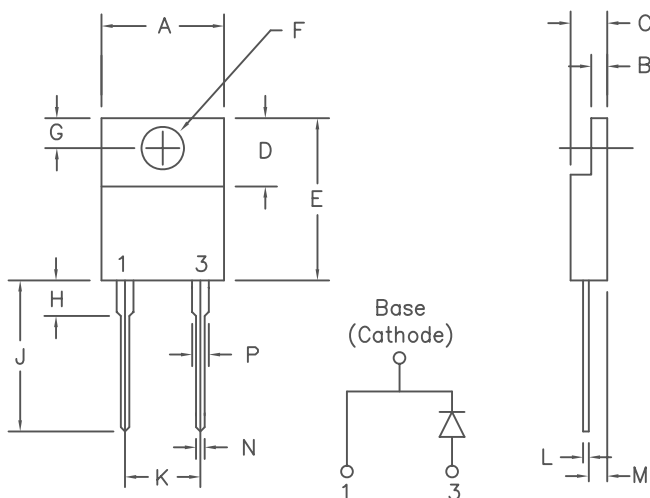


# 6 Amp Schottky Rectifiers USD635 — USD645



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	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
USD635		35V	35V
USD640		40V	40V
USD645		45V	45V

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

Average forward current	$I_F(AV)$ 6 Amps	$T_C = 123^\circ C$ Square wave, $R_{\theta JC} = 2.5^\circ C/W$
Maximum surge current	$I_F(AV)$ 225 Amps	8.3 ms, half sine, $T_J = 150^\circ C$
Max repetitive reverse current	$I_R(OV)$ 2 Amps	$f = 1KHZ, 25^\circ C, 1\mu S$ Square wave
Max peak forward voltage	$V_{FM}$ .48 Volts	$I_{FM} = 6A: T_J = 25^\circ C^*$
Typical peak forward voltage	$V_{FM}$ .30 Volts	$I_{FM} = 6A: T_J = 150^\circ C^*$
Max. peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}, T_J = 25^\circ C$
Typical peak reverse current	$I_{RM}$ 50 mA	$V_{RRM}, T_J = 100^\circ C^*$
Typical junction capacitance	$C_J$ 575 pF	$V_R = 5.0V, T_J = 25^\circ C$

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

## Thermal and Mechanical Characteristics

Storage temperature range	$T_{STG}$	$-55^\circ C$ to $150^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $150^\circ C$
Maximum thermal resistance	$R_{\theta JC}$	$2.5^\circ C/W$ Junction to Case
Weight		.08 ounces (2.3 grams) typical

