

RECTIFIERS

High Efficiency, 16A Center-Tap

UES2401-UES2404

2

FEATURES

- Very Low Forward Voltage
- Very Fast Recovery Times
- Economical, Convenient TO-220AB Package
- Low Thermal Resistance
- Mechanically Rugged
- PIV up to 200V

DESCRIPTION

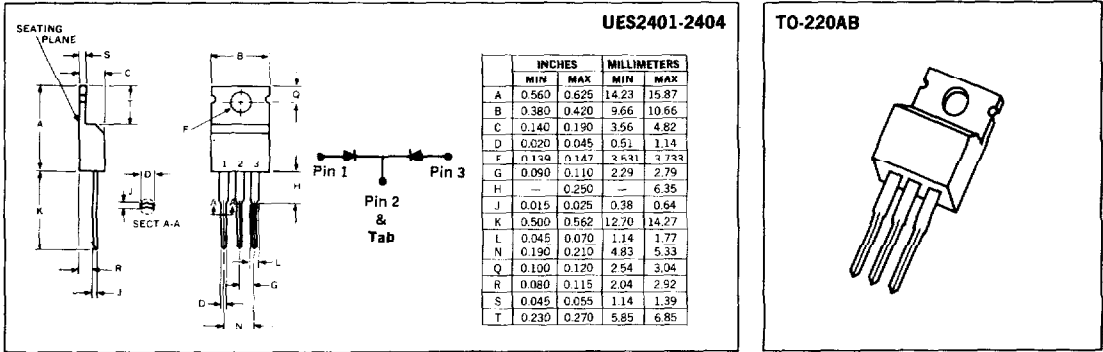
The UES2401 Series in the economical, convenient TO-220AB package, is specifically designed for operation in power switching circuits to frequencies in excess of 100kHz. The series combines two high efficiency devices into one package, simplifying installation, reducing heatsink requirements and the need to purchase matched components.

ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage, UES2401	50V
Peak Inverse Voltage, UES2402	100V
Peak Inverse Voltage, UES2403	150V
Peak Inverse Voltage, UES2404	200V
Maximum Average D.C. Output Current	
@ $T_C = 125^{\circ}\text{C}$ (Note 1)	16A
@ $T_A = 25^{\circ}\text{C}$	3A
@ $T_A = 25^{\circ}\text{C}$ (Note 2)	10A
Non-Repetitive Sinusoidal Surge Current, 8.3ms	80A
Thermal Resistance, Junction to Case, θ_{J-C}	1.75 $^{\circ}\text{C/W}$
Thermal Resistance, Junction to Ambient, θ_{J-A}	60 $^{\circ}\text{C/W}$
Operating and Storage Temperature Range	-55 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$

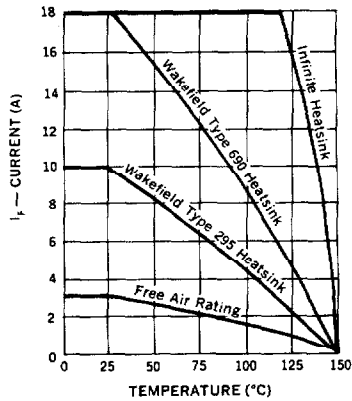
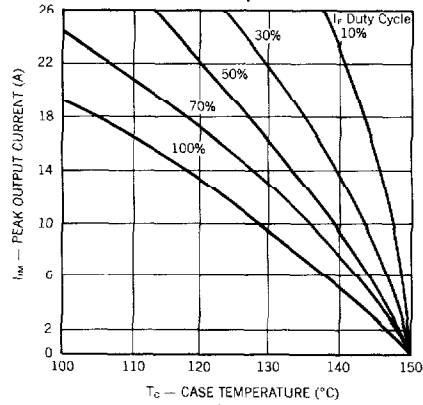
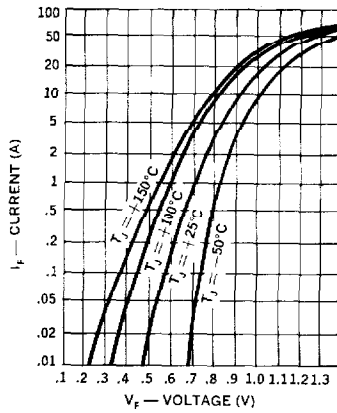
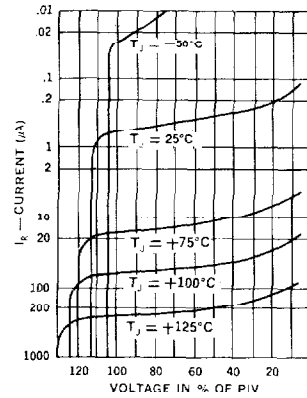
- Note 1.** Above 8A use the tab for electrical connection.
Note 2. Using Wakefield Type 295 heatsink with convection cooling. For more definitive data refer to the Output Current vs. Temperature Curves on this datasheet.

