



1 Amp To 2 Amp Standard Recovery Rectifiers

DESCRIPTION

This miniature, standard recovery rectifier diode series offers the user extreme reliability for high-reliability applications. These devices are available in the leaded A package configuration. Microsemi also offers numerous other rectifier products to meet higher and lower current ratings with various recovery time requirements including standard, fast and ultrafast device types in both through-hole and surface mount packages.

Important: For the latest information, visit our website <http://www.microsemi.com>.

FEATURES

- Miniature voidless hermetically sealed glass package.
- Continuous current rating of 2 amps.
- Extremely robust construction.
- Internal “Category 1” metallurgical bonds.
- RoHS compliant versions available.

APPLICATIONS / BENEFITS

- Standard recovery 1 amp to 2 amp rectifier series with a V_{RWM} range from 100 to 1000 V.
- Surge current rating to 30 amps.
- Low thermal resistance.
- Controlled avalanche breakdown with peak reverse power capability.
- Inherently radiation hard as described in Microsemi [MicroNote 050](#).

MAXIMUM RATINGS @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameters/Test Conditions	Symbol	Value	Unit	
Junction and Storage Temperature	T_J/T_{STG}	-65 to +175	$^\circ\text{C}$	
Thermal Resistance Junction-to-Lead @ .375 inch lead length from body	$R_{\theta JL}$	See Derating Curves		
Working Peak Reverse Voltage:				
		1 A 1.25 A 1.5 A 2 A		
	V_{RWM}	UT236 UT249 UT251 UT261 UT234 UT242 UT252 UT262 UT235 UT244 UT254 UT264 UT237 UT245 UT255 UT265 UT238 UT247 UT257 UT267 UT361 UT362 UT258 UT268 UT347 UT363 UT364 -	100 200 400 500 600 800 1000	V
Forward Surge Current (Peak) @ 8.3 ms	I_{FSM}	1 & 1.25 Amp Series 1.5 Amp Series 2 Amp Series	20 25 30	A
Average Rectified Output Current @ $T_L = +25^\circ\text{C}$	I_{O1}	1 Amp Series 1.25 Amp Series 1.5 Amp Series 2 Amp Series	1.0 1.25 1.5 2.0	A
Average Rectified Output-Current @ $T_A = +100^\circ\text{C}$	I_{O2}	1 Amp Series 1.25 Amp Series 1.5 Amp Series 2 Amp Series	0.5 0.65 0.75 1.0	A
Solder Temperature @ 10 s	T_{SP}		260	$^\circ\text{C}$



“A” Package

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MSC – Ireland

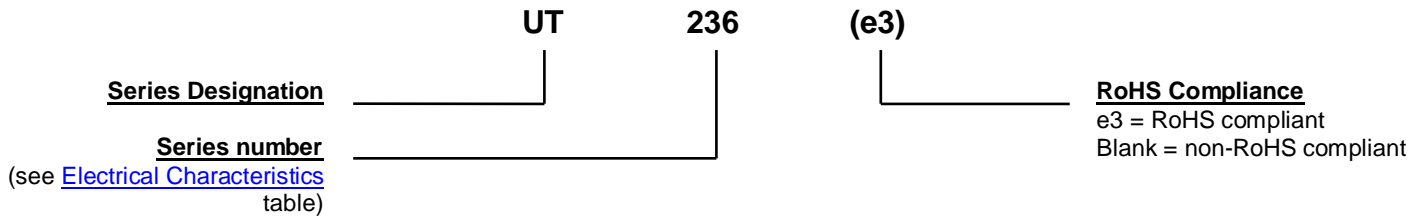
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Website:

www.microsemi.com

MECHANICAL and PACKAGING

- CASE: Hermetically sealed voidless hard glass with tungsten slugs.
- TERMINALS: Tin/lead or RoHS compliant matte/tin over nickel plated over copper.
- MARKING: Orange band indicates “UT”, part number printed on body.
- POLARITY: Indicated by orange band.
- TAPE & REEL option: Standard per EIA-296. Consult factory for quantities.
- WEIGHT: Approximately 0.26 grams.
- See [package dimensions](#) on last page.