**SCOTTSDALE**  
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05-31-07 Rev. 2

# USD635 — USD645

Figure 1  
Typical Forward Characteristic

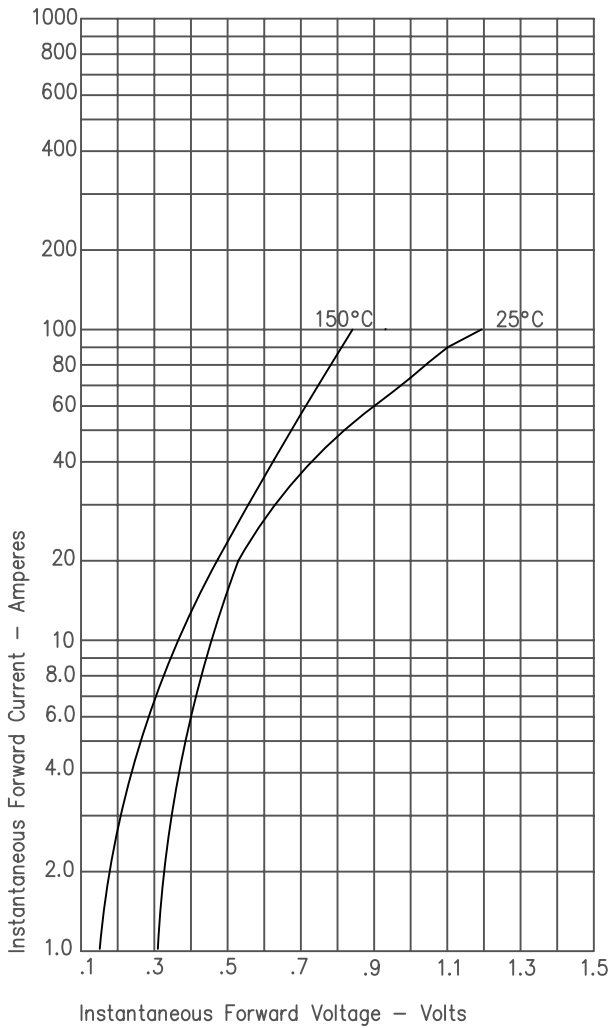


Figure 3  
Typical Junction Capacitance

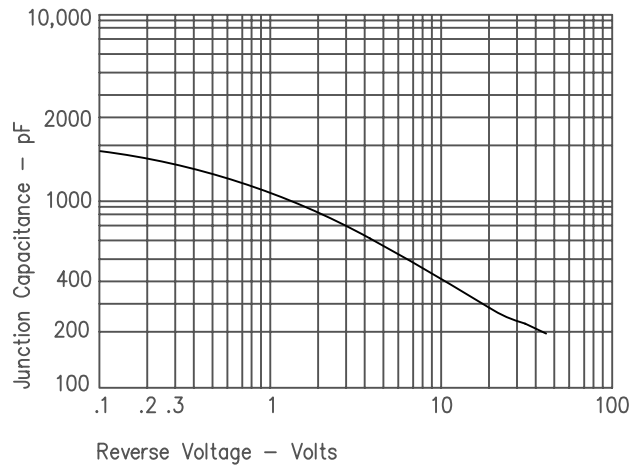


Figure 4  
Forward Current Derating

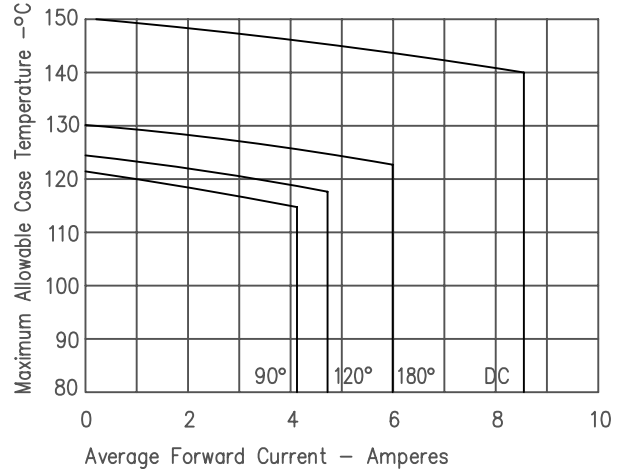


Figure 2  
Typical Reverse Characteristics

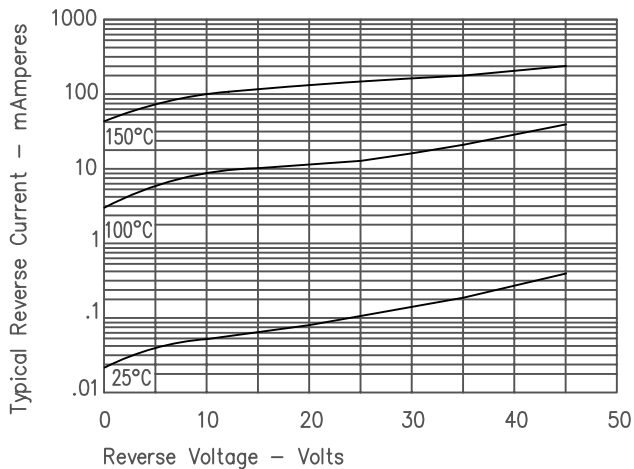


Figure 5  
Maximum Forward Power Dissipation

