

POWER SCHOTTKY RECTIFIERS

45A Av, Up to 45V

USD4530C
USD4540C
USD4545C

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 USD4530C 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.

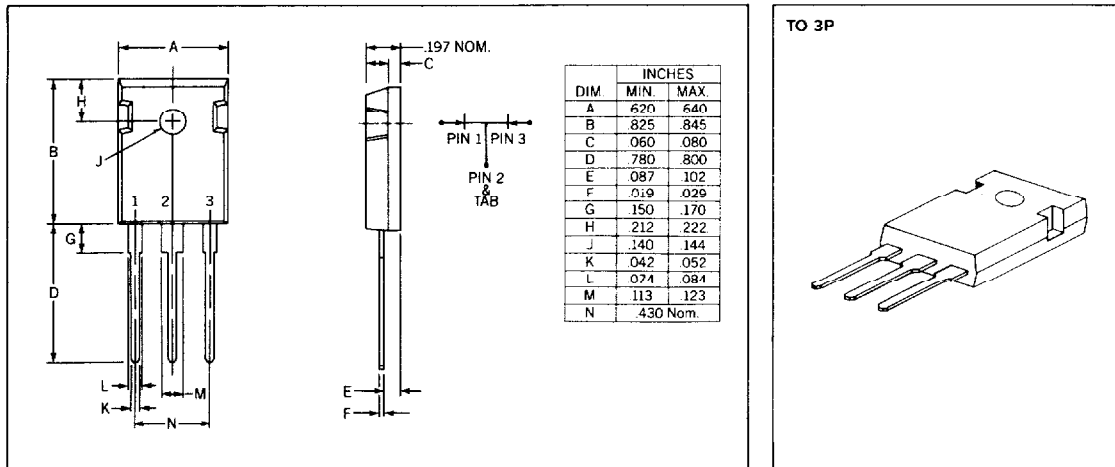
ABSOLUTE MAXIMUM RATINGS, either leg unless noted

	USD4530C	USD4540C	USD4545C
Working Peak Inverse Voltage	V_{RWM}, V_{RRM} 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			
@ $T_C = 125^\circ\text{C}$, full wave operation (see curves)	I_{FAVI} 45A		
Non-Repetitive Sinusoidal Surge Current, 8.3ms	I_{FSM} 450A		
Peak Reverse Transient Current	I_{RM} 2A		
Thermal Resistance Junction to Case	$R_{\theta J-C}$ 1.0°C/W		
Thermal Resistance Junction to Case;			
both legs together, full wave	$R_{\theta J-C}$ 0.7°C/W		
Thermal Resistance Junction to Ambient			
either leg, or both legs together	$R_{\theta J-A}$ 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)
		$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$		
USD4530C	30V	.63 @ 23A	.60 @ 23A	20mA	75mA	4000pF	1000V/ μs
USD4540C	40V	.73 @ 45A	.70 @ 45A				
USD4545C	45V						

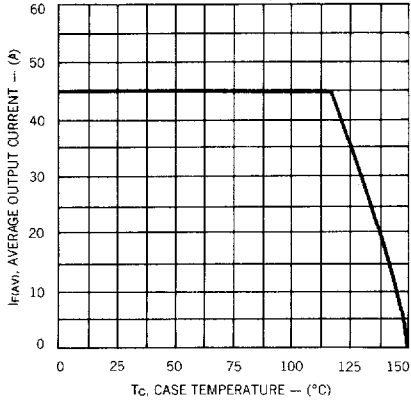
MECHANICAL SPECIFICATIONS



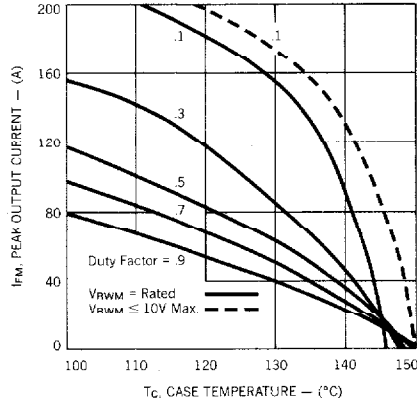
2-127

Microsemi Corp.
Watertown
The diode experts

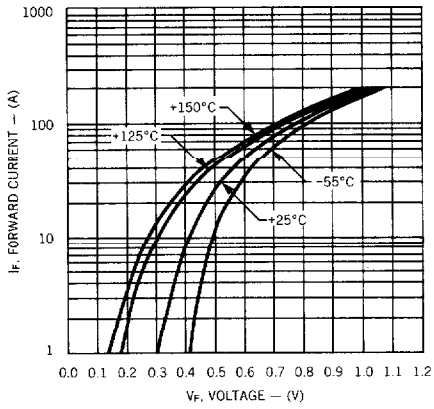
Average Output Current vs Case Temperature



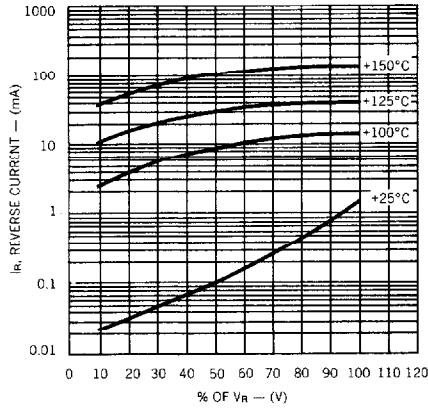
Peak Output Current vs Case Temperature



Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Voltage



Thermal Impedance vs Pulse Width

