

# POWER SCHOTTKY RECTIFIERS

## 80A Pk, Up to 45V

USD4030S  
USD4040S  
USD4045S

2

### FEATURES

- Economical Convenient TO-3P Package
- Insulated Mounting Hole
- Can Be Clip Mounted
- Mechanically Rugged
- Low Thermal Resistance
- Extremely Low  $V_f$

### DESCRIPTION

The USD4000S Series, in the economical, convenient TO-3P package, is specifically designed for operation in power switching circuits to frequencies in excess of 100kHz. The very low forward voltage and low recovered charge translates to extremely high efficiency making them particularly suited for low voltage switching type power supplies.

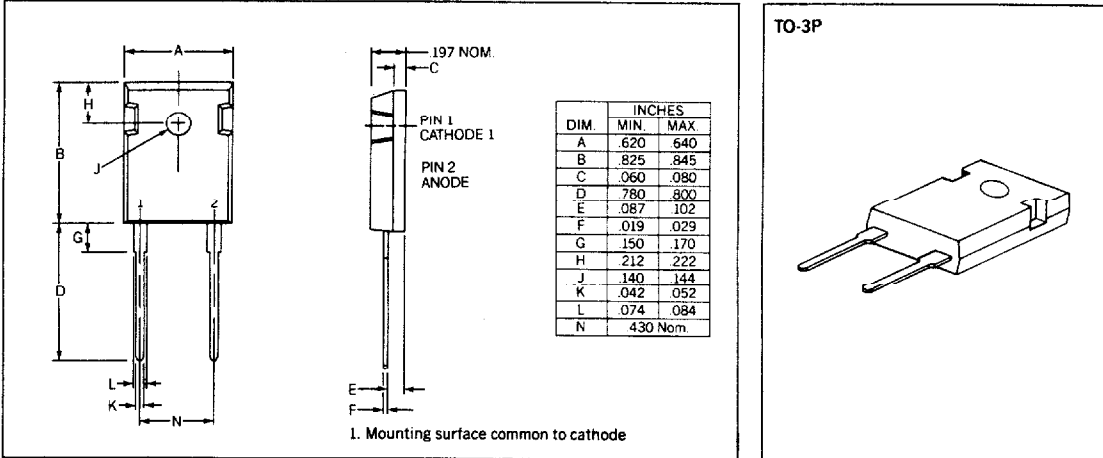
### ABSOLUTE MAXIMUM RATINGS

	USD4030S	USD4040S	USD4045S
Working Peak Reverse Voltage	$V_{HWM}$ 30V	40V	45V
D.C. Blocking Voltage	$V_R$ 30V	40V	45V
Peak Repetitive Surge Voltage	$V_{RSM} @ I_{RM}$ 36V	48V	54V
Maximum Average D.C. Output Current @ $T_C = 115^\circ C$		40V	
Non-Repetitive Sinusoidal Surge Current, 8.3ms	$I_{FSM}$	400A	
Peak Reverse Transient Current	$I_{RM}$	2A	
Thermal Resistance Junction to Case	$R_{\theta J-C}$	1.4°C/W	
Thermal Resistance Junction to Ambient	$R_{\theta J-A}$	40°C/W	
Operating and Storage Temperature Range	$T_{OP}, T_{STG}$	-55°C to +150°C	

### ELECTRICAL SPECIFICATIONS

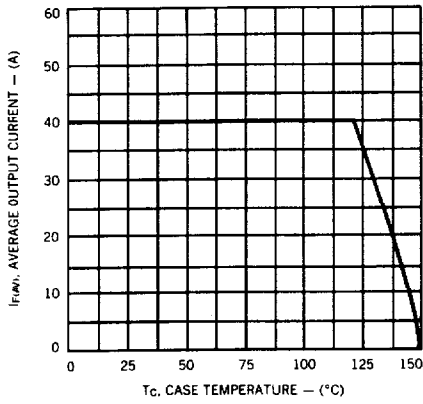
Type	$V_{RWM}$	Maximum Forward Voltage ( $V_f$ )		Maximum Reverse Current ( $I_R$ ) @ $V_{HWM}$		Maximum Capacitance $C_T$ at $V_R = 5.0V$	Voltage Rate of Change (dv/dt)
		$T_J = 25^\circ C$	$T_J = 125^\circ C$	$T_J = 25^\circ C$	$T_J = 125^\circ C$		
USD4030S	30V	.75 @ 40A	.70 @ 40A	10mA	50mA	2000pF	1000V/ $\mu$ S
USD4040S	40V	.975 @ 80A	.90 @ 80A				
USD4045S	45V						

### MECHANICAL SPECIFICATIONS

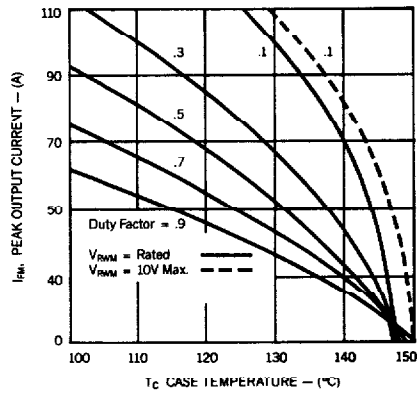


**Microsemi Corp.**  
Watertown  
The diode experts

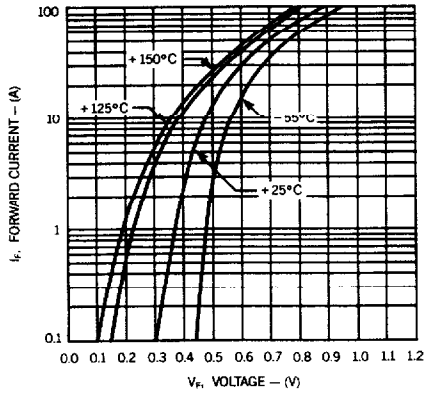
**Average Output Current vs Case Temperature**



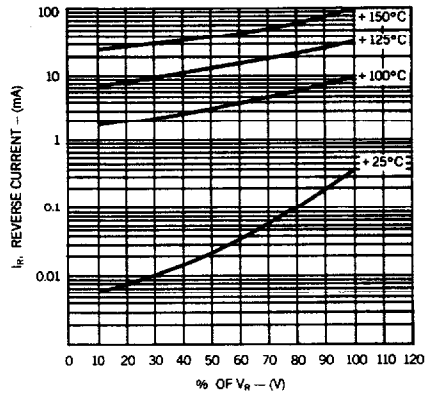
**Peak Output Current vs Case Temperature**



**Typical Forward Current vs Forward Voltage**



**Typical Reverse Current vs Voltage**



**Thermal Impedance vs Pulse Width**

