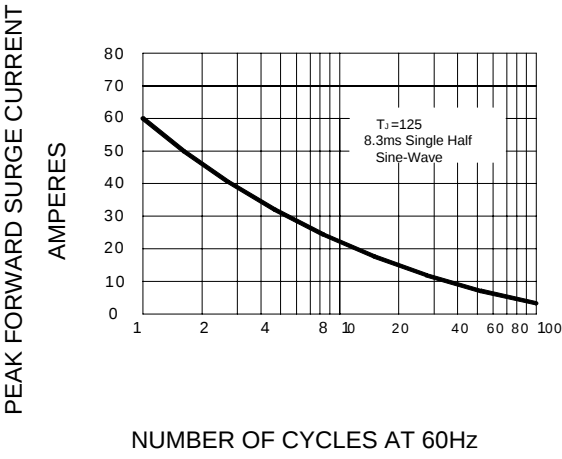


FIG.4-FORWARD DERATING CURVE

