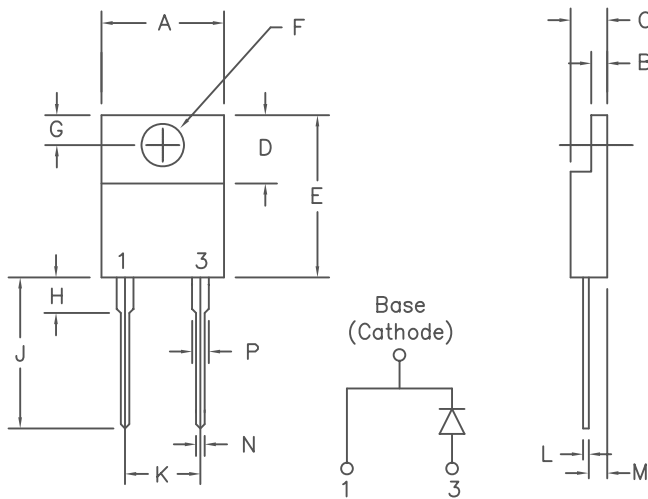


# 12 Amp Schottky Rectifiers USD835 — USD845



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.155	3.53	3.94	Dia.
G	.100	.120	2.54	3.05	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.025	0.35	0.63	
M	.080	.115	2.03	2.92	
N	.028	.038	0.71	0.96	
P	.045	.055	1.14	1.40	

Similar to TO-220AC

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
USD835		35V	35V
USD840		40V	40V
USD845		45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Power Loss
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average Forward Current	$I_{F(AV)}$ 12 Amps	$T_C = 153^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum Surge Current	$I_{FSM}$ 300 Amps	8.3ms, half sine, $T_J = 150^\circ\text{C}$
Max. repetitive reverse current	$I_{FSM}$ 2 Amps	$f = 1\text{KHZ}$ , $25^\circ\text{C}$ , 1uS Square wave
Max. Peak Forward Voltage	$V_{FM}$ .62 Volts	$I_{FM} = 12\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Forward Voltage	$V_{FM}$ .50 Volts	$I_{FM} = 12\text{A}$ , $T_J = 150^\circ\text{C}^*$
Max. Peak Reverse Current	$I_{RM}$ 250 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Max. Peak Reverse Current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Typical Junction Capacitance	$C_J$ 850 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*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 $175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$2.0^\circ\text{C/W}$
Mounting torque		8-12 inch pounds (6-32 screw)
Weight		.08 ounces (2.3 grams) typical



