

# HDPE30U120G

## Ultra Fast Recovery Diode

### General Description

With excellent performance in reverse recovery time, switching speed and rated current, HDPE30U120G 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

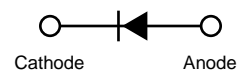
- Freewheeling, Snubber, Clamp
- Switch Power Supplies
- Motor Control, Inverters, Converters

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

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

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

TO-220-2L



### 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	$\mu\text{A}$
		$V_R = 1200\text{V}, T_C = 125^\circ\text{C}$	--	--	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

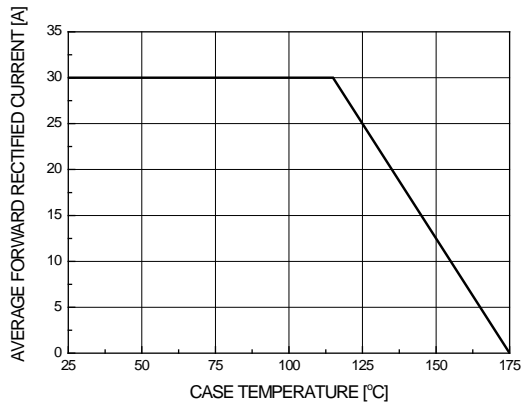


Figure 1. Forward Current Derating Curve

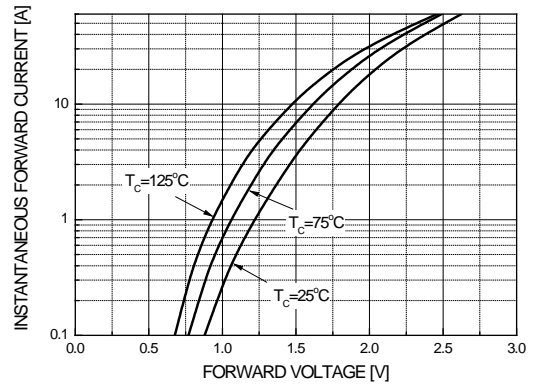


Figure 2. Typical Forward Characteristics

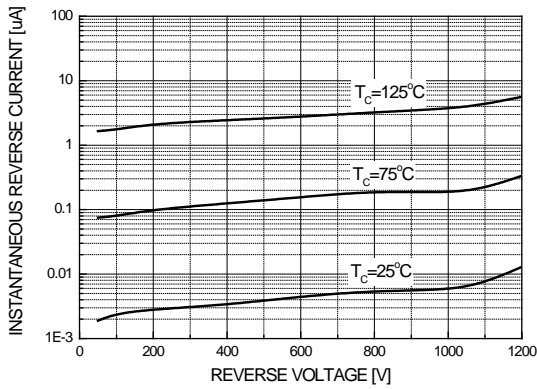


Figure 3. Typical Reverse Characteristics

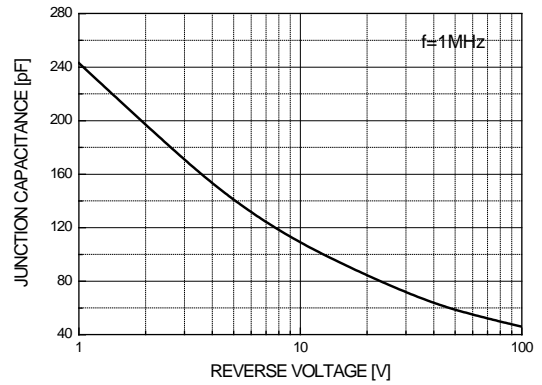
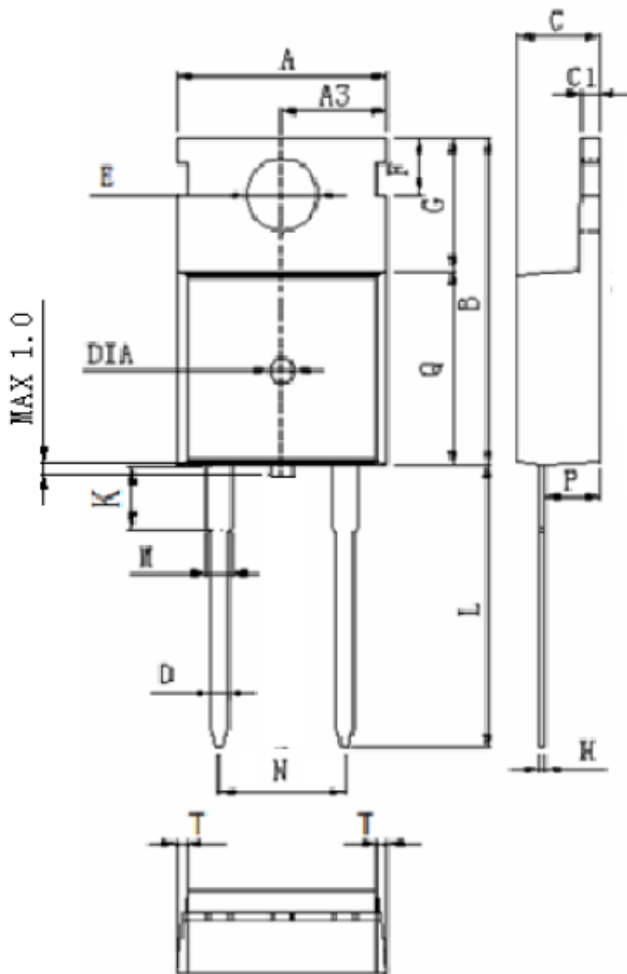


Figure 4. Typical Junction Capacitance

Package Dimension

TO-220-2L



DIM	MILLIMETERS
A	10.0±0.3
A3	5.0±0.2
B	15.8±0.4
C	4.48±0.2
C1	1.3±0.2
D	0.8±0.2
E	3.6±0.2
F	2.95±0.3
G	5.5±0.3
H	0.5±0.1
K	3.1±0.2
L	13.2±0.4
L1	3.0±0.3
M	1.25±0.1
N	5.08±0.05
P	2.4±0.3
Q	9.0±0.3
T	W:0.35
DIA	⊙1.5 (deep 0.2)

Unit :mm