

# RECTIFIERS

## High Efficiency, 16A

UES1501  
UES1502  
UES1503  
UES1504

### FEATURES

- Very Low Forward Voltage
- Very Fast Recovery Times
- Economical, Convenient TO-220 Package
- Low Thermal Resistance
- Mechanically Rugged

### DESCRIPTION

The UES1500 Series, in the economical, convenient TO-220 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

Peak Inverse Voltage, UES1501	50V
Peak Inverse Voltage, UES1502	100V
Peak Inverse Voltage, UES1503	150V
Peak Inverse Voltage, UES1504	200V
Maximum Average D.C. Output Current	

@ $T_C = 100^\circ\text{C}$	16A
@ $T_A = 25^\circ\text{C}$	3.3A
@ $T_A = 25^\circ\text{C}$ (Note 1)	10.0A

Non-Repetitive Sinusoidal Surge Current, 8.3ms	300A
Thermal Resistance, Junction to Case, $\theta_{j-c}$	1.5°C/W
Thermal Resistance, Junction to Ambient, $\theta_{j-a}$	60°C/W
Operating and Storage Temperature	55°C to +150°C

Note: 1. Using Wakefield Type 295 heatsink with convection cooling. For more definitive data refer to the Output Current vs Temperature Curve on this data sheet.

### MECHANICAL SPECIFICATIONS

**UES1501-UES1504**

	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.560	0.625	14.23	15.87
B	0.390	0.420	9.96	10.66
C	0.140	0.190	3.56	4.82
D	0.020	0.045	0.51	1.14
F	0.139	0.147	3.531	3.733
G	0.090	0.110	2.29	2.79
H	—	0.250	—	6.35
J	0.015	0.025	0.38	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.070	1.14	1.77
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.115	2.04	2.92
S	0.045	0.055	1.14	1.39
T	0.230	0.270	5.85	6.85

**TO-220AC**

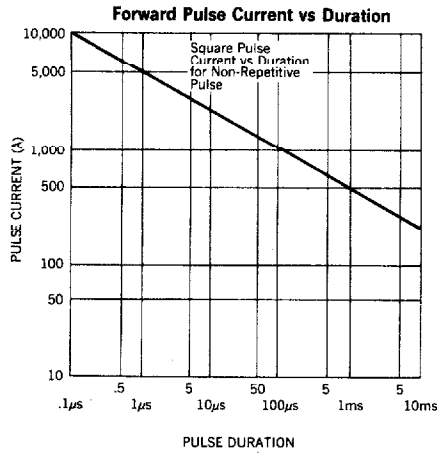
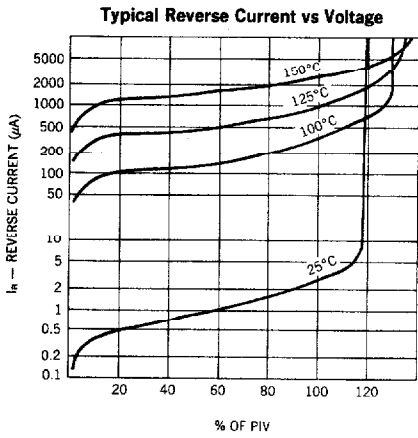
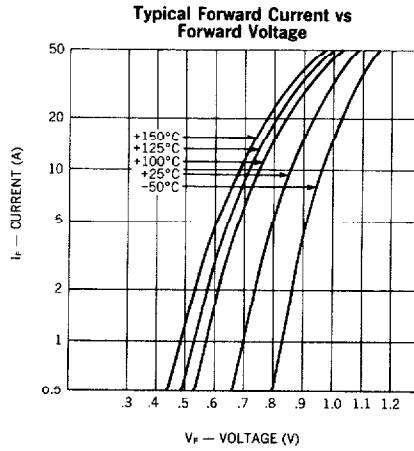
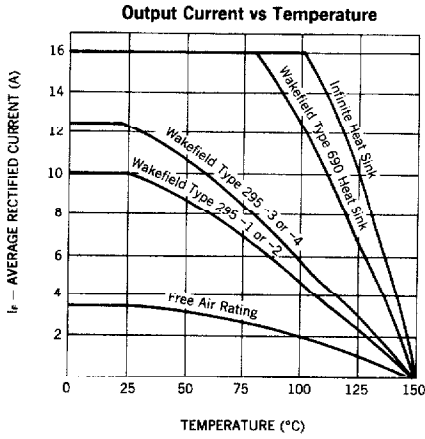


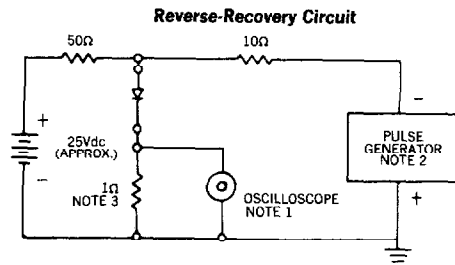
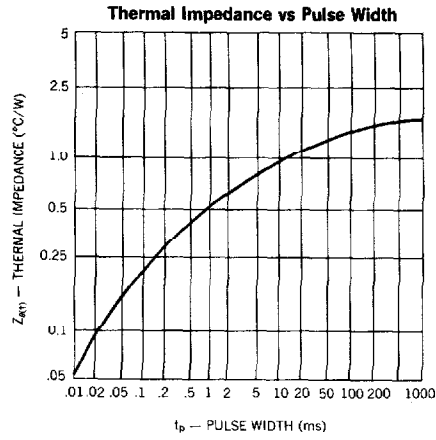
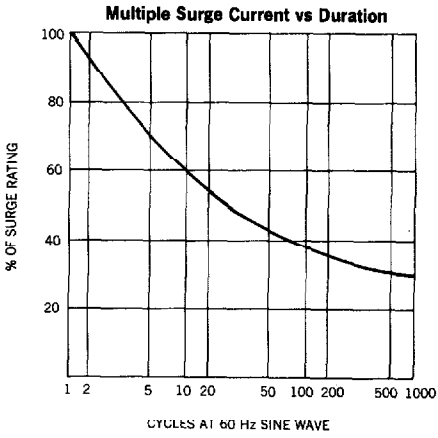
**ELECTRICAL SPECIFICATIONS**

**2**

Type	PIV	Maximum Forward Voltage		Maximum Reverse Current @ PIV		Maximum Reverse Recovery Time*	Typical Forward Recovery Voltage @ 1A $t_r = 8ns$
		$T_J = 25^\circ C$	$T_J = 100^\circ C$	$T_J = 25^\circ C$	$T_J = 100^\circ C$		
UES1501	50V	.975V @ 16A	.895V @ 16A	10 $\mu A$	800 $\mu A$	35ns	2.0V
UES1502	100V						
UES1503	150V						
UES1504	200V						

\* Measured in circuit  $I_F = 1/2A$ ,  $I_R = 1.0A$ ,  $I_{REC} = 1/4A$





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