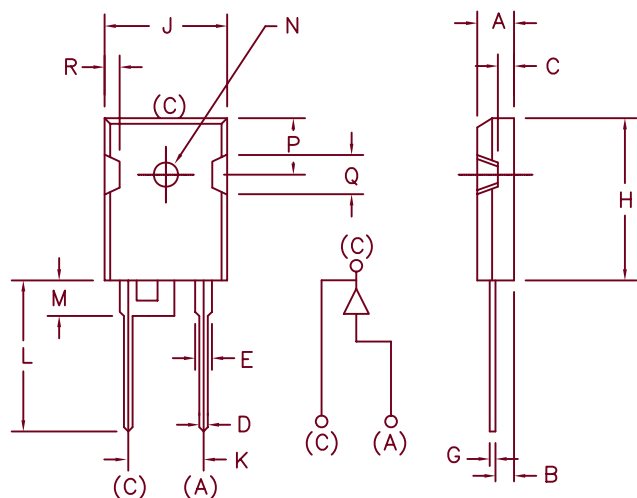


# 40 Amp Schottky Rectifiers

## USD4030S — USD4045S



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
USD4030S		30V	30V
USD4040S		40V	40V
USD4045S		45V	45V

- Schottky Barrier Rectifier
- $V_{RRM}$  35 to 45 volts
- Low forward voltage
- 150°C junction temperature
- Guard ring for reverse protection

### Electrical Characteristics

Average forward current	$I_F(AV)$ 40 Amps	$T_C = 115^\circ\text{C}$ , square wave
Maximum surge current	$I_{FSM}$ 400 Amps	8.3ms, half sine, $T_J = 150^\circ\text{C}$
Max. peak forward voltage	$V_{FM}$ .70 Volts	$I_{FM} = 40A$ , $T_J = 25^\circ\text{C}^*$
Typical peak forward voltage	$V_{FM}$ .58 Volts	$I_{FM} = 40A$ , $T_J = 125^\circ\text{C}^*$
Typical peak reverse current	$I_{RM}$ 150 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 1200 pF	$VR = 5.0V$ , $T_J = 25^\circ\text{C}$

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

### Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-55^\circ\text{C}$ to $+175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $+150^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	0.85°C/W Junction to case
Max thermal resistance per pkg		8–10 inch pounds (6–32 screw)
Weight		.22 ounces (6.36 grams) typical



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05-31-07 Rev. 1

# USD4035S — USD4045S

Figure 1  
Typical Forward Characteristics

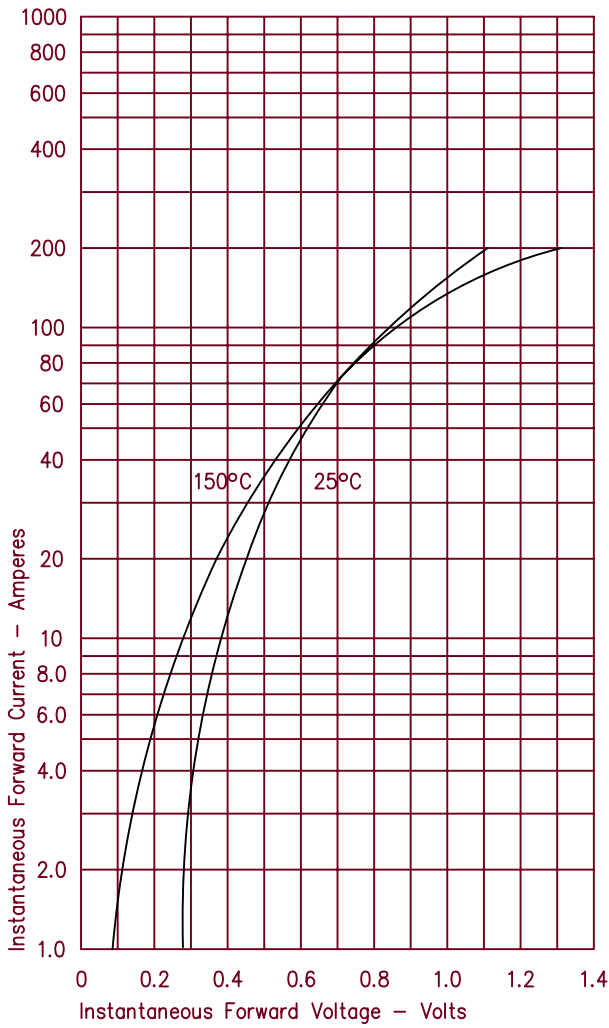


Figure 3  
Typical Junction Capacitance

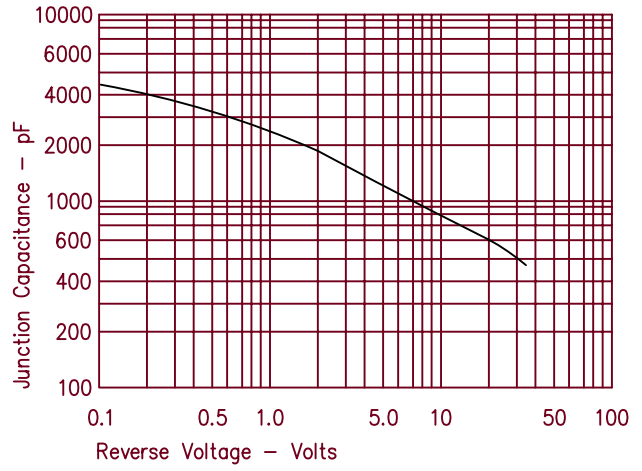


Figure 4  
Forward Current Derating

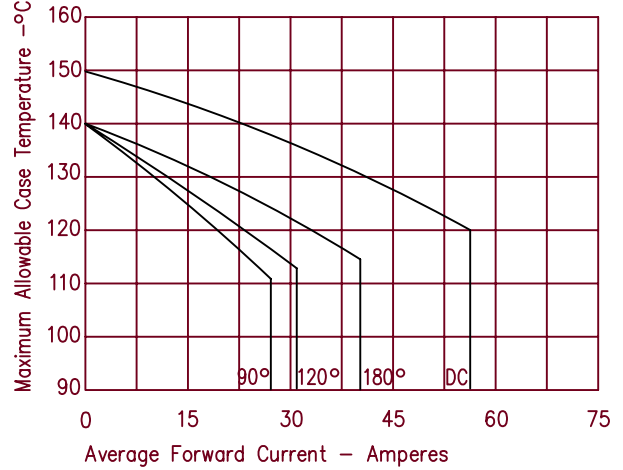


Figure 2  
Typical Reverse Characteristics

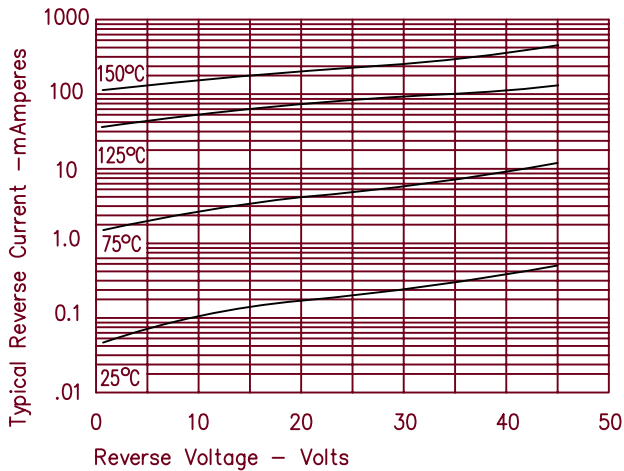


Figure 5  
Maximum Forward Power Dissipation