PART NOMENCLATURE

SYMBOLS & DEFINITIONS

Symbol	Definition
I_F	Forward Current: The forward current dc value, no alternating component.
I_{FSM}	Maximum Forward Surge Current: The forward current, surge peak or rated forward surge current.
I_O	Average Rectified Output Current: Output current averaged over a full cycle with a 50 Hz or 60 Hz sine-wave input and a 180 degree conduction angle.
T_J	Junction Temperature: The temperature of a semiconductor junction.
V_F	Maximum Forward Voltage: The maximum forward voltage the device will exhibit at a specified current.
V_{RWM}	Working Peak Reverse Voltage: The maximum peak voltage that can be applied over the operating temperature range.

ELECTRICAL CHARACTERISTICS @ 25 °C unless otherwise noted

TYPE	WORKING PEAK REVERSE VOLTAGE V_{RWM}	MAXIMUM FORWARD VOLTAGE DROP	MAXIMUM LEAKAGE CURRENT @ V_{RWM}	
	Volts	Volts	μA	
			25 °C	100 °C
UT261	100	1 V @ 900 mA	2	75
UT262	200			
UT264	400			
UT265	500			
UT267	600			
UT268	800			
UT251	100	1 V @ 750 mA	2	75
UT252	200			
UT254	400			
UT255	500			
UT257	600			
UT258	800			
UT364	1000			
UT249	100	1 V @ 500 mA	2	75
UT242	200			
UT244	400			
UT245	500			
UT247	600			
UT362	800			
UT363	1000			
UT236	100	1 V @ 400 mA	2	75
UT234	200			
UT235	400			
UT237	500			
UT238	600			
UT361	800			
UT347	1000			

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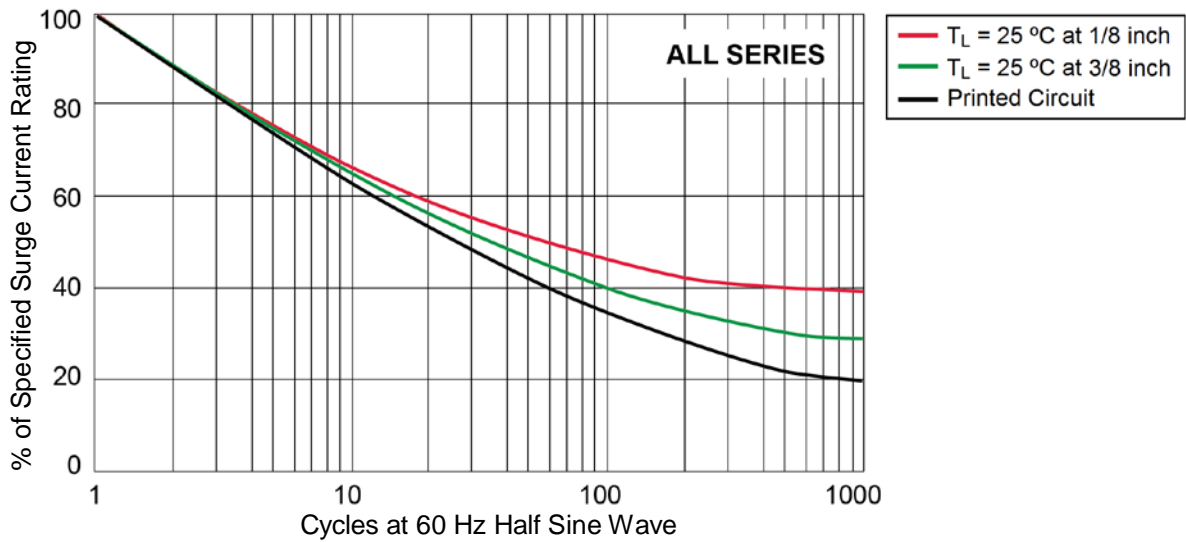