SCOTTSDALE

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

05-31-07 Rev. 2

# USD835 — USD845

Figure 1  
Typical Forward Characteristics

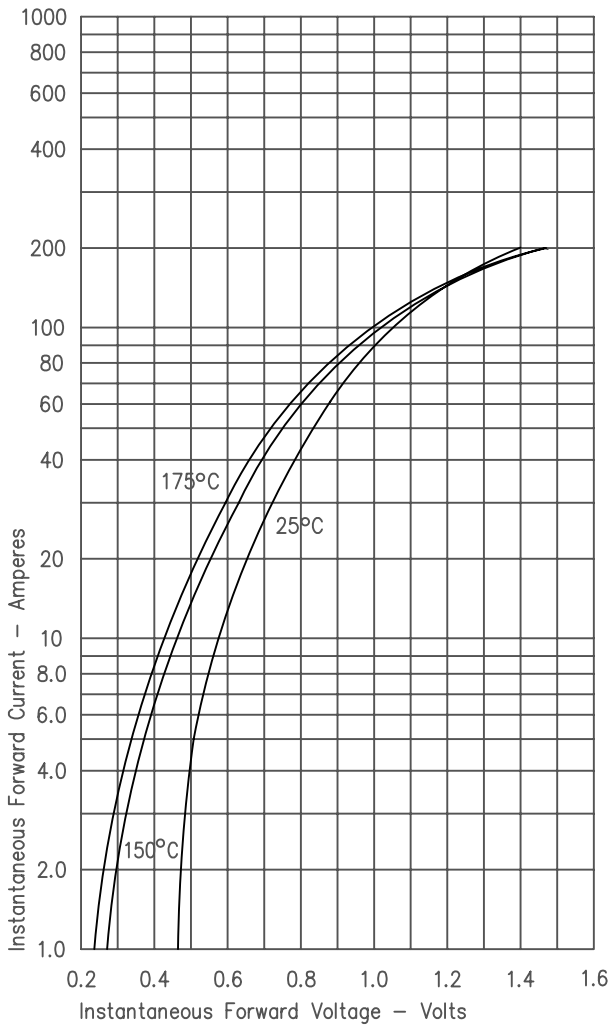


Figure 3  
Typical Junction Capacitance

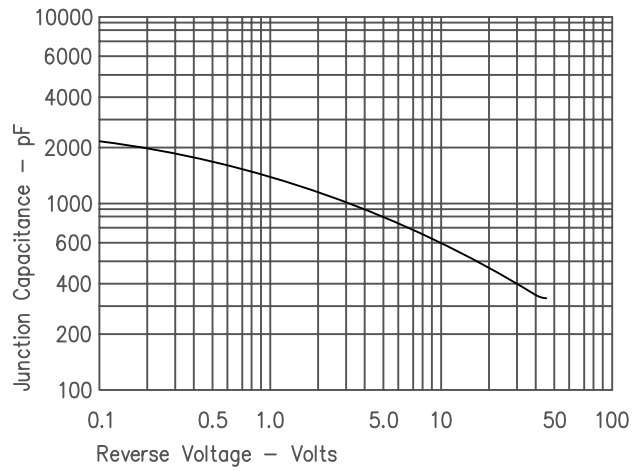


Figure 4  
Forward Current Derating

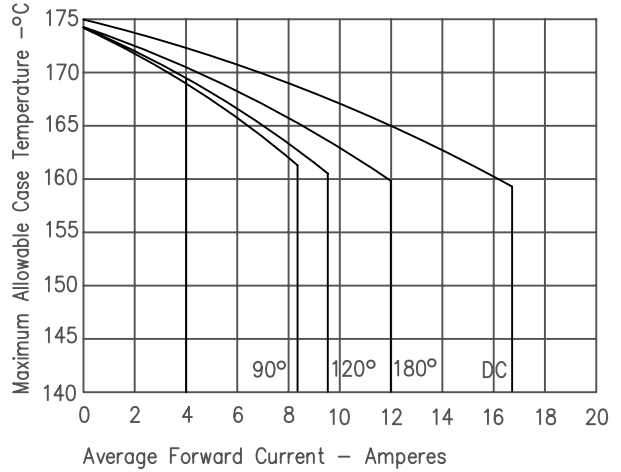


Figure 2  
Typical Reverse Characteristics

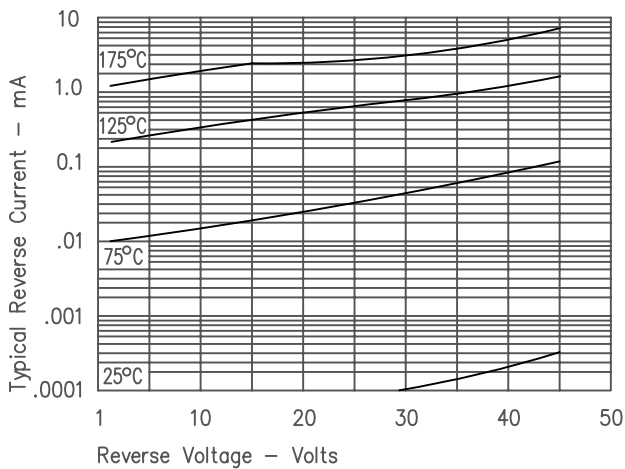


Figure 5  
Maximum Forward Power Dissipation

