

POWER SCHOTTKY RECTIFIERS

90A Pk, Up to 45V

USD4530S
USD4540S
USD4545S

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 USD4530S 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.

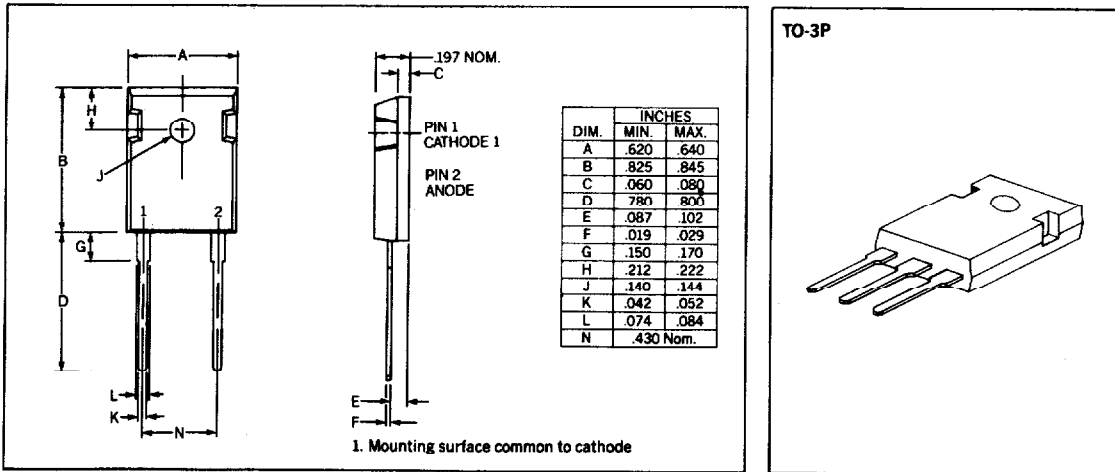
ABSOLUTE MAXIMUM RATINGS

	USD4530S	USD4540S	USD4545S
Working Peak Reverse Voltage	V_{RWM} 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 @ $T_C = 115^\circ\text{C}$	$I_{F(AV)}$	45A	
Non-Repetitive Sinusoidal Surge Current, 8.3ms	I_{FSM}	450A	
Peak Reverse Transient Current	I_{RM}	2A	
Thermal Resistance Junction to Case	$R_{\theta-J-C}$	8°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	

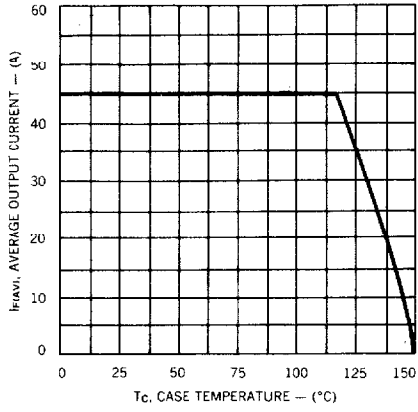
ELECTRICAL SPECIFICATIONS

Type	V_{RWM}	Maximum Forward Voltage (V_F)		Maximum Reverse Current (I_R) @ V_{RWM}		Maximum Capacitance C_T at $V_R = 5.0V$	Voltage Rate of Change (dv/dt)
		$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$		
USD4530S	30V	.73 @ 45A	.70 @ 45A	20mA	75mA	4000pF	1000V/ μs
USD4540S	40V	1.00 @ 90A	.95 @ 90A				
USD4545S	45V						

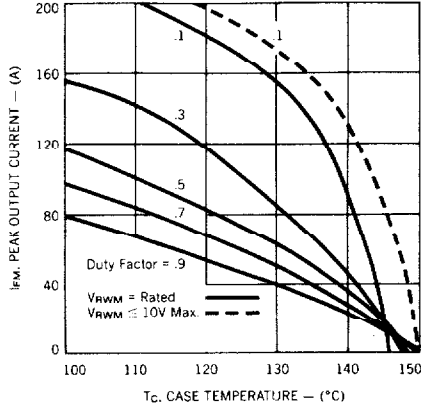
MECHANICAL SPECIFICATIONS



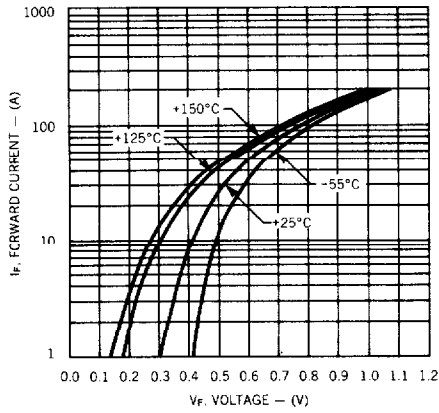
Average Output Current vs Case Temperature



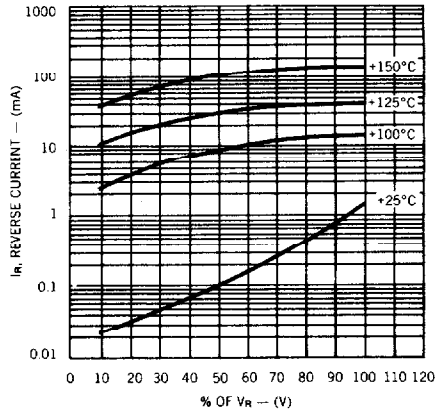
Peak Output Current vs Case Temperature



Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Voltage



Thermal Impedance vs Pulse Width

