

HDS20U30GW

Ultra Fast Recovery Diode

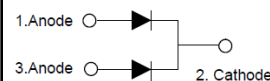
General Description

With excellent performance in reverse recovery time, switching speed and rated current, HDS20U30GW can be utilized with high voltage power switches for voltage limitation and high-frequency current rectification.

Features

- High Breakdown Voltage
- High Speed Switching

$$\begin{aligned}V_{RRM} &= 300\text{ V} \\ I_F &= 2 \times 10\text{ A} \\ t_{rr} &= 21\text{ nS}\end{aligned}$$

TO-220F

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

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	300	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Rectifier Forward Current (Per Diode) (Total Diode)	10 20	A
I_{FSM}	Non-Rectifier Peak Surge Current @8.3ms (Per Diode)	100	A
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (Per Diode)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{BR}	Breakdown Voltage	$I_R = 50\mu\text{A}$	300	--	--	V
V_F	Forward Voltage	$I_F = 10\text{A}, T_C = 25^\circ\text{C}$	--	1.05	1.2	V
I_R	Reverse Current	$V_R = 300\text{V}, T_C = 25^\circ\text{C}$	--	--	10	μA
t_{rr}	Reverse Recovery Time	$I_F = 1\text{A}, di/dt = 200\text{A}/\mu\text{s}$	--	21	--	ns
		$I_F = 10\text{A}, di/dt = 200\text{A}/\mu\text{s}$	--	34	--	ns

Thermal Resistance Characteristics

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Junction-to-Case (Per Diode)	--	3.6	$^\circ\text{C}/\text{W}$

Typical Characteristics (Per Diode)

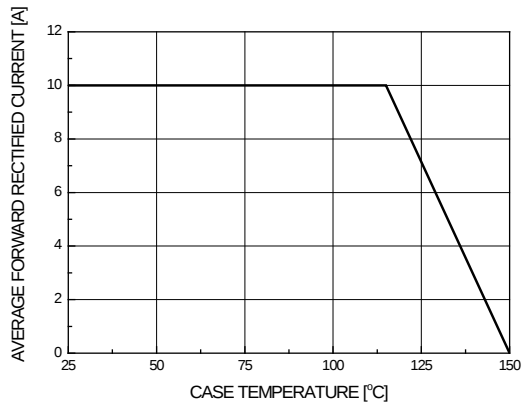


Figure 1. Forward Current Derating Curve

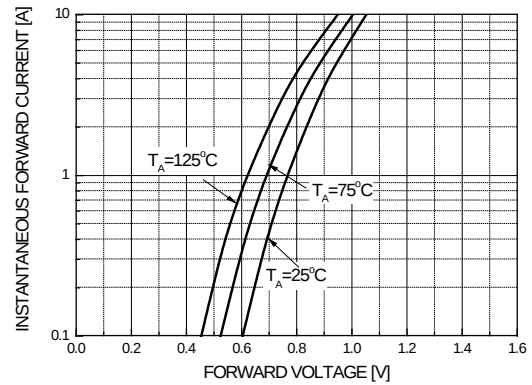


Figure 2. Typical Forward Characteristics

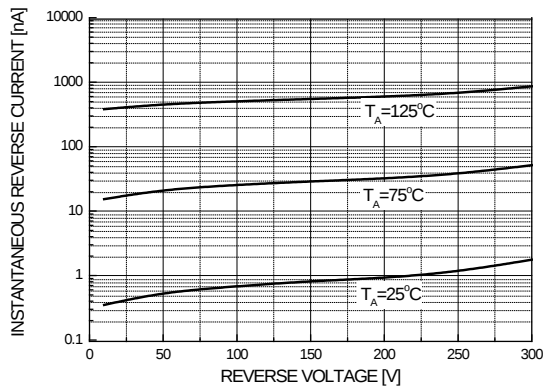


Figure 3. Typical Reverse Characteristics

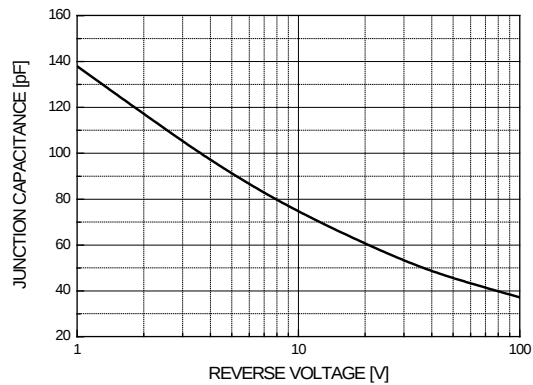


Figure 4. Typical Junction Capacitance

Package Dimension

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