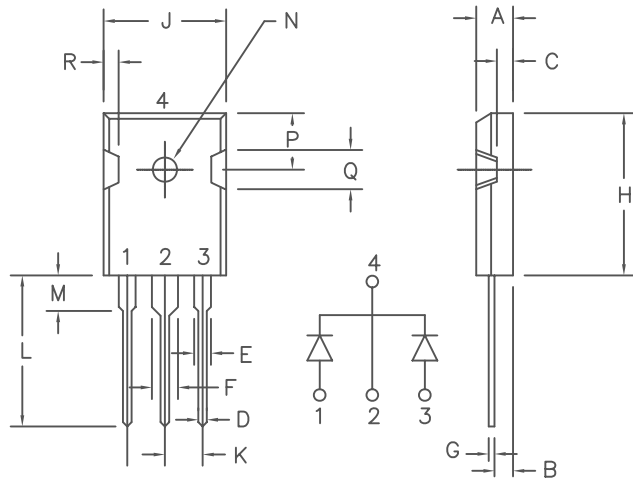


# 30Amp Schottky Barrier Rectifier

## USD3030C — USD3045C



Similar to TO-247AD

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	.118	.133	3.00	3.38	
G	.016	.031	.410	0.78	
H	.819	.883	20.80	22.4	
J	.627	.650	15.93	16.5	
K	.215	—	5.46	—	Typ.
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
USD3030C		30V	30V
USD3040C		40V	40V
USD3045C		45V	45V

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

### Electrical Characteristics

Average Forward Current per package	$I_{F(AV)}$ 30Amps	$T_C = 118^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.9^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 15Amps	$T_C = 118^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.8^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 300 Amps	8.3ms, half sine, $T_J = 150^\circ\text{C}$
Maximum Surge Current per leg	$I_{FSM}$ 2 Amps	$f = 1\text{KHZ}$ , $25^\circ\text{C}$ , 1uS Square wave
Max. Peak Forward Voltage per leg	$V_{FM}$ .52 Volts	$I_{FM} = 15\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .44 Volts	$I_{FM} = 15\text{A}$ , $T_J = 150^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical Peak Reverse Current per leg	$I_{RM}$ 75 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Typical Junction Capacitance per leg	$C_J$ 780pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*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 $150^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $150^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$1.8^\circ\text{C/W}$
Max thermal resistance per pkg.	$R_{\theta JC}$	$0.9^\circ\text{C/W}$
Mounting Torque		10 inch pounds maximum (4-40 screw)
Weight		.22 ounces (6.36 grams) typical



