UMW STTH10LCD06CFP

FRED Ultrafast Soft Recovery Diode, 600V, 6A×2

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
- Freewheeling diode,snubber diode
- Uninterruptible power supplies (UPS

4.Pinning Information

Product Summary	
V_R	600V
$I_{F(AV)}$	2×6A
t_{rr}	35ns

TO-220FP-AB

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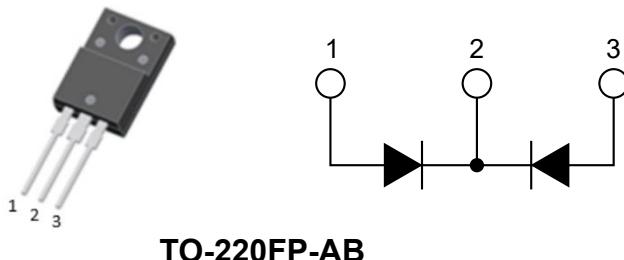
5.Absolute Maximum Ratings

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°C	12	A
Single pulse forward current [2]	I_{FSM}	T_A=25°C	80	A
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHZ	40	A
Operating junction	T_J		175	°C
Storage temperatures	T_{STG}		-55 to 175	°C

Note: 1. δ=0.5

      2. t_p=10ms sinusoidal

6.Electrical Characteristics (T_A= 25°C Unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Breakdown voltage	V_{BR}	I_R=100µA	600			V
Forward voltage	V_F[3]	I_F=6A		1.3	1.6	V
		I_F=6A, T_J=125°C		1.2	1.5	V
Reverse leakage current	I_R[4]	V_R=V_{RRM}			20	µA
		T_J=150°C, V_R=600V			200	µA
Reverse recovery time	t_{rr}	I_F=0.5A, I_R=1A, I_{RR}=0.25A			35	ns
		I_F=1A, V_R=30V, di/dt =200A/µs		22	35	ns

Notes:

3. Pulse test: t_p=380µs, δ < 2%

4. Pulse test: t_p=5ms, δ < 2%

To evaluate the conduction losses, use the following equation: $P = 1.2 \times I_{F(AV)} + 0.08 \times I_{F^2(RMS)}$

7.Thermal Characteristics

Parameter	Symbol	Typ	Max	Units
Junction-to-Case	R_{thJC}		4.5	°C/W

UTD Semiconductor Co.,Limited
Jun.2025

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8.Typical Characterisitics
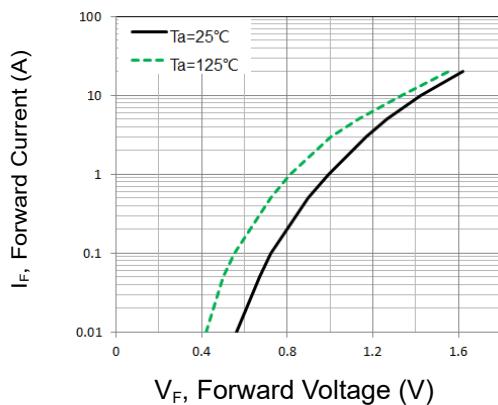
Figure 1: Forward Characteristic (typ.)
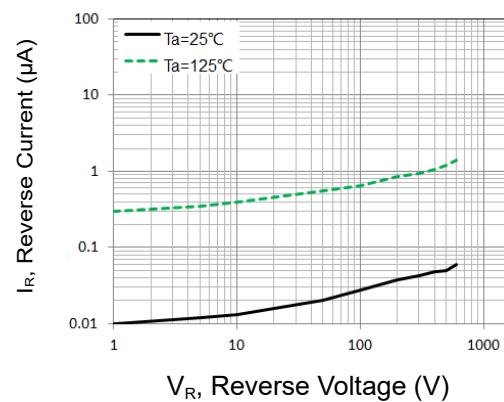
Figure 2: Reverse Characteristic (typ.)

9. TO-220FP-AB Package Outline Dimensions
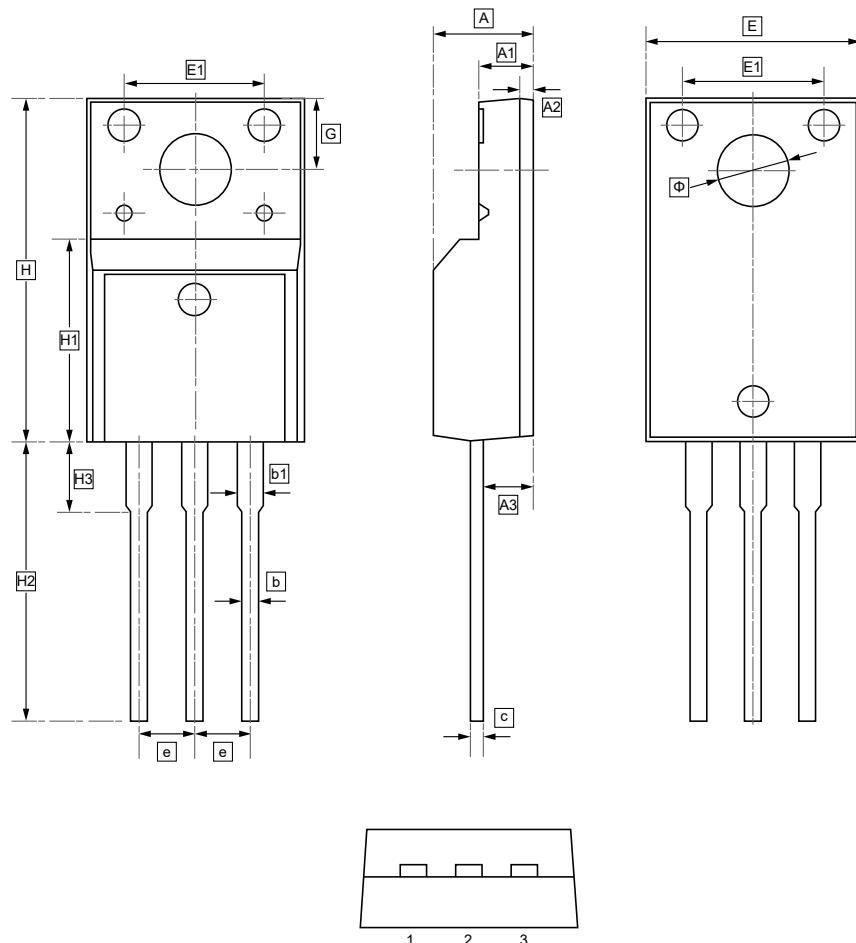
DIMENSIONS (mm are the original dimensions)

Symbol	A	A1	A2	A3	b	b1	c	e	E	E1	H	H1
Min	4.35	2.30	0.40	2.10	0.60	1.00	0.30	2.30	9.80	6.30	15.60	8.80
Max	4.75	2.70	0.80	2.50	1.00	1.40	0.70	2.70	10.20	6.70	16.00	9.20

Symbol	H2	H3	G	Φ
Min	12.90	3.10	3.10	3.10
Max	13.50	3.50	3.50	3.50

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10.Ordering Information

STTH10LCD06CFP
UMW   yyww
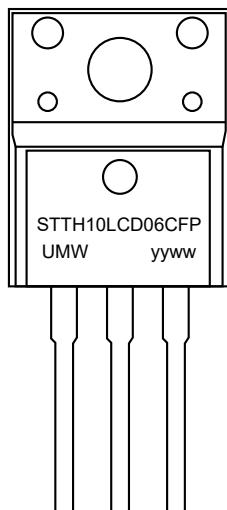
yy: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW STTH10LCD06CFP	TO-220FP-AB	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.

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