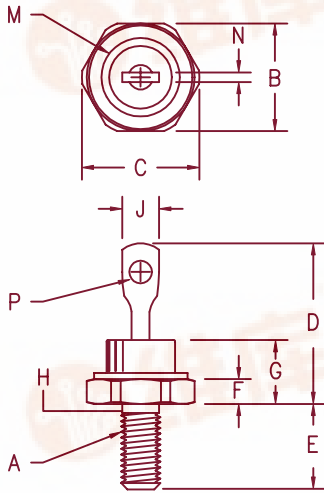


SuperSoft™ Recovery Rectifiers SSUR31



- 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
- V_{RRM} 400 to 600V
- High Reliability
- 30 Amps current rating
- t_{RR} 65 nsec maximum
- Low Forward Voltage
- Low Loss/Low Noise

Electrical Characteristics

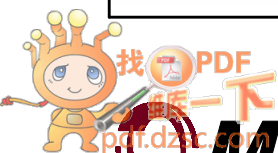
Average forward current	$I_F(AV)$ 30A
Maximum surge current	I_{FSM} 350A
Max peak forward voltage	V_{FM} 1.60V
Max reverse recovery time	t_{RR} 65 ns
Max peak reverse current	I_{RM} 1.0 mA
Max peak reverse current	I_{RM} 15 μ A
Typical Junction Capacitance	C_J 115 pF

$T_C = 110^\circ\text{C}$, 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} , $T_J = 25^\circ\text{C}$
 $V_R = 10\text{V}$, $f = 1\text{Mhz}$, $T_J = 25^\circ\text{C}$

*Pulse test: Pulse width 300 μsec , Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	TSTG	-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

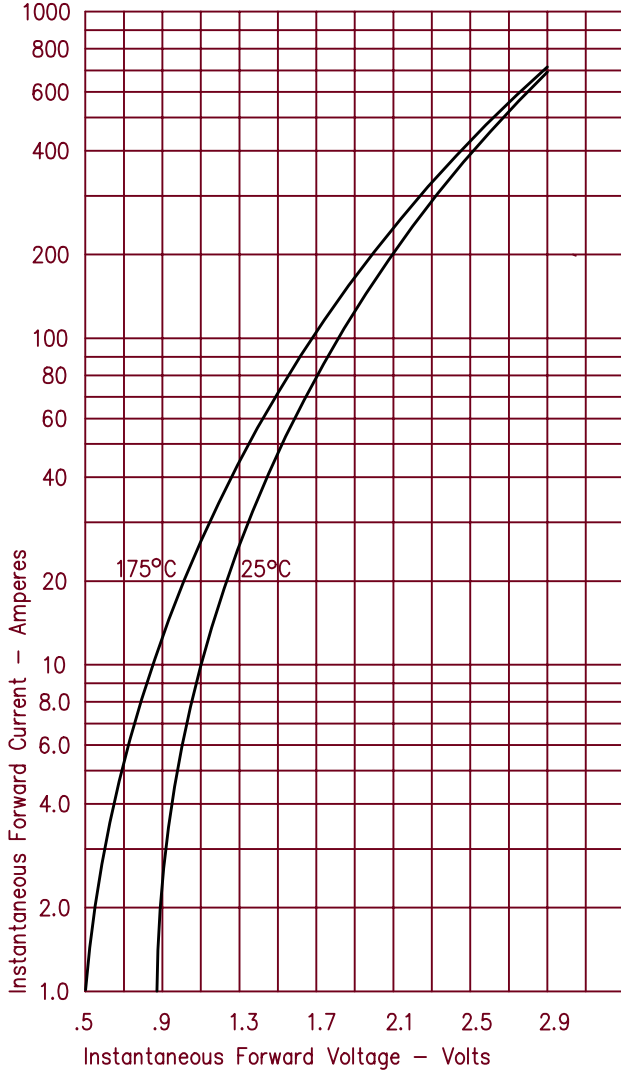


Figure 3
Typical Junction Capacitance

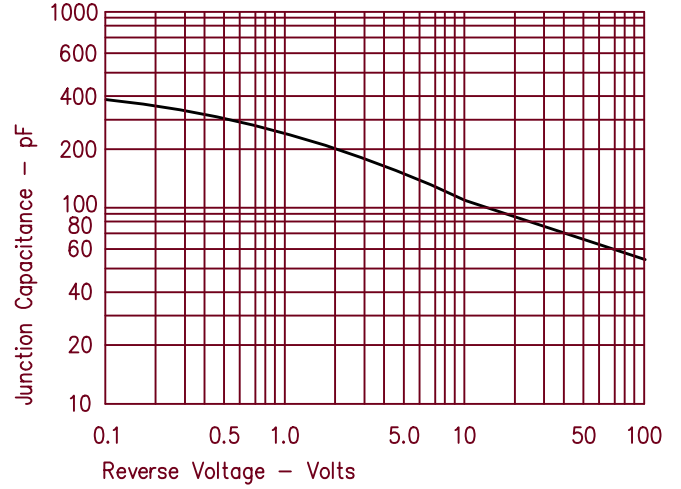


Figure 4
Forward Current Derating

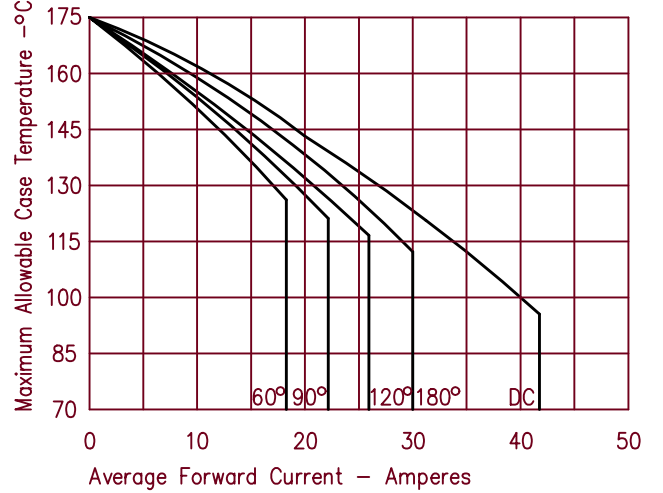


Figure 2
Typical Reverse Characteristics

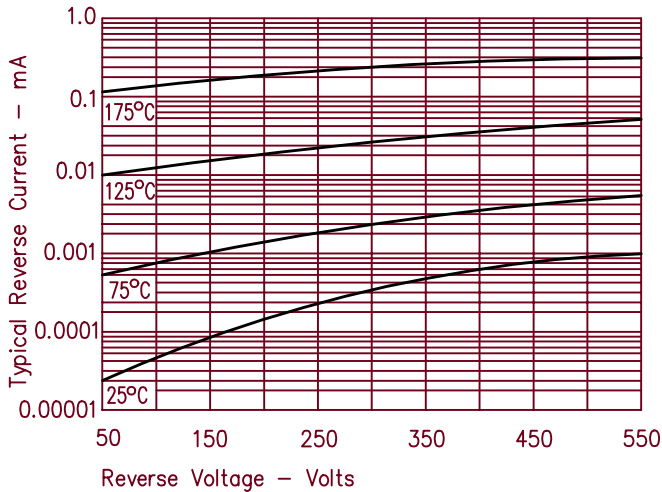


Figure 5
Maximum Forward Power Dissipation

