RECTIFIERS
Fast Recovery, 0.5 Amp to 2 Amp

UTR10-UTR60
UTR01-UTR61
UTR02-UTR62

FEATURES
- Continuous Rating: to 2A
- Controlled Avalanche
- Surge Rating: to 25A
- Fast Recovery 40kHz Operation
- PIV: to 600V
- Miniature Package

DESCRIPTION
These miniature fast recovery rectifiers permit operation at full frequencies as high as 40kHz square wave. They have the unique Microsemi Fused in Glass construction.

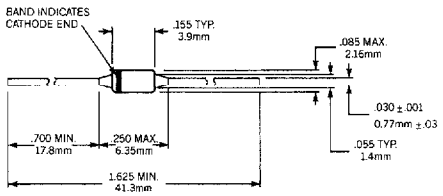
ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage	½ Amp Series	1 Amp Series	2 Amp Series
50V		UTR01	UTR02
100V	UTR10	UTR11	UTR12
200V	UTR20	UTR21	UTR22
300V	UTR30	UTR31	UTR32
400V	UTR40	UTR41	UTR42
500V	UTR50	UTR51	UTR52
600V	UTR60	UTR61	UTR62

	½ AMP SERIES	1 AMP SERIES	2 AMP SERIES
Maximum Average D.C. Output Current			
@ T_A = 25°C	0.5A	1.0A	2.0A
@ T_A = 100°C	0.25A	0.5A	1.0A
Non-Repetitive Sinusoidal Surge Current (8.3ms)	15A	20A	25A
Operating Temperature Range	−195°C to +175°C		
Storage Temperature Range	−195°C to +200°C		
Thermal Resistance	See lead temperature derating curves		

MECHANICAL SPECIFICATIONS

UTR10-UTR60 UTR01-UTR61 UTR02-UTR62



Part Identification: Green band indicates "UTR." Part number printed on body.
Polarity: Denoted by Green band.
Weight: 0.26 grams, typical.

BODY A



THESE DEVICES ALSO AVAILABLE IN SURFACE MOUNT PACKAGE. SEE SECTION 10

Microsemi Corp.
Watertown
The diode experts

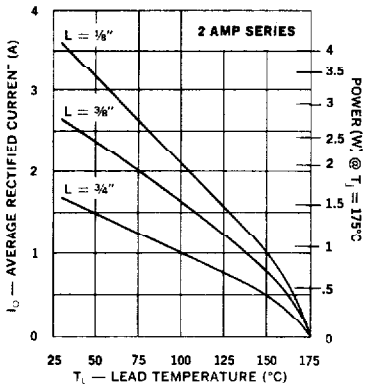
2

ELECTRICAL SPECIFICATIONS (at 25°C unless noted)

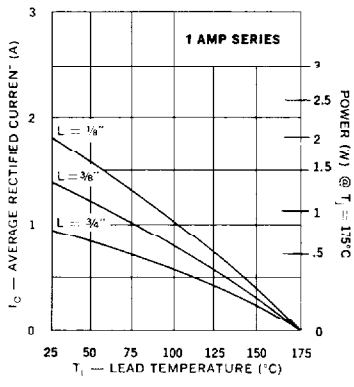
Type	PIV	Maximum Forward Voltage Drop	Maximum Leakage Current @ PIV 25°C	Maximum Leakage Current @ PIV 100°C	Maximum Reverse Recovery Time*	Maximum Junction Capacitance @ 25°C 0V	Maximum Junction Capacitance @ 25°C —10V
UTR02	50V	1.1V @ 1000mA	3μA	100μA	250ns	150pf	60pf
UTR12	100V				250ns	100pf	40pf
UTR22	200V				250ns	80pf	32pf
UTR32	300V				300ns	70pf	28pf
UTR42	400V				350ns	60pf	24pf
UTR52	500V				400ns	50pf	20pf
UTR62	600V				400ns	40pf	16pf
UTR01	50V	1.1V @ 500mA	3μA	100μA	250ns	150pf	60pf
UTR11	100V				250ns	100pf	40pf
UTR21	200V				250ns	80pf	32pf
UTR31	300V				300ns	70pf	28pf
UTR41	400V				350ns	60pf	24pf
UTR51	500V				400ns	50pf	20pf
UTR61	600V				400ns	40pf	16pf
UTR10	100V	1.1V @ 200mA	3μA	100μA	250ns	100pf	40pf
UTR20	200V				250ns	80pf	32pf
UTR30	300V				300ns	70pf	28pf
UTR40	400V				350ns	60pf	24pf
UTR50	500V				400ns	50pf	20pf
UTR60	600V				400ns	40pf	16pf