FIGURE 1
Allowable Forward Surge Current vs Number of Cycles

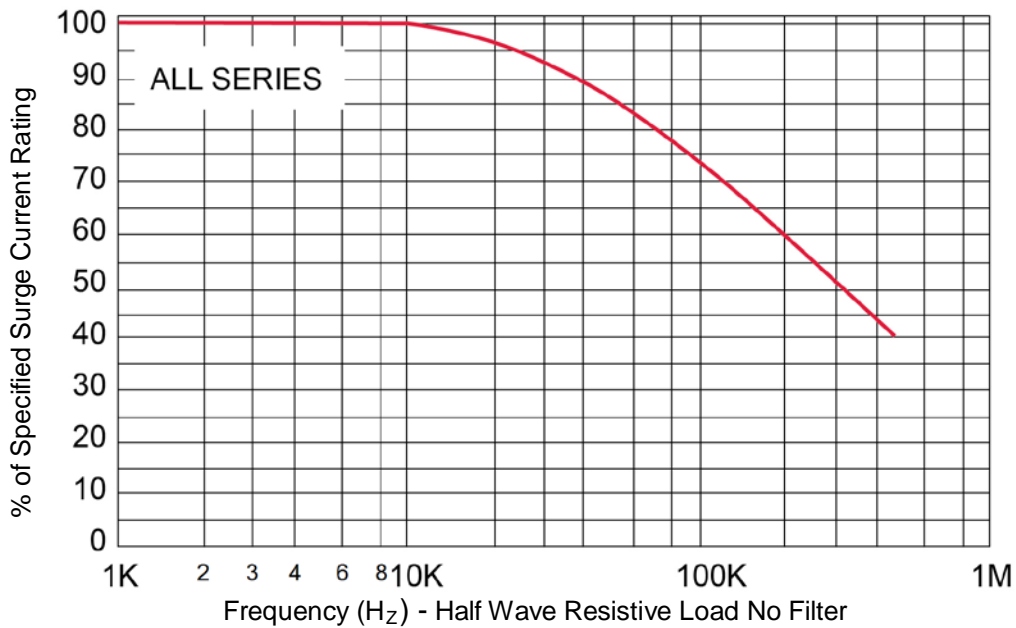


FIGURE 2
Efficiency vs Frequency at Rated Current (Sine Wave)

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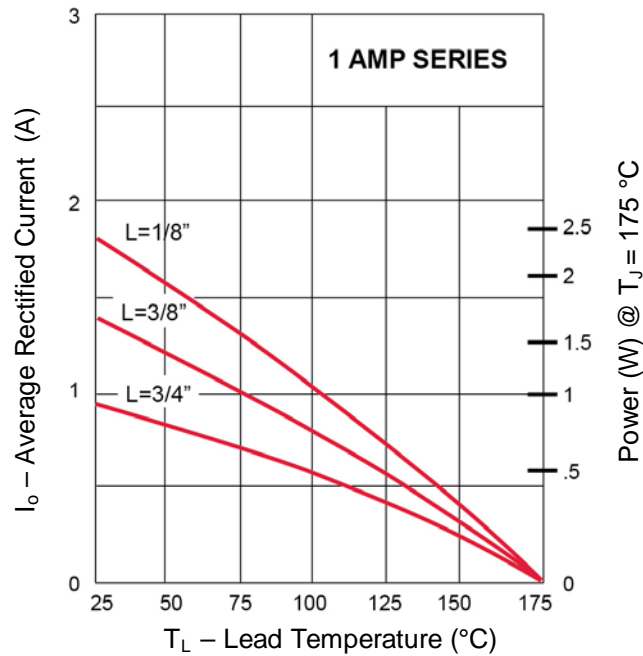


