

# POWER SCHOTTKY RECTIFIERS

## 24A Pk, up to 50V

USD835  
USD840  
USD845  
USD850

### FEATURES

- Very Low Forward Voltage (0.45V max @ 12A)
- Reverse Transient Capability
- Economical Convenient Plastic Package
- Mechanically Rugged
- 50V Blocking Voltage @ Rated  $T_{jmax}$

### DESCRIPTION

The USD800 series of Schottky barrier power rectifiers is ideally suited for output rectifiers and catch diodes in low voltage power supplies.

### ABSOLUTE MAXIMUM RATINGS

	USD835	USD840	USD845	USD850
Working Peak Reverse Voltage, $V_{RWM}$	35V	40V	45V	50V
DC Blocking Voltage, $V_R$	35V	40V	45V	50V
Peak Repetitive Surge Voltage, $V_{RSM}$ @ $I_{RM}$	42V	48V	54V	60V
Average Rectified Forward Current @ $T_C = 115^\circ\text{C}$ , $I_O$	12A			
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz, 50% Duty Cycle, @ $T_C = 115^\circ\text{C}$ ), $I_{FRM}$	24A			
Non-repetitive Peak Surge Current (8.3ms), $I_{FSM}$	200A			
Peak Reverse Transient Current, $I_{RM}$	1A			
Operating Junction Temperature, $T_J$	150°C			
Storage Temperature Range, $T_{Stg}$	-55°C to +150°C			
Thermal Resistance, Junction to Case, $R_{\theta JC}$	2.4°C/W			

### ELECTRICAL CHARACTERISTICS ( $T_{CASE} = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	LIMIT	UNITS	CONDITIONS
Maximum Instantaneous Reverse Current	$i_R$	20	mA	$V_R = V_{RWM}$ Pulse Width = 400 $\mu\text{s}$ Duty Cycle = 1 percent
Typical Instantaneous Reverse Current	$i_R$	50	mA	$V_R = V_{RWM}$ Pulse Width = 400 $\mu\text{s}$ Duty Cycle = 1 percent $T_C = 125^\circ\text{C}$
Maximum Instantaneous Forward Voltage	$V_F$	0.59	V	$I_F = 12\text{A}$
		0.51	V	$i_R = 12\text{A}$ $T_C = 125^\circ\text{C}$
Capacitance	$C_i$	2000	pF	$V_R = 5\text{V}$
Voltage Rate of Change	$dv/dt$	1000	V/ $\mu\text{s}$	$V_R = V_{RWM}$

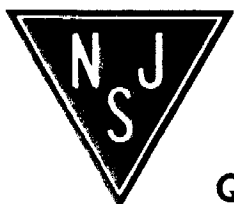
### MECHANICAL SPECIFICATIONS

**USD800 SERIES**

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	14.23	15.87	0.560	0.625
B	9.66	10.66	0.380	0.420
C	3.56	4.82	0.140	0.190
D	0.51	1.14	0.020	0.045
F	3.531	3.733	0.139	0.147
G	2.29	2.79	0.090	0.110
H	—	6.35	—	0.250
J	0.38	0.64	0.015	0.025
K	12.70	14.27	0.500	0.562
L	1.14	1.77	0.045	0.070
N	4.83	5.33	0.190	0.210
Q	2.54	3.04	0.100	0.120
R	2.04	2.52	0.080	0.115
S	1.14	1.39	0.045	0.055
T	5.85	6.85	0.230	0.270

PIN 1. Cathode  
PIN 2. Anode  
Tab is connected to Cathode.

**TO-220AC**



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