*Recovery time is measured from 10.0mA to 10.0mA recovery to 5.0mA

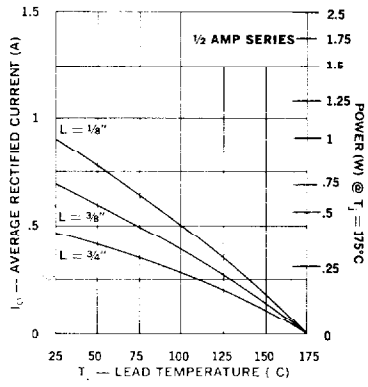
Maximum Current vs Lead Temperature



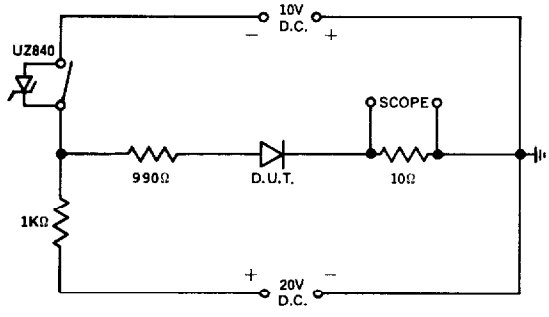
Maximum Current vs Lead Temperature



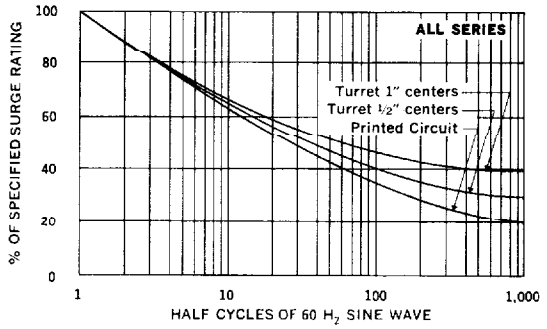
Maximum Current vs Lead Temperature



Reverse-Recovery Circuit



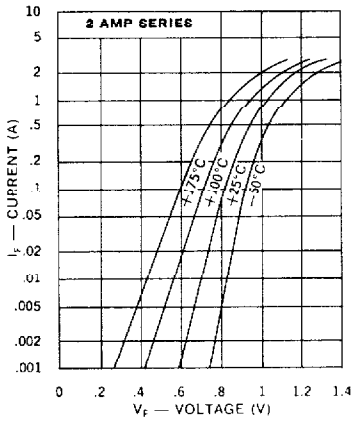
Allowable Forward Surge vs Number of Cycles



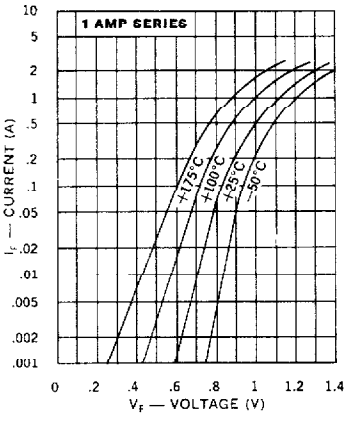
580 PLEASANT STREET • WATERTOWN, MA 02172
TEL. (617) 926-0404 • FAX (617) 924-1235

PRINTED IN U.S.A.

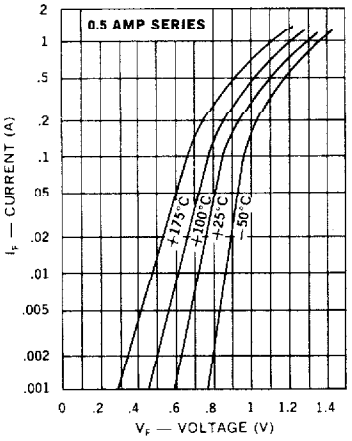
Typical Forward Current vs Forward Voltage



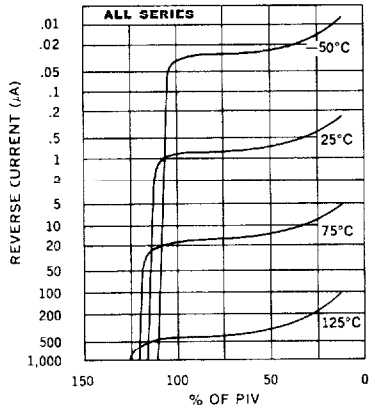
Typical Forward Current vs Forward Voltage



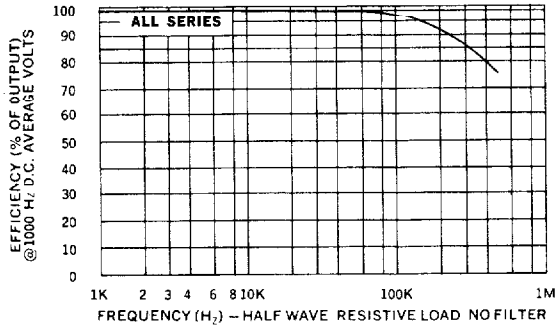
Typical Forward Current vs Forward Voltage



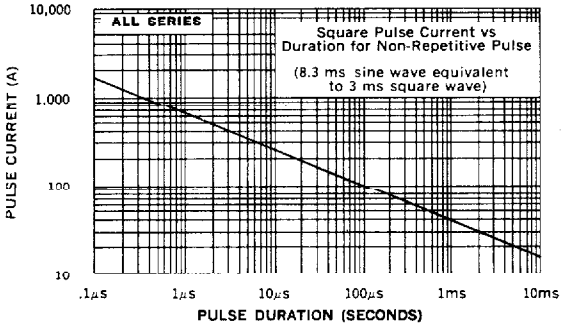
Typical Reverse Current vs PIV



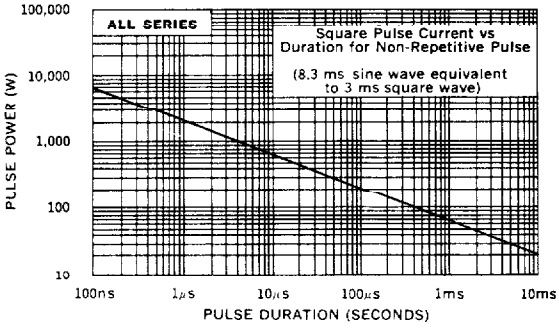
Efficiency vs Frequency at Rated Current (Sine Wave)



Forward Pulse Current vs Pulse Duration



Reverse Pulse Power vs Pulse Duration



580 PLEASANT STREET • WATERTOWN, MA 02172
TEL. (617) 926-0404 • FAX (617) 924-1235

PRINTED IN U.S.A.