FIGURE 3
Maximum Current vs Lead Temperature

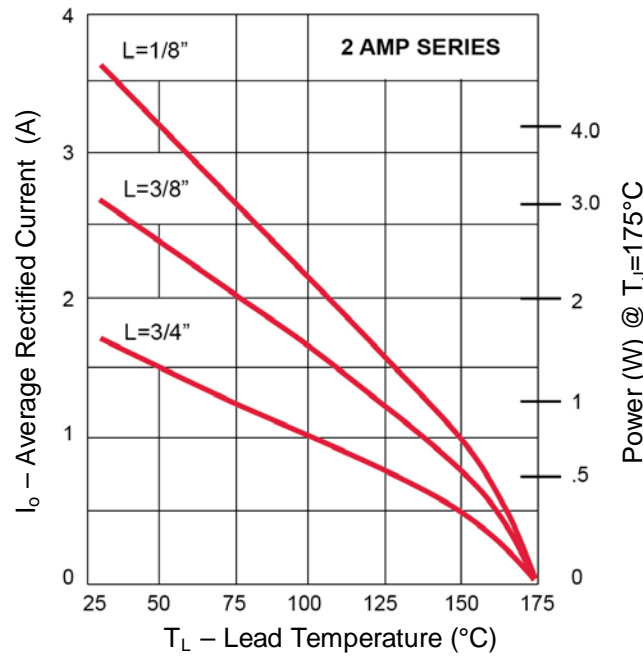


FIGURE 4
Maximum Current vs Lead Temperature

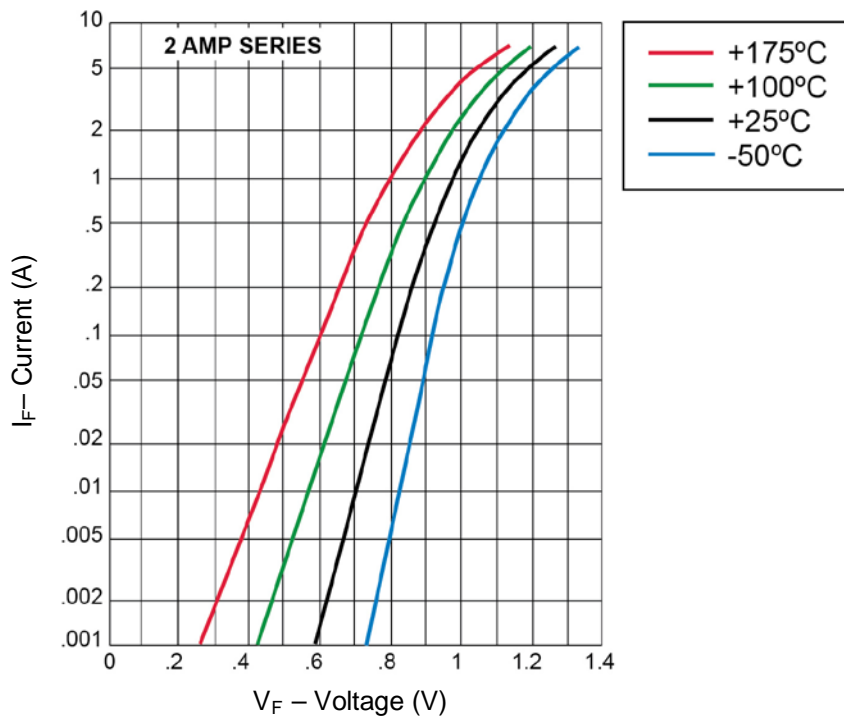
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FIGURE 5
Typical Forward Current vs Forward Voltage

