

HDS10U20AW

Ultra Fast Recovery Diode

General Description

The HDS10U20AW is ideally as boost diode in discontinuous or critical mode power factor corrections.

The planar structure and the platinum doper life time control guarantee the best overall performance, ruggedness reliability characteristics. The device is also intended for use as a freewheeling diode in power supplies and other power switching applications.

Features

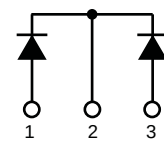
- ☐ Low forward drop voltage
- ☐ Dual common cathode rectifier construction
- ☐ Ultrafast recovery time and high speed switching

$$V_{RRM} = 200 \text{ V}$$

$$I_F = 2 \times 5 \text{ A}$$

$$t_{rr} = 19 \text{ nS}$$

TO-220F



Pin 1, 3 : Anode
Pin 2 : Cathode

Absolute Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	200	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Rectifier Forward Current (Per Diode) (Total Diode)	5 10	A
I_{FSM}	Non-Rectifier Peak Surge Current @8.3ms (Per Diode)	120	A
T_J, T_{STG}	Operating and Storage Temperature Range	-45 to +150	$^\circ\text{C}$

Electrical Characteristics (Per Diode)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_F	Forward Voltage	$I_F = 5 \text{ A}, T_J = 25^\circ\text{C}$	--	0.88	0.98	V
I_R	Reverse Current	$V_R = 200 \text{ V}, T_J = 25^\circ\text{C}$	--	--	5	μA
		$V_R = 200 \text{ V}, T_J = 125^\circ\text{C}$	--	--	200	
t_{rr}	Reverse Recovery Time	$I_F = 1 \text{ A}, di/dt = 100 \text{ A}/\mu\text{s}$	--	17	25	ns
C_j	Junction Capacitance	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$	--	32	--	pF

Thermal Resistance Characteristics

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Junction-to-Case (Per Diode)	--	4.0	$^\circ\text{C}/\text{W}$

Typical Characteristics (Per Diode)

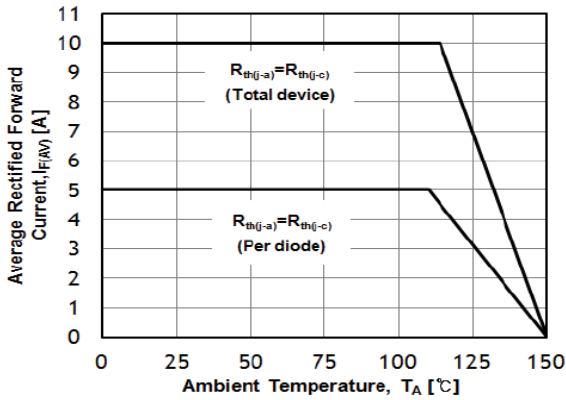


Figure 1. Forward Current Derating Curve

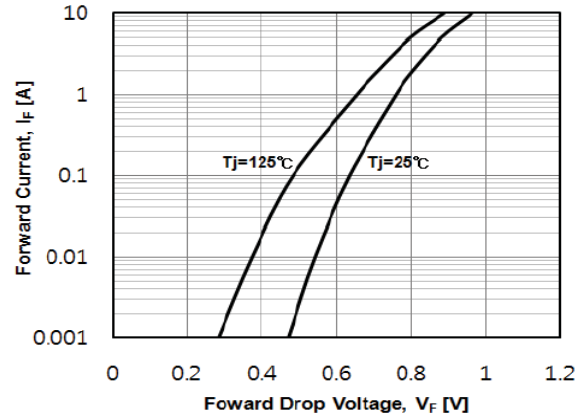


Figure 2. Typical Forward Characteristics

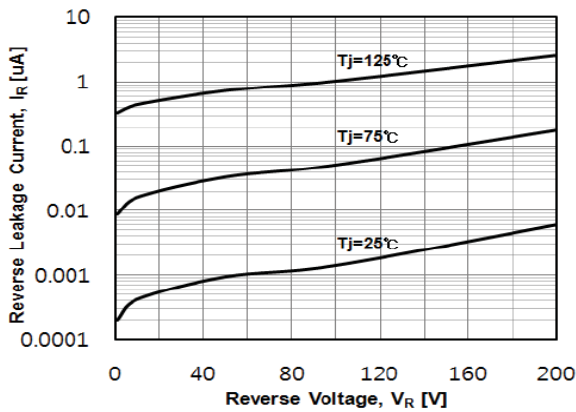


Figure 3. Typical Reverse Characteristics

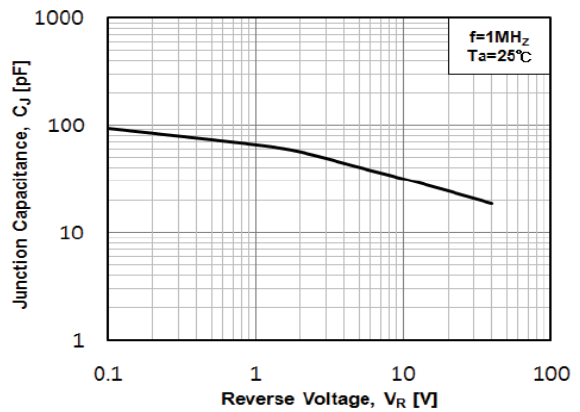


Figure 4. Typical Junction Capacitance

Package Dimension

TO-220F

