

RECTIFIERS

High Efficiency, 30A Centertap, 50-150V

UES3005C
UES3010C
UES3015C

FEATURES

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

DESCRIPTION

The UES3005C 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 very fast recovery time make them particularly suited for switching type power supplies.

ABSOLUTE MAXIMUM RATINGS, either leg unless noted	UES3005C	UES3010C	UES3015C
Peak Inverse Voltage V_R, V_{RWM}, V_{RRM}	50V	100V	150V
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} 300A		
Thermal Resistance Junction to Case	$R_{\theta J-C}$ 1.5°C/W		
Thermal Resistance Junction to Case both legs together, full wave	$R_{\theta J-C}$ 0.9°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	PIV	Maximum Forward Voltage (V_f)		Maximum Reverse Current (I_R) @ PIV		Maximum Reverse Recovery Time*	Typical Forward Recovery Voltage @ 1A $T_R = 14\text{ns}$
		$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$		
UES3005C	50V	1.0 @ 15A	0.9 @ 15A	15 μA	5mA	35ns	2.0V
UES3010C	100V	1.1 @ 30A	1.0 @ 30A				
UES3015C	150V						

* Measured in circuit $I_F = 0.50\text{A}$, $I_{RM} = 1.0\text{A}$, $I_{REC} = 0.25\text{A}$.

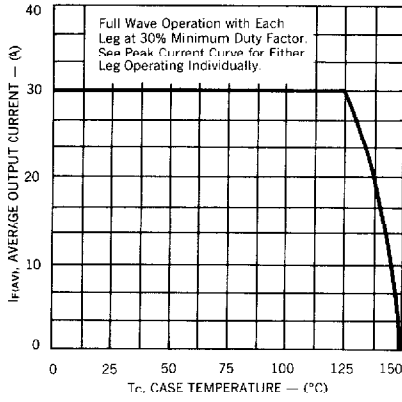
MECHANICAL SPECIFICATIONS

INCHES		
DIM.	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.

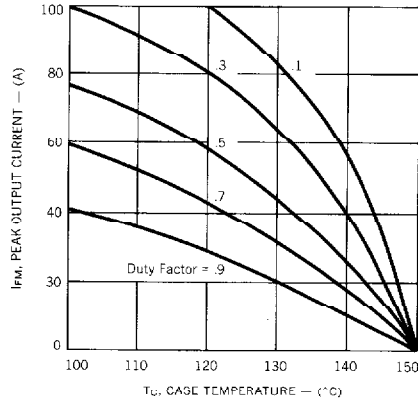
TO-3P



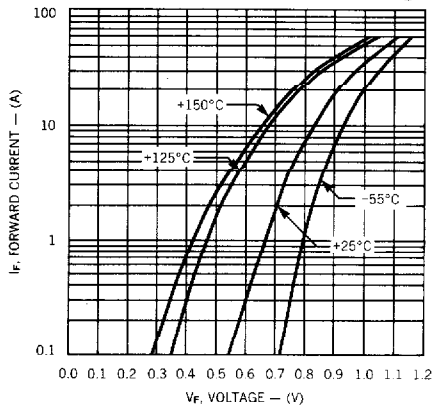
Average Output Current vs Case Temperature



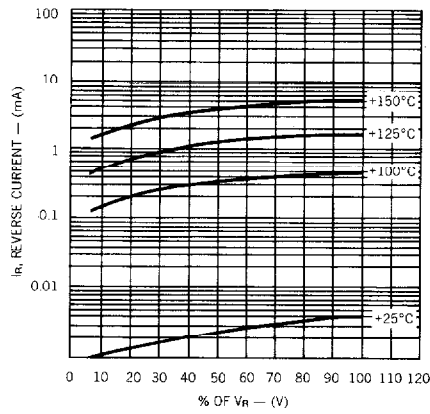
Peak Output Current vs Case Temperature (Either Leg)



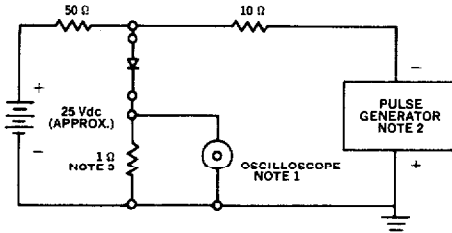
Typical Forward Current vs Forward Voltage



Typical Reverse Current vs Voltage



Reverse-Recovery Circuit



- NOTES:**
 1. Oscilloscope: Rise time ≤ 3 ns; input impedance = 50 Ω .
 2. Pulse Generator: Rise time ≤ 8 ns; source impedance 10 Ω .
 3. Current viewing resistor, non-inductive, coaxial recommended.

Thermal Impedance vs Pulse Width (Each Leg)

