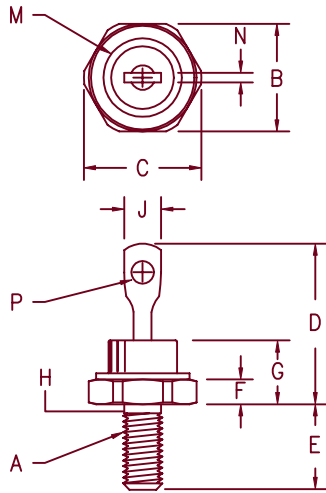


# SuperSoft™ Recovery Rectifiers

## SSUR31



- Notes:
1. 10-32 UNF3A threads
  2. Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	----	----	----	----	1
B	.424	.437	10.77	11.10	
C	----	.505	----	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	----	.405	----	10.29	
H	.163	.189	4.15	4.80	2
J	.100	.310	2.54	7.87	
M	----	.350	----	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

### D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
SSUR3140*	400V	400V
SSUR3160*	600V	600V

\*Add Suffix R For Reverse Polarity

- Soft Recovery Ultra Fast Rectifier
- 175°C Junction Temperature
- VRRM 400 to 600V
- High Reliability
- 30 Amps current rating
- $t_{RR}$  65 nsec maximum
- Low Forward Voltage
- Low Loss/Low Noise

### Electrical Characteristics

Average forward current	$I_{F(AV)}$ 30A	$T_C = 110^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.35^\circ\text{C/W}$ 8.3 ms, half sine, $T_J = 175^\circ\text{C}$ $I_{FM} = 30\text{A}$ : $T_J = 25^\circ\text{C}^*$ $I_F = 1\text{A}$ , $V_R = 30\text{V}$ , $di/dt = -50\text{A}/\mu\text{sec}$ $V_{RRM}$ , $T_J = 125^\circ\text{C}$ $V_{RRM}$ , $T_J = 25^\circ\text{C}$ $V_R = 10\text{V}$ , $f = 1\text{Mhz}$ , $T_J = 25^\circ\text{C}$
Maximum surge current	$I_{FSM}$ 350A	
Max peak forward voltage	$V_{FM}$ 1.60V	
Max reverse recovery time	$t_{RR}$ 65 ns	
Max peak reverse current	$I_{RM}$ 1.0 mA	
Max peak reverse current	$I_{RM}$ 15 $\mu\text{A}$	
Typical Junction Capacitance	$C_J$ 115 pF	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	1.35°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.15°C/W Junction to Case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.4°C/W Case to sink
Mounting torque		12-15 inch pounds
Weight		0.2 ounces (6.0 grams) typical

