Feb 2016

SemiHow
Know-How for Semiconductor

HDPE15U120G
Ultra Fast Recovery Diode

V_{RRM} = 1200 V
I_F = 15 A
$t_{rr(Typ)}$ = 35 nS

TO-220-2L

General Description

With excellent performance in reverse recovery time, switching speed and rated current, HDPE15U120G 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

Absolute Maximum Ratings T_C=25˚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	15	A
I_{FSM}	Non-Rectifier Peak Surge Current @8.3ms	160	A
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +175	℃

Electrical Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{BR}	Breakdown Voltage	I_R = 100uA	1200	--	--	V
V_F	Forward Voltage	I_F = 15A, T_C = 25℃	--	2.20	3.0	V
		I_F = 15A, T_C = 125℃	--	1.85	2.7	
I_R	Reverse Current	V_R = 1200V, T_C = 25℃	--	--	10	uA
		V_R = 1200V, T_C = 125℃	--	--	100	
t_{rr}	Reverse Recovery Time	I_F = 1A, di/dt = 200A/μs	--	35	--	ns

Thermal Resistance Characteristics

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Junction-to-Case	--	1.5	℃/W

Typical Characteristics

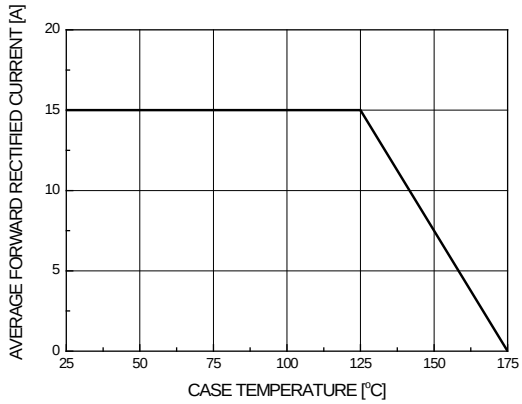


Figure 1. Forward Current Derating Curve

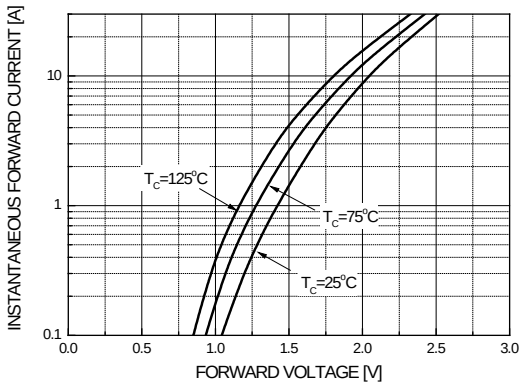


Figure 2. Typical Forward Characterisitics

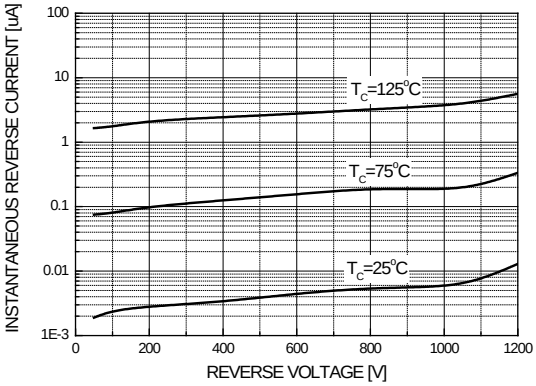


Figure 3. Typical Reverse Characteristics

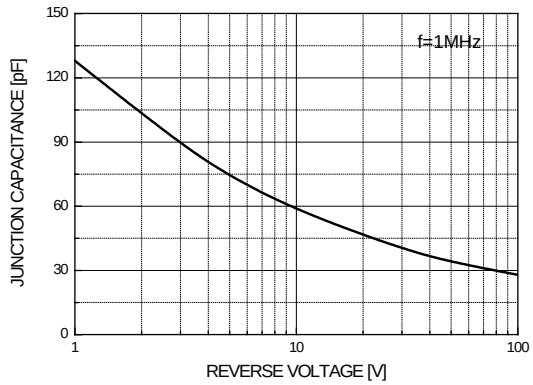
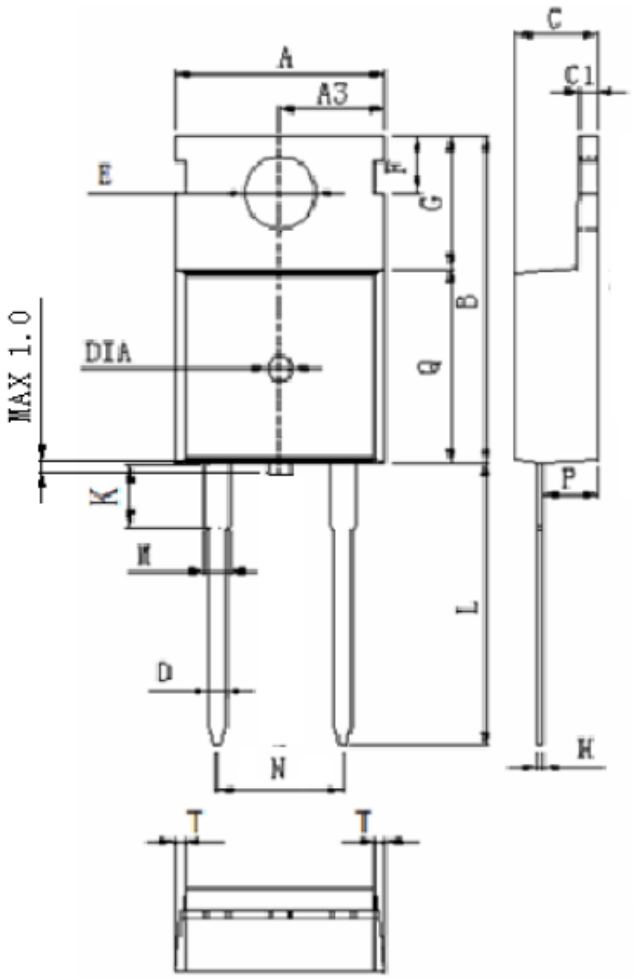


Figure 4. Typical Junction Capacitance

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