

HDAE30U120G

Ultra Fast Recovery Diode

General Description

With excellent performance in reverse recovery time, switching speed and rated current, HDAE30U120G can be utilized with high voltage power switches for voltage limitation and high-frequency current rectification.

Features

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Forward Voltage
- Low Stored Charge

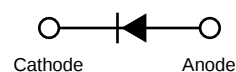
Applications

- Freewheeling, Snubber, Clamp
- Switch Power Supplies
- Motor Control, Inverters, Converters

$$V_{RRM} = 1200 \text{ V}$$

$$I_F = 30 \text{ A}$$

$$t_{rr(Typ)} = 38 \text{ nS}$$

TO-247-2L

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

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	1200	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Rectifier Forward Current	30	A
I_{FSM}	Non-Rectifier Peak Surge Current @8.3ms	300	A
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +175	$^\circ\text{C}$

Electrical Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{BR}	Breakdown Voltage	$I_R = 100\mu\text{A}$	1200	--	--	V
V_F	Forward Voltage	$I_F = 30\text{A}, T_C = 25^\circ\text{C}$	--	2.20	3.0	V
		$I_F = 30\text{A}, T_C = 125^\circ\text{C}$	--	1.85	2.7	
I_R	Reverse Current	$V_R = 1200\text{V}, T_C = 25^\circ\text{C}$	--	--	50	μA
		$V_R = 1200\text{V}, T_C = 125^\circ\text{C}$	--	--	250	
t_{rr}	Reverse Recovery Time	$I_F = 1\text{A}, di/dt = 200\text{A}/\mu\text{s}$	--	38	--	ns

Thermal Resistance Characteristics

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Junction-to-Case	--	1.2	$^\circ\text{C}/\text{W}$

Typical Characteristics

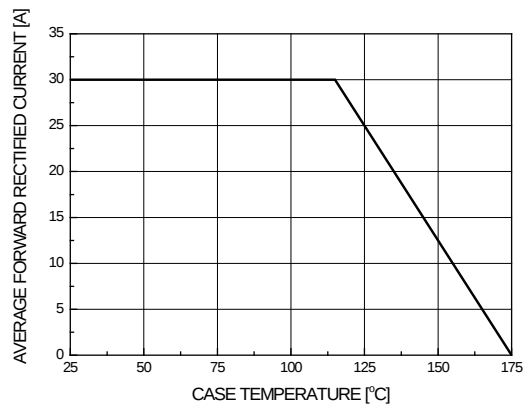


Figure 1. Forward Current Derating Curve

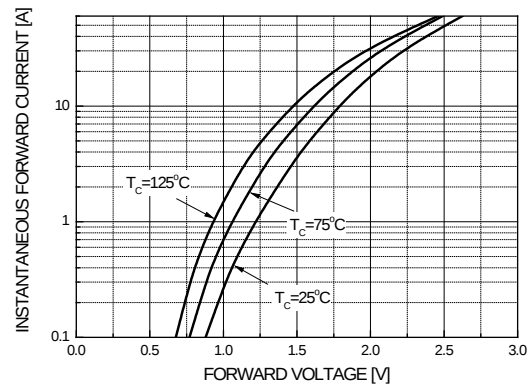


Figure 2. Typical Forward Characteristics

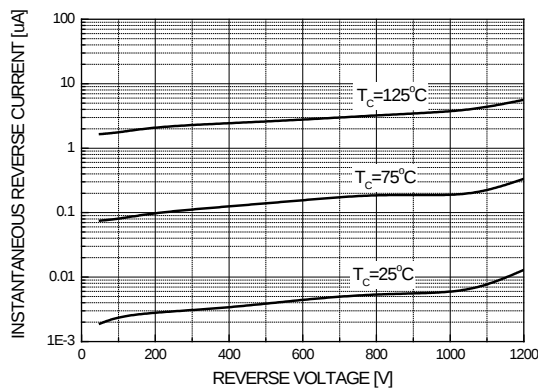


Figure 3. Typical Reverse Characteristics

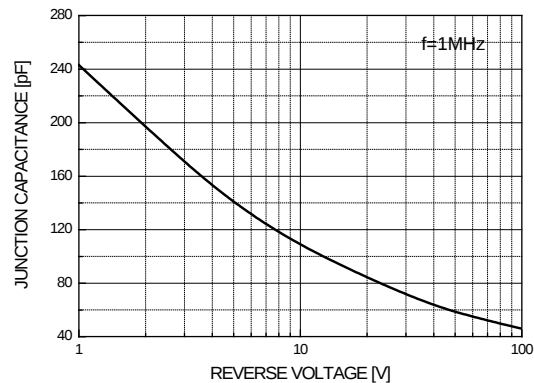


Figure 4. Typical Junction Capacitance

Package Dimension

TO-247-2L