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05-31-07 Rev. 2

# USD3030C — USD3045C

Figure 1  
Typical Forward Characteristics – Per Leg

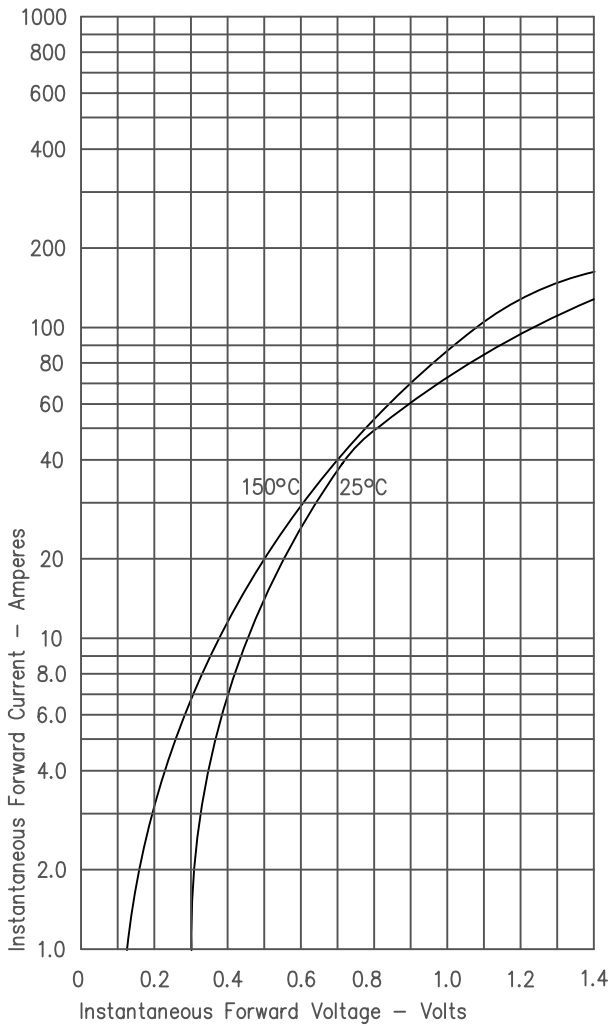


Figure 3  
Typical Junction Capacitance – Per Leg

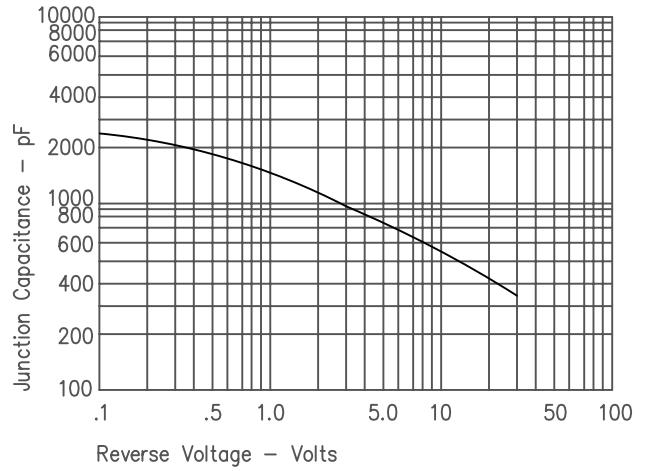


Figure 4  
Forward Current Derating – Per Leg

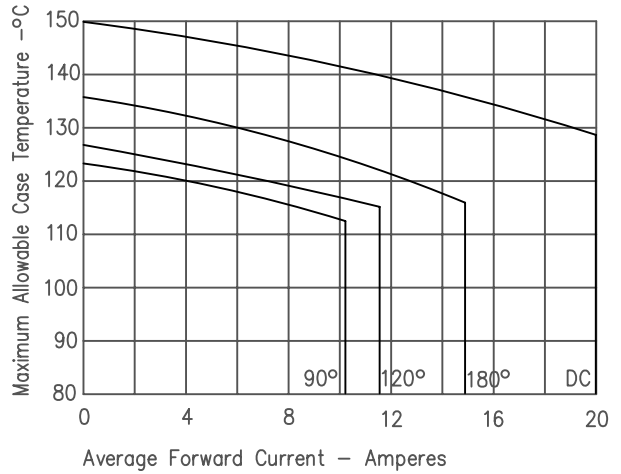


Figure 2  
Typical Reverse Characteristics – Per Leg

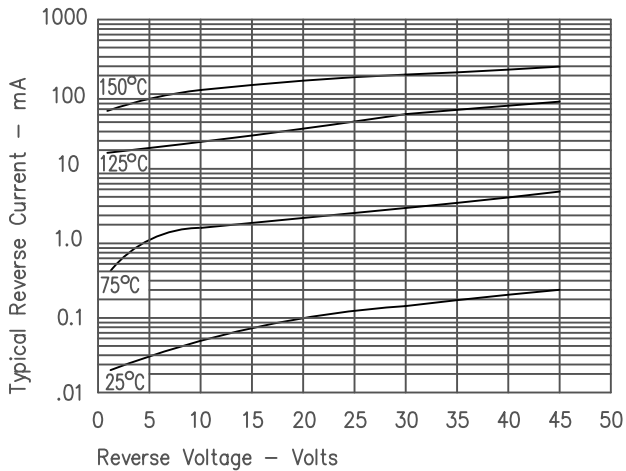


Figure 5  
Maximum Forward Power Dissipation – Per Leg