MECHANICAL SPECIFICATIONS

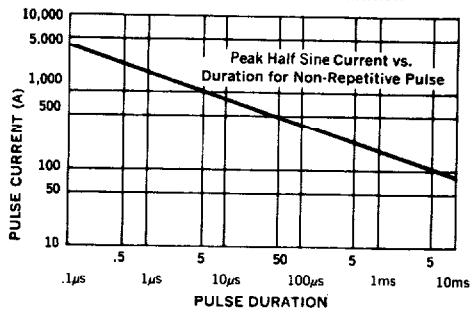


ELECTRICAL SPECIFICATIONS

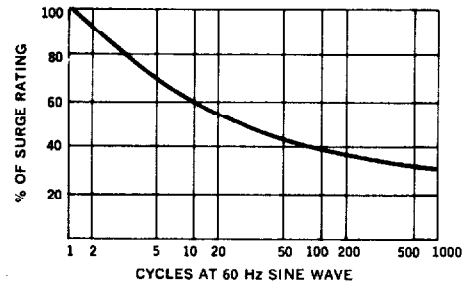
Type	PIV	Maximum Forward Voltage @		Maximum Reverse Current @ PIV		Maximum Reverse Recovery Time*	Typical Forward Recovery Voltage @ 1A t _r = 8ns
		T _J = 25°C	T _J = 100°C	T _J = 25°C	T _J = 100°C		
UES2401	50V	0.9V @ 4A	0.8V @ 4A	5μA	150μA	35ns	1.4V
UES2402	100V	0.975 @ 8A	0.895 @ 8A		150μA		
UES2403	150V	tp = 300μs			150μA		
UES2404	200V				500μA		

*Measured in circuit $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{\text{REC}} = 0.25\text{A}$ Output Current
vs TemperaturePeak Output Current vs
Case TemperatureTypical Forward Current
vs Forward VoltageTypical Reverse Current
vs Voltage

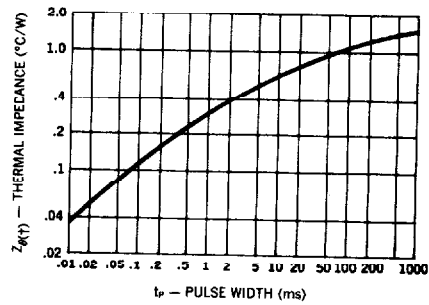
Forward Pulse Current vs Duration



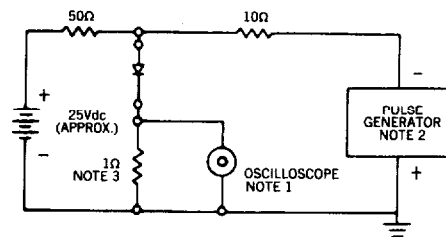
Multiple Surge Current vs Duration



Thermal Impedance vs Pulse Width



Reverse-Recovery Circuit



NOTES:

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