POWER SCHOTTKY RECTIFIERS
40A Av, Up to 45V

USD4030C
USD4040C
USD4045C

2

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

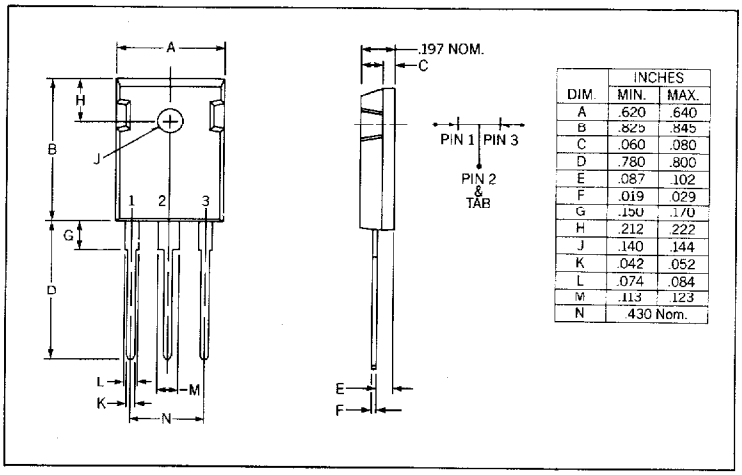
DESCRIPTION
The USD4000C Series, in the economical, convenient TO-3P package, is specifically designed for operation in power switching circuits to frequencies in excess of 100kHz. The very low forward voltage and low recovered charge translates to extremely high efficiency making them particularly suited for low voltage switching type power supplies.

ABSOLUTE MAXIMUM RATINGS, either leg unless noted		USD4030C	USD4040C	USD4045C
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°C, full wave operation (see curves)	$I_{F(AV)}$		40A	
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 either leg, or both legs together	$R_{\theta J-A}$		40°C/W	
Operating and Storage Temperature Range	I_{OP}, I_{STG}		−55°C to +150°C	

ELECTRICAL SPECIFICATIONS

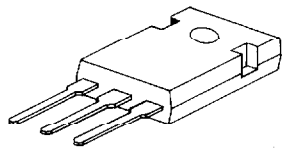
Type	V_{RWM}	Maximum Forward Voltage (V_F)		Maximum Reverse Current (I_R) @ V_{RWM}		Maximum Capacitance C_T at V_R = 5.0V	Voltage Rate of Change (dv/dt)
		T_J = 25°C	T_J = 125°C	T_J = 25°C	T_J = 125°C		
USD4030C USD4040C USD4045C	30V 40V 45V	0.65 @ 20A	0.60 @ 20A	10mA	50mA	2000pF	1000V/μs

MECHANICAL SPECIFICATIONS



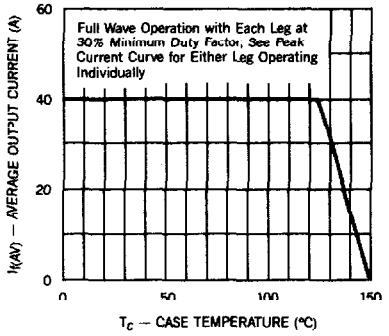
DIM.	INCHES MIN.	MAX.
A	.620	.640
B	.825	.845
C	.060	.080
D	.780	.800
E	.087	.102
F	.019	.029
G	.150	.170
H	.212	.222
J	.140	.144
K	.042	.052
L	.074	.084
M	.113	.123
N	.430 Nom.	

TO-3P

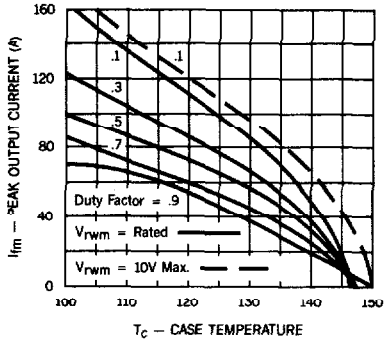


Microsemi Corp.
Watertown
The diode experts

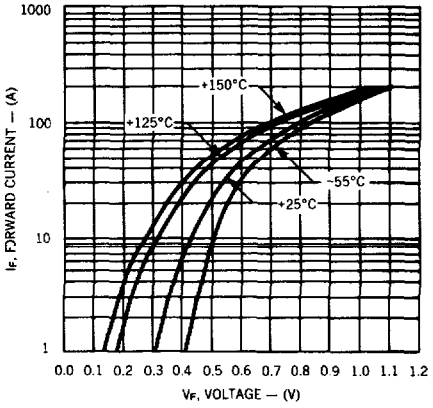
Average Output Current vs Case Temperature



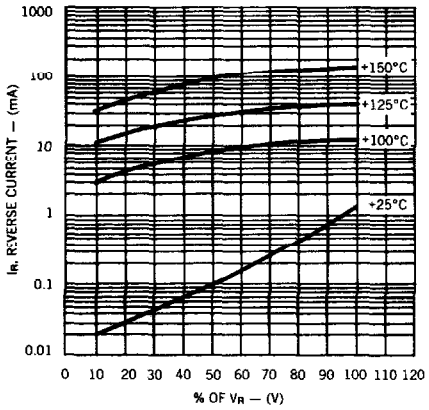
Peak Output Current vs Case Temperature (Either Leg)



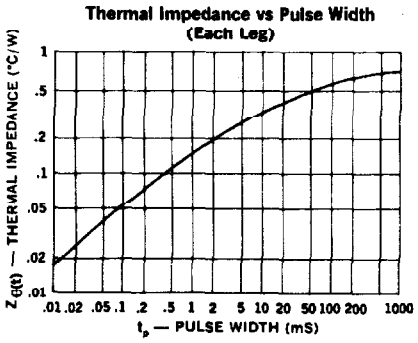
Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Voltage



Thermal Impedance vs Pulse Width (Each Leg)



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PRINTED IN U.S.A.