DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

UES804-UES806

50 AMP ULTRAFAST RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	UES804	UES805	UES806	Unit
Peak inverse voltage	V_R	200	300	400	V
Average DC output current @ T_C = 100°C	I_O	50			A
Non-repetitive sinusoidal surge current (8.3ms)	I_{FSM}	600			A
Thermal resistance, junction to case	$R_{\Theta JC}$	0.8			°C/W
Operating and storage temperature range	T_{stg}	-55 to +150			°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part number	Working peak reverse voltage	Maximum forward voltage @ I_F = 50A t_p = 300µs		Maximum reverse current @ V_{RWM}		Maximum reverse recovery time[1]
	V_{RWM}	V_F		I_R		t_{rr}
		T_C = 25°C	T_C = 125°C	T_C = 25°C	T_C = 125°C	
	Volts	Volts	Volts	µA	mA	ns
UES804	200	1.25	1.15	70	30	50
UES805	300	1.25	1.15	70	30	50
UES806	400	1.25	1.15	70	30	50

Note 1: I_F = 0.5A, I_R = 1A, I_{REC} = 0.25A

DIGITRON™ Semiconductors

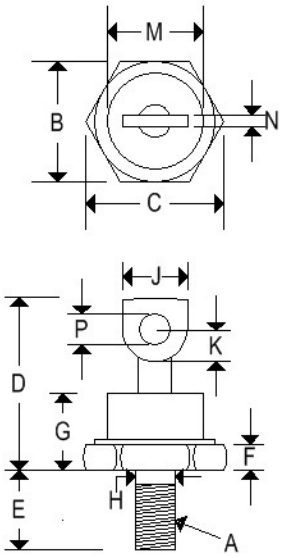
High-reliability discrete products
and engineering services since 1977

UES804-UES806

50 AMP ULTRAFAST RECTIFIERS

MECHANICAL CHARACTERISTICS

Case	DO-5
Marking	Alpha numeric
Polarity	Cathode is stud



	DO-5			
	Inches		Millimeters	
	Min	Max	Min	Max
A	¼-28 UNF2A threads			
B	0.669	0.688	16.990	17.480
C	-	0.794	-	20.160
D	-	1.000	-	25.400
E	0.422	0.453	10.720	11.510
F	0115	0.200	2.920	5.080
G	-	0.450	-	11.430
H	0.220	0.249	5.580	6.320
J	0.250	0.375	6.350	9.530
K	0.156	-	3.960	-
M	-	0.667	-	16.940
N	0.030	0.080	0.760	2.030
P	0.140	0.175	3.560	4.450

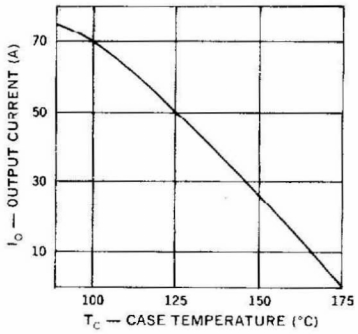
DIGITRON™ Semiconductors

High-reliability discrete products and engineering services since 1977

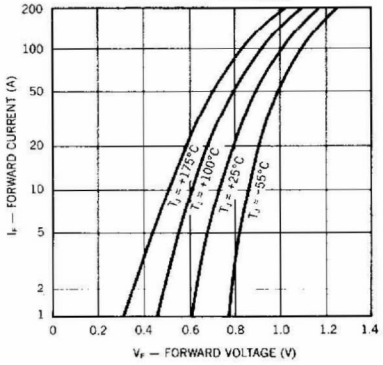
UES804-UES806

50 AMP ULTRAFAST RECTIFIERS

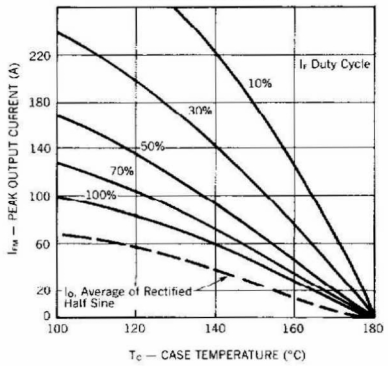
Output Current vs. Case Temperature



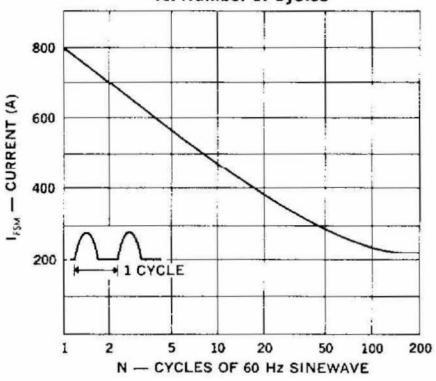
Forward Current vs. Forward Voltage



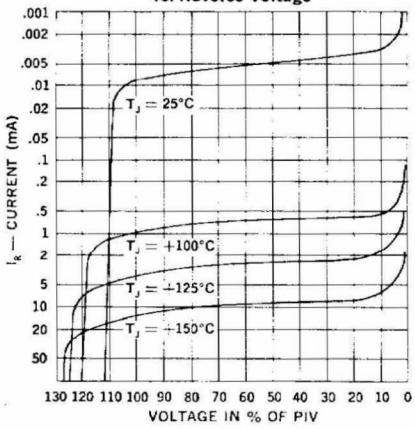
Peak Output Current vs. Case Temperature



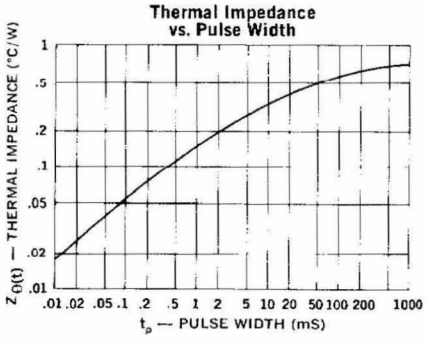
Maximum Forward Surge vs. Number of Cycles



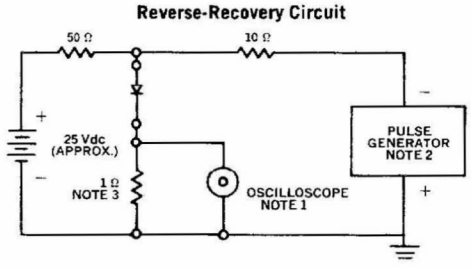
Typical Reverse Current vs. Reverse Voltage



Thermal Impedance vs. Pulse Width



Reverse-Recovery Circuit



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