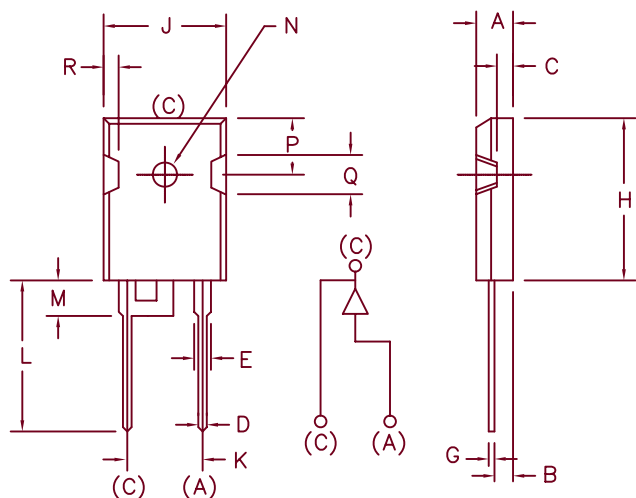


# 30 Amp Schottky Rectifiers

## USD3030S — USD3045S



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.185	.209	4.70	5.31	
B	.087	.102	2.21	2.59	
C	.059	.098	1.50	2.49	
D	.040	.055	1.02	1.40	
E	.079	.094	2.01	2.39	
F	---	---	---	---	
G	.016	.031	.410	0.78	
H	.819	.883	20.80	22.4	
J	.627	.650	15.93	16.5	
K	.430	---	10.92	---	
L	.790	.810	20.07	20.6	
M	.157	.180	3.99	4.57	
N	.139	.144	3.53	3.66	Dia.
P	.255	.300	6.48	7.62	
Q	.170	.210	4.32	5.33	
R	.080	.110	2.03	2.79	

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
USD3030S		30V	30V
USD3040S		40V	40V
USD3045S		45V	45V

- Schottky Barrier Rectifier
- $V_{RRM}$  30 to 45 volts
- Low forward voltage
- 150°C junction temperature
- Guard ring for reverse protection

Electrical Characteristics		
Average forward current	$I_F(AV)$ 30 Amps	$T_C = 122^\circ C$ , square wave
Maximum surge current	$I_{FSM}$ 400 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Max. peak forward voltage	$V_{FM}$ .65 Volts	$I_{FM} = 30A, T_J = 25^\circ C^*$
Typical peak forward voltage	$V_{FM}$ .47 Volts	$I_{FM} = 30A, T_J = 125^\circ C^*$
Typical peak reverse current	$I_{RM}$ 150 mA	$V_{RRM}, T_J = 125^\circ C^*$
Max. peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}, T_J = 25^\circ C$
Typical junction capacitance	$C_J$ 1200 pF	$VR = 5.0V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu$ sec. Duty Cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	TSTG	-55°C to +175°C
Operating junction temp range	$T_J$	-55°C to +150°C
Max thermal resistance per leg	$R_{\theta JC}$	0.9°C/W Junction to case
Max thermal resistance per pkg		8-10 inch pounds (6-32 screw)
Weight		.22 ounces (6.36 grams) typical



8700 East Thomas Road, P.O. Box 1390  
 Scottsdale, AZ 85252  
 PH: (480) 941-6300  
 FAX: (480) 947-1503  
[www.microsemi.com](http://www.microsemi.com)

