

1. Description

These diodes are optimized to less losses and EMI/RFI in high frequency power conditioning system. The soft recovery character of the diodes offers buffer in most applications. These devices are suited for power converters and other applications where the switching losses are not significant portion of the total losses.

2. Features

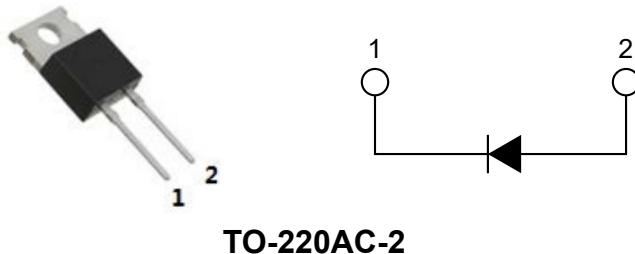
- Ultrafast Recovery
- 175°C operating junction temperature
- High frequency operation
- Low IR value
- High surge capacity
- Epitaxial chip construction

3. Applications

- Switched mode power supply
- UPS
- Freewheeling diode, Snubber diode

4. Pinning Information

Product Summary	
V_R	600V
$I_{F(AV)}$	12A
t_{rr}	25ns





5. Absolute Maximum Ratings

Parameter	Symbol	Test Conditions	Value	Units
Repetitive peak reverse voltage	V_{RRM}		600	V
Blocking voltage	V_R		600	V
Continuous forward current ¹	$I_{F(AV)}$	$T_A=110^\circ C$	12	A
Single pulse forward current	I_{FSM}	$T_A=25^\circ C, t_p=10ms$	100	A
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHz	20	A
Operating junction	T_J		175	$^\circ C$
Storage temperatures	T_{STG}		-55 to 175	$^\circ C$

Note: 1. $\delta = 0.5$ square wave

6. Electrical Characteristics ($T_A = 25^\circ C$ Unless otherwise specified)

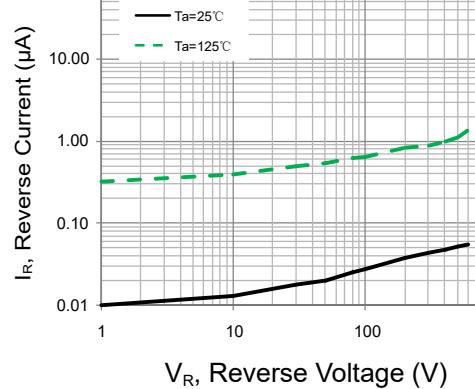
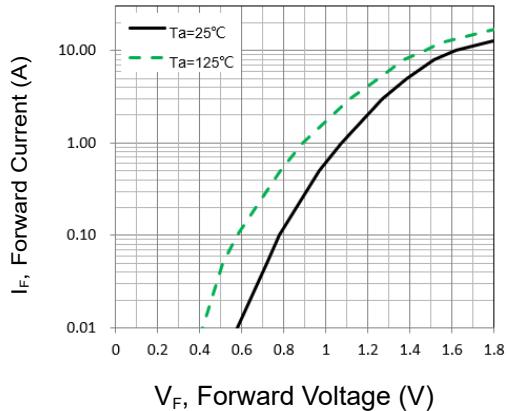
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Breakdown voltage	V_{BR}	$I_R=100\mu A$	600			V
Forward voltage	V_F	$I_F=12A$		1.75	2.6	V
		$I_F=12A, T_J=125^\circ C$		1.55	2.4	V
Reverse leakage current	I_R	$V_R=V_{RRM}$			20	μA
		$T_J=150^\circ C, V_R=1200V$			200	μA
Reverse recovery time	t_{rr}	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$			30	ns
		$I_F=1A, V_R=30V, di/dt =200A/\mu s$		20	25	ns

7. Thermal Characteristics

Parameter	Symbol	Typ	Max	Units
Junction-to-Case	R_{thJC}		3	$^\circ C/W$

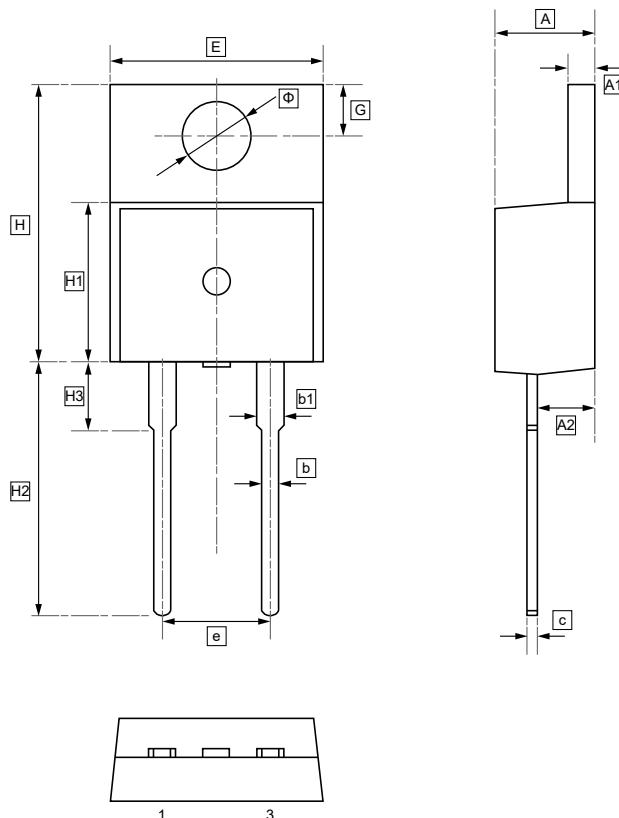


8.Typical Characteristics





9.TO-220AC-2 Package Outline Dimensions



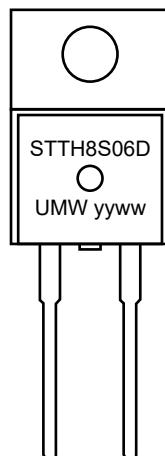
DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	b	b1	c	e	E	H	H1	H2	H3
Min	4.30	1.17	2.20	0.60	1.17	0.30	2.34	9.70	15.50	9.00	12.58	2.80
Max	4.70	1.37	2.60	1.00	1.37	0.70	2.74	10.10	15.90	9.40	13.58	3.20

Symbol	G	Φ
Min	2.60	3.40
Max	3.00	3.80



10. Ordering Information



yy: Year Code

ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW STTH8S06D	TO-220AC-2	1000	Tube and box



11.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.