



TAYCHIPST

SURFACE MOUNT HIGH EFFICIENCY RECTIFIERS

UF1A THRU UF1M

50V-1000V 1.0A

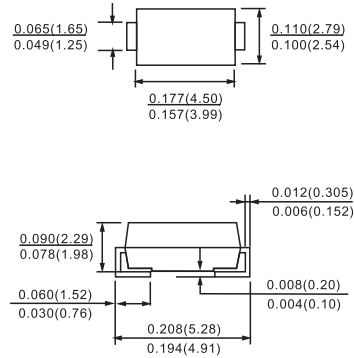
FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- High temperature soldering
260°C/10 seconds at terminals

MECHANICAL DATA

- Case: JEDEC DO-214Ac molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Standard Packaging: 12mm tape (EIA-481)

DO-214AC(SMA)



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

| Type Number | Symbol | UF1A | UF1B | UF1D | UF1G | UF1J | UF1K | UF1M | Units | |
|-----------------------------------------------------------------------------------------------------|------------------------------------|--------------|------|------|------|------|------|------|------------|--------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V | |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V | |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V | |
| Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^\circ C$ | $I_{(AV)}$ | 1.0 | | | | | | | A | |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A | |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.0 | | | 1.7 | | | V | | |
| Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=125^\circ C$ | I_R | 5.0 | | | | 150 | | | | uA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 50 | | | 75 | | | nS | | |
| Typical Junction Capacitance (Note 2) | C_j | 17 | | | | | | | pF | |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ $R_{\theta JL}$ | 60 | | | | 15 | | | | $^\circ C/W$ |
| Operating/Storage Temperature Range | T_J, T_{STG} | -55 to + 150 | | | | | | | $^\circ C$ | |

Notes: 1. Reverse Recovery Test Conditions: $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
3. Thermal Resistance from junction to ambient and from Junction to Lead length .375" (9.5mm), Mounted on 0.2" x 0.2" (5mm x 5mm) Cu pads.



Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

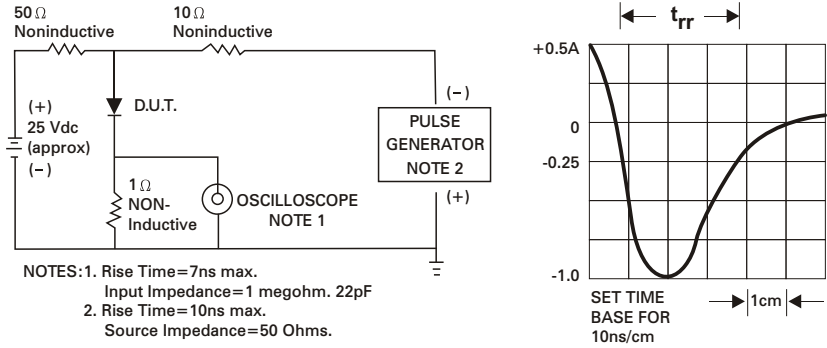


Fig. 2 - FORWARD CHARACTERISTICS

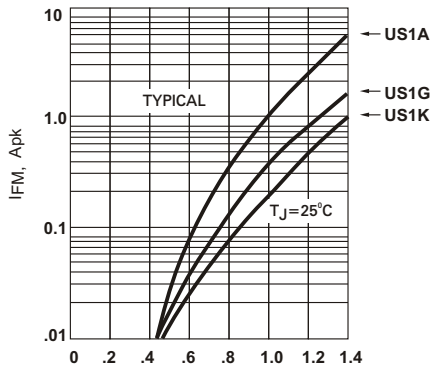


Fig. 3 - TYPICAL JUNCTION CAPACITANCE

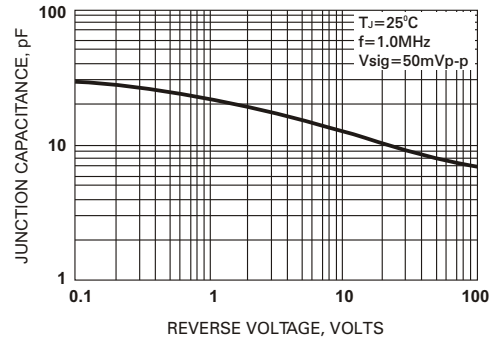


Fig. 4 - FORWARD CURRENT DERATING CURVE

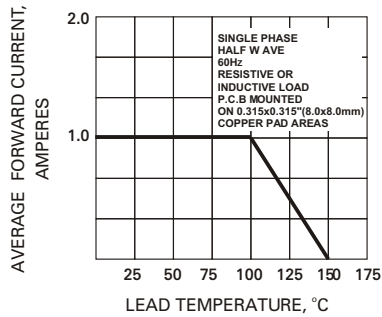


Fig. 5 - PEAK FORWARD SURGE CURRENT