05-31-07 Rev. 1

# USD3030S — USD3045S

Figure 1  
Typical Forward Characteristics

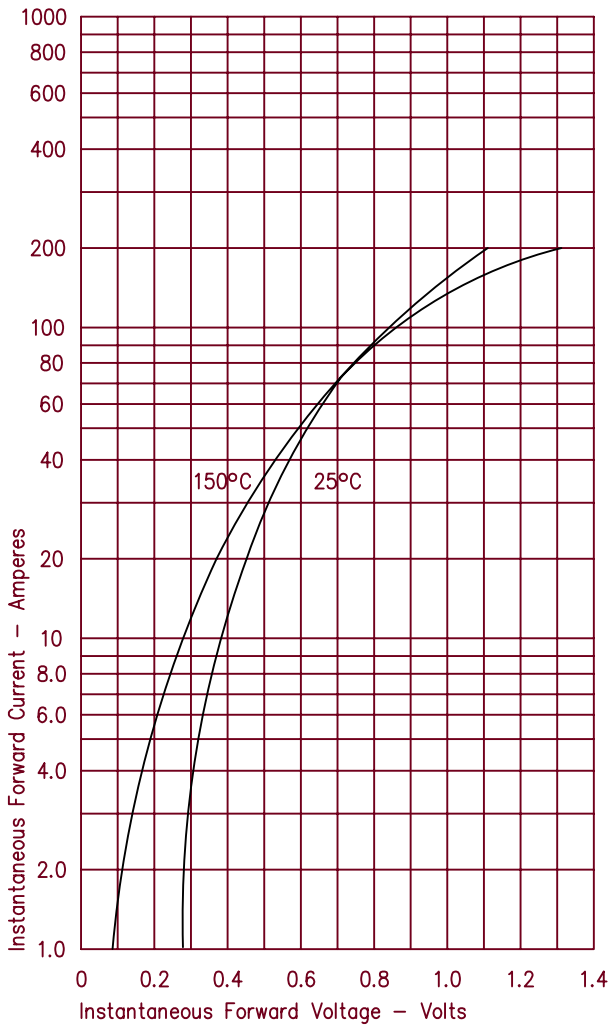


Figure 3  
Typical Junction Capacitance

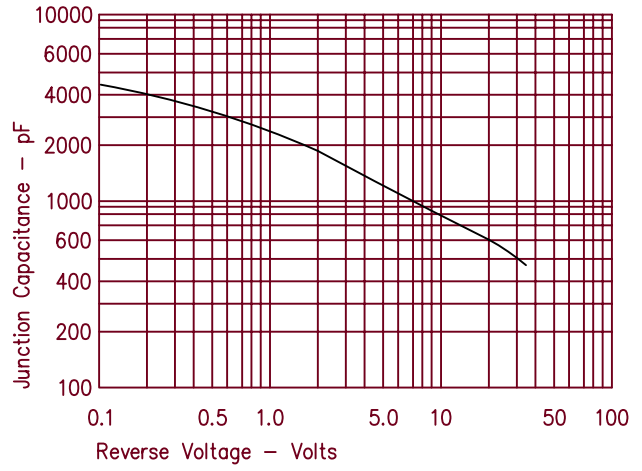


Figure 4  
Forward Current Derating

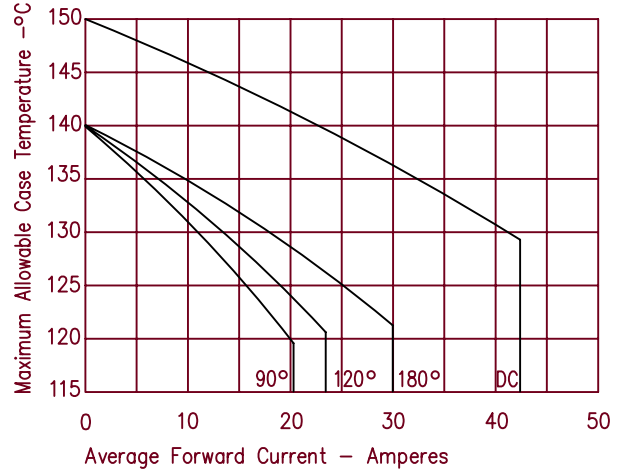


Figure 2  
Typical Reverse Characteristics

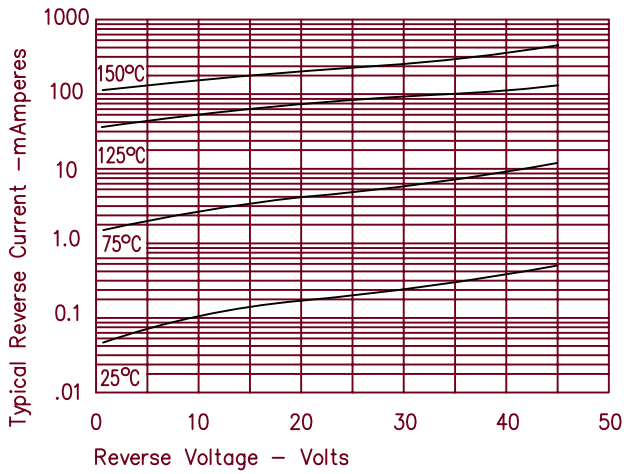


Figure 5  
Maximum Forward Power Dissipation

