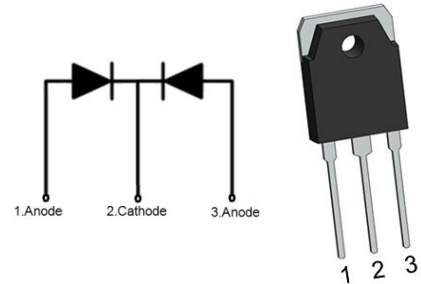# D40H60DPC

600V, 30A Ultra Fast Recovery Diode

Features

- High Voltage And High Speed Switching
- Low Forward Voltage Drop And Low Leakage Current
- TO-3P Package Offers Excellent Thermal Performance
- Pb-free Plating; RoHS Compliant

Application

- Power Factor Correction
- Free-Wheeling Diode

Absolute Maximum Ratings

| Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	600	V
$I_{F(Av)}$ @Tc=100℃	Average Rectified Forward Current (Per device)	30	A
I_{FSM}	Non-repetitive Peak Surge Current	300	A
T_J, T_{STG}	Operating Junction and Storage Temperature	-50~150	℃

Thermal Resistance

| Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Maximum Junction-to-Case thermal resistance	0.5	℃/W
$R_{\theta JA}$	Maximum Junction-to-Ambient thermal resistance	40	℃/W

Electrical Characteristics (Per diode, T_J= 25°C, Unless Otherwise Specified)

| Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_F	Diode Forward Voltage	I_F =15A , T_C = 25°C	-	1.3	1.6	V
		I_F =15A , T_C = 100°C	-	-	1.5	V
I_R	Reverse Leakage Current	V_R =600V, T_C = 25°C	-	-	50	uA
		V_R =600V, T_C = 100°C	-	-	200	
T_{RR}	Maximum Reverse Recovery time	V_R =100V, I_F =15A	-	-	70	nS
I_{RR}	Maximum Reverse Recovery Current	di/dt=200A/us	-	-	8	A
Q_{RR}	Maximum Reverse Recovery Charge	T_C = 25°C	-	-	280	nC
T_{RR}	Maximum Reverse Recovery time	V_R =100V, I_F =15A	-	-	100	nS
I_{RR}	Maximum Reverse Recovery Current	di/dt=200A/us	-	-	10	A
Q_{RR}	Maximum Reverse Recovery Charge	T_C = 100°C	-	-	500	nC

Typical Performance Characteristics
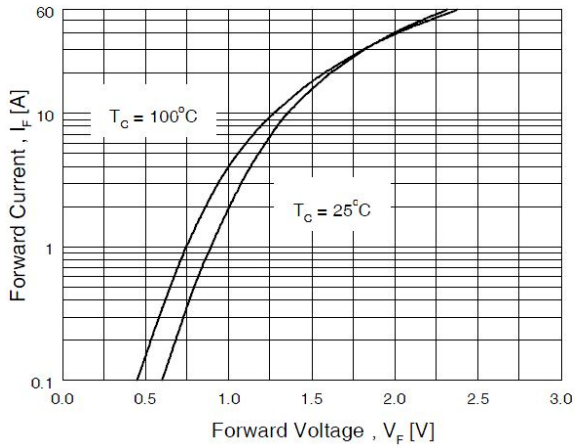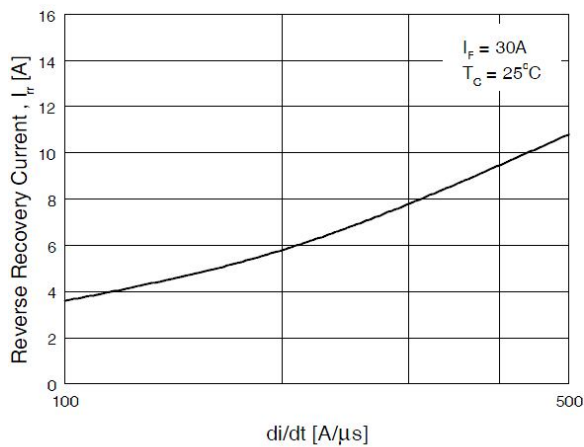
Figure 1. Typical Forward Voltage Drop
vs. Forward Current