# SSUR31

Figure 1  
Typical Forward Characteristics

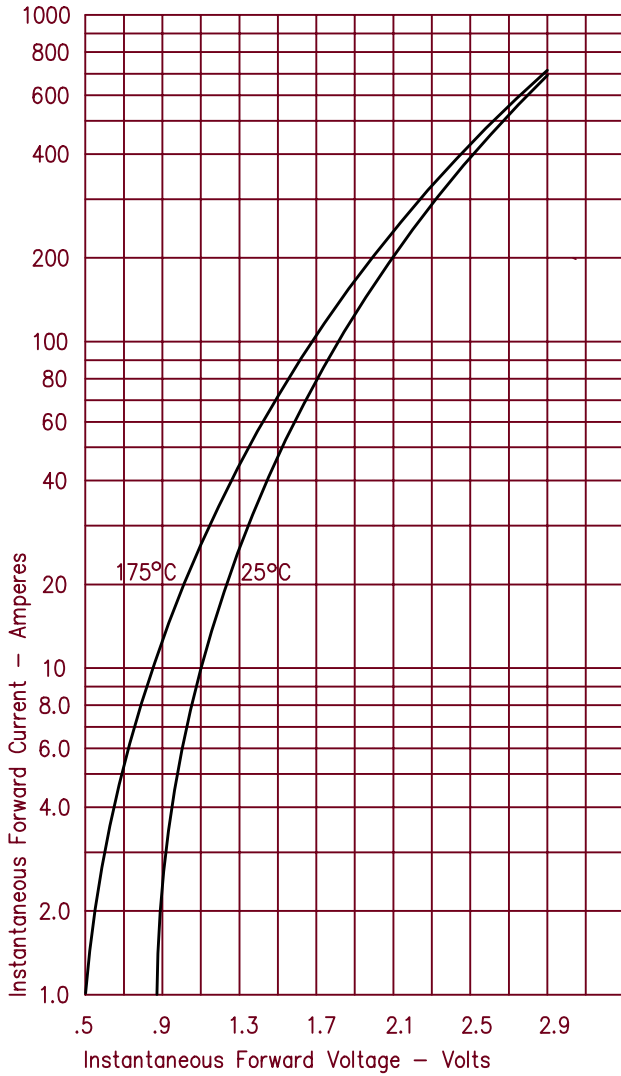


Figure 3  
Typical Junction Capacitance

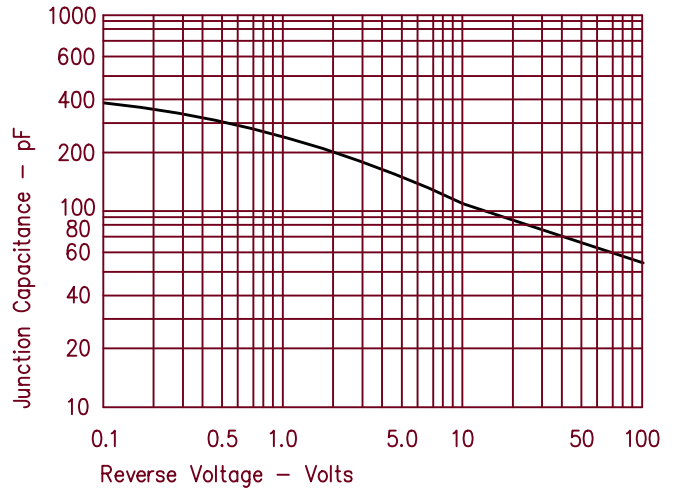


Figure 4  
Forward Current Derating

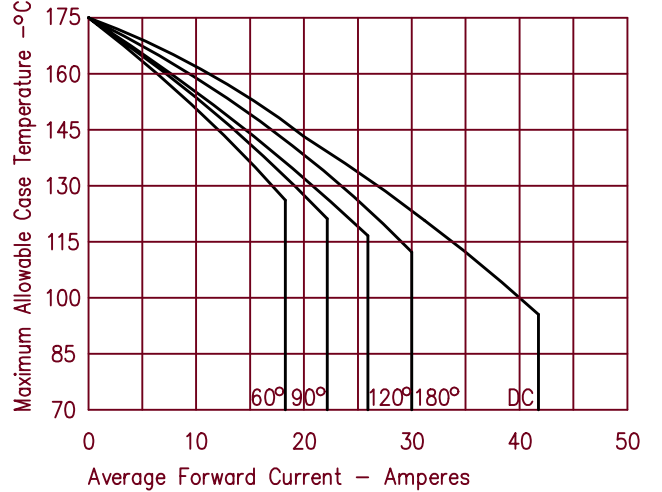


Figure 2  
Typical Reverse Characteristics

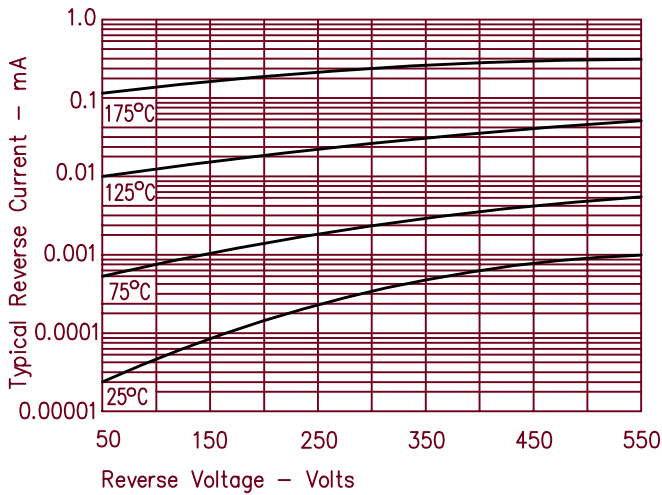


Figure 5  
Maximum Forward Power Dissipation

