

POWER SCHOTTKY RECTIFIERS

30A Av, Up to 45V

USD3030C
USD3040C
USD3045C

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 USD3030C 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

	USD3030C	USD3040C	USD3045C
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)	$I_{F(AV)}$ 30A		
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 Case			
both legs together, full wave	$R_{\theta J-C}$ 0.85°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)
		$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$		
USD3030C	30V	.61 @ 15A	.55 @ 15A	20mA	50mA	2000pF	1000V/ μs
USD3040C	40V	75 @ 30A	71 @ 30A				
USD3045C	45V						

MECHANICAL SPECIFICATIONS

197 NOM.

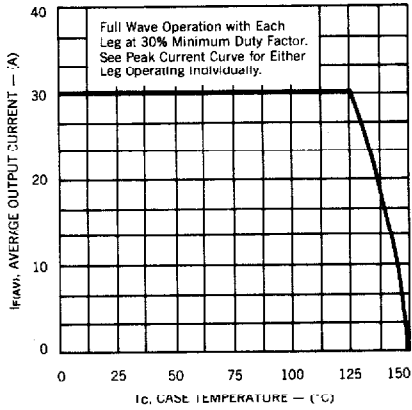
PIN 1 PIN 3

PIN 2 & TAB

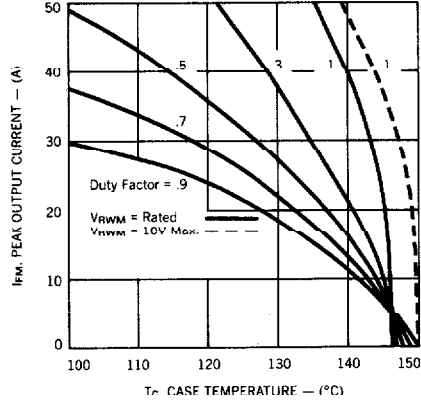
DIM.	INCHES	
	MIN.	MAX.
A	.620	.640
B	.825	.845
C	.060	.080
D	.780	.800
E	.087	.102
F	.019	.029
G	.150	.170
H	.212	.222
J	.140	.144
K	.042	.052
L	.074	.084
M	.113	.123
N	.430	Nom.

TO-3P

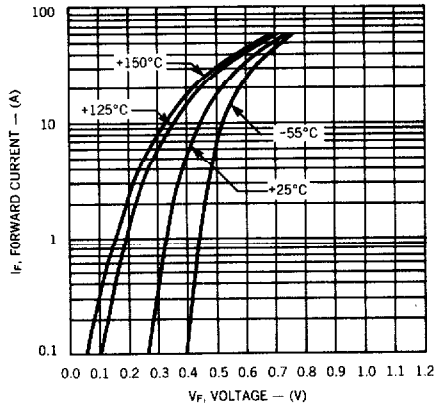
Average Output Current vs Case Temperature



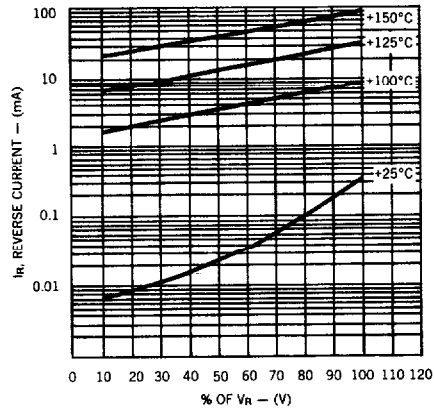
Peak Output Current vs Case Temperature (Either Leg)



Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Voltage



Thermal Impedance vs Pulse Width (Each Leg)