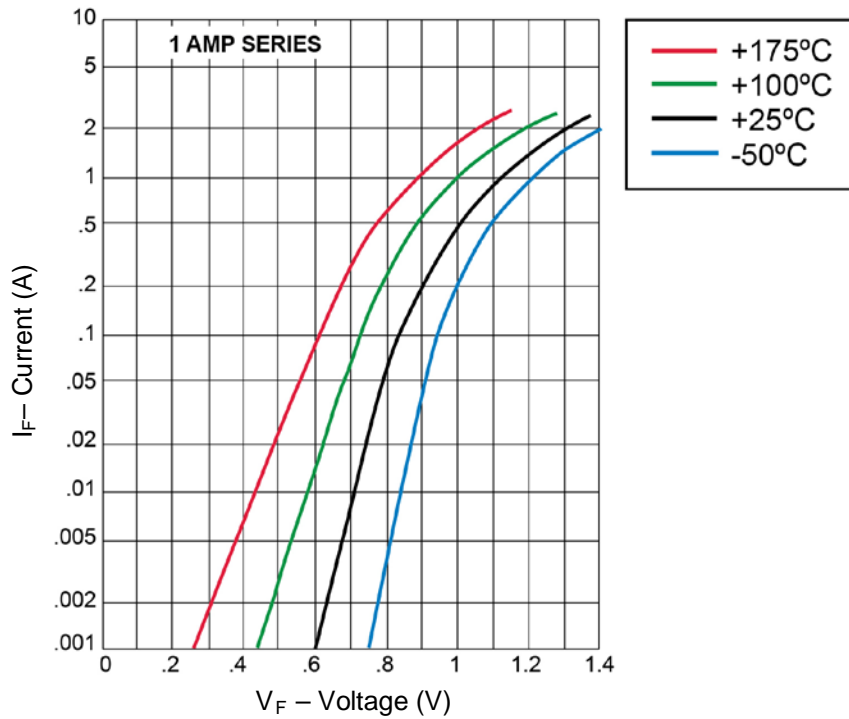
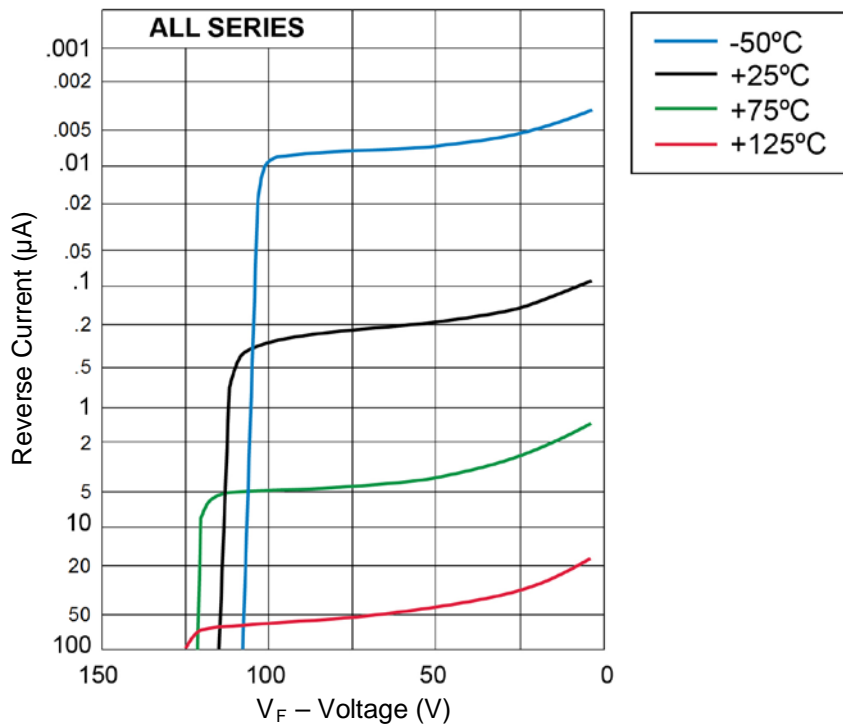
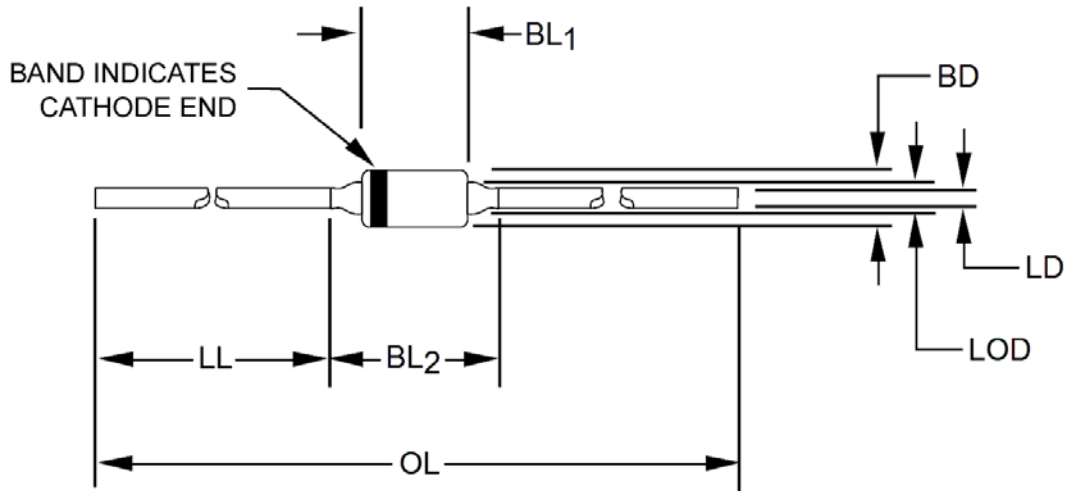


FIGURE 6
Typical Forward Current vs Forward Voltage

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**FIGURE 7**Typical Leakage Current vs Working Peak Reverse Voltage (V_{RWM})

PACKAGE DIMENSIONS

NOTES:

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Dimension BL₂ shall include the entire body including slugs and sections of the lead over which the diameter is uncontrolled. This uncontrolled area is defined as the zone between the edge of the diode body and extending 0.050 inch (1.27 mm) onto the leads.
4. Dimension BD shall be measured at the largest diameter.
5. In accordance with ASME Y14.5M, diameters are equivalent to Φ x symbology.

Ltr	DIMENSIONS				Notes
	INCHES		MILLIMETERS		
	Min	Max	Min	Max	
BD	0.065	0.085	1.65	2.16	4
BL₁	0.155 TYP		3.9 TYP		
BL₂	0.125	0.250	3.18	6.35	3
LD	0.027	0.032	0.69	0.81	3
LL	0.700	1.30	17.78	33.02	
LOD	0.055 TYP		1.4 TYP		
OL	1.625	--	41.3	--	