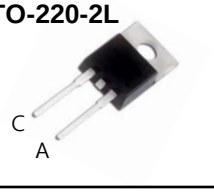
May 2015

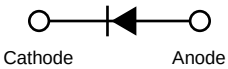
SemiHow
Know-How for Semiconductor

HDPE10U60G
Ultra Fast Recovery Diode

V_{RRM} = 600 V
I_F = 10 A
$t_{rr(Typ)}$ = 27 nS

TO-220-2L





General Description

With excellent performance in reverse recovery time, switching speed and rated current, HDPE10U60G can be utilized with high voltage power switches for voltage limitation and high-frequency current rectification.

Features

- ❑ High breakdown voltage
- ❑ High speed switching
- ❑ Avalanche Energy Rated
- ❑ Planar Construction

Applications

- ❑ LED Power & Other Charger SMPS
- ❑ PFC
- ❑ General Purpose

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_R	DC Blocking Voltage		
$I_{F(AV)}$	Average Rectifier Forward Current (T_C=125℃)	10	A
I_{FSM}	Non-Rectifier Peak Surge Current @8.3ms	100	A
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +150	℃

Electrical Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{BR}	Breakdown Voltage	I_R = 50uA	600	--	--	V
V_F	Forward Voltage	I_F = 10A, T_C = 25℃	--	1.3	1.55	V
		I_F = 10A, T_C = 125℃	--	1.2	1.45	
I_R	Reverse Current	V_R = 600V, T_C = 25℃	--	--	10	uA
t_{rr}	Reverse Recovery Time	I_F = 1A, di/dt = 200A/μs	--	27	--	ns
		I_F = 10A, di/dt = 200A/μs	--	52	--	ns

Thermal Resistance Characteristics

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Junction-to-Case	--	1.8	℃/W

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Typical Characteristics

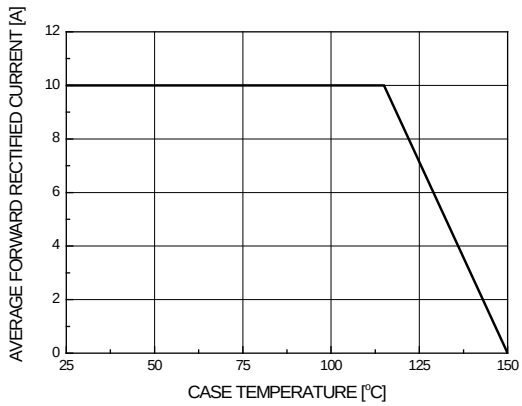

Figure 1. Forward Current Derating Curve

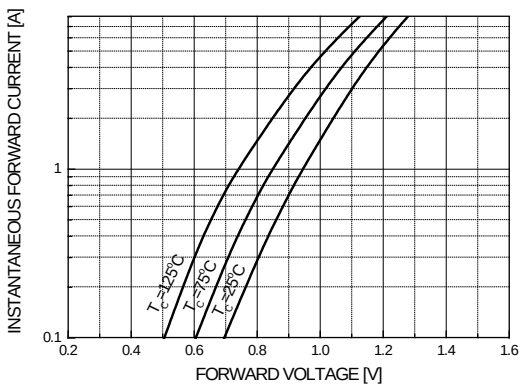

Figure 2. Typical Forward Characterisitics

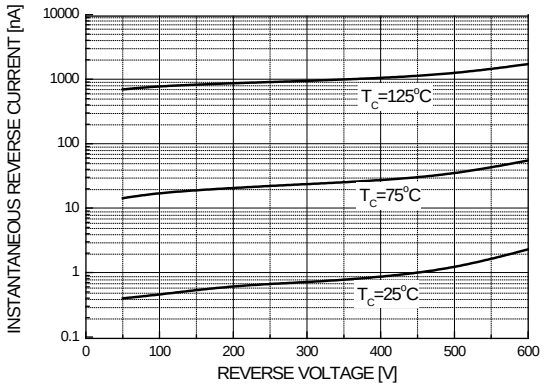

Figure 3. Typical Reverse Characteristics

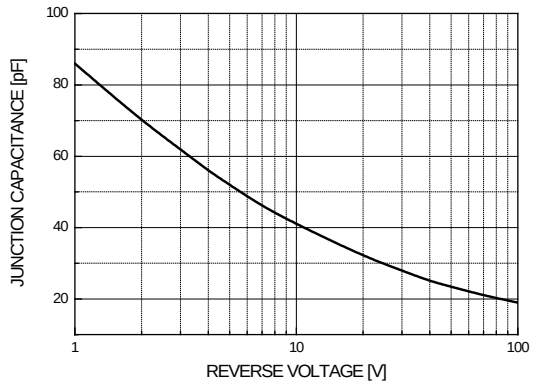

Figure 4. Typical Junction Capacitance

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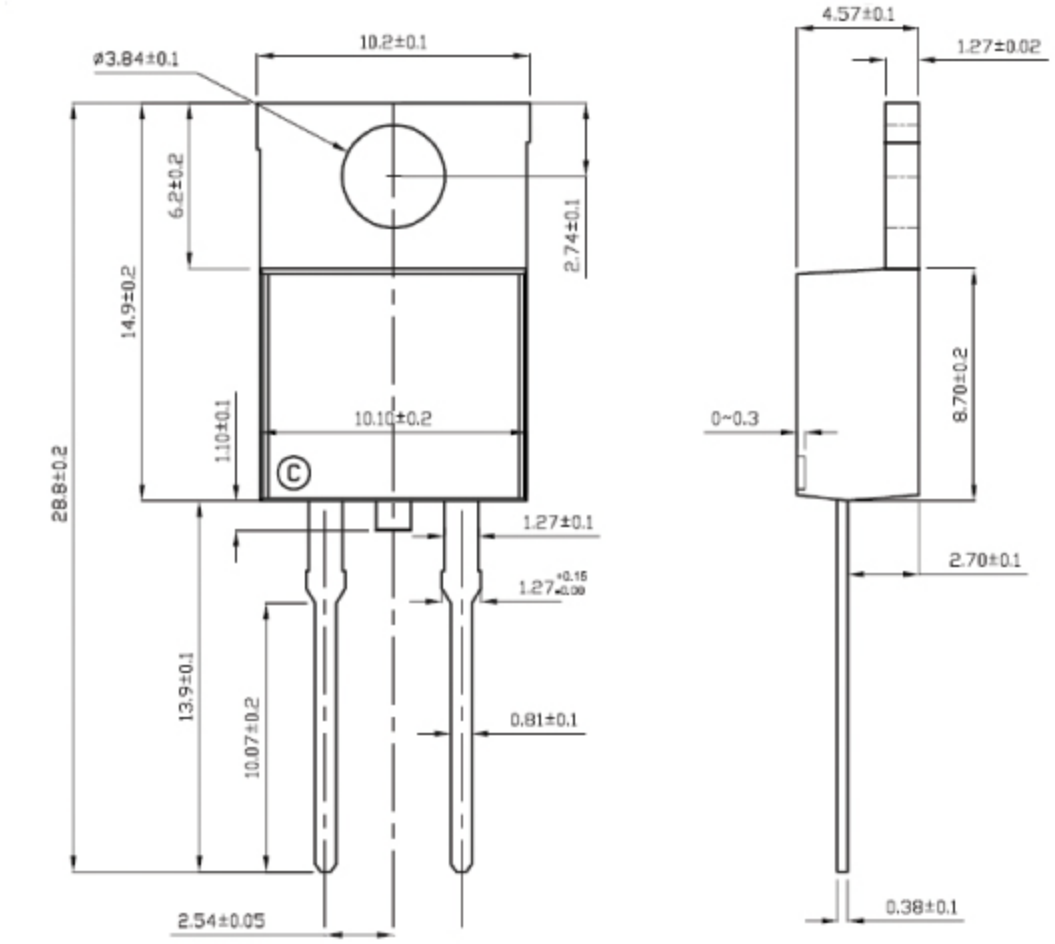
Package Dimension

TO-220-2L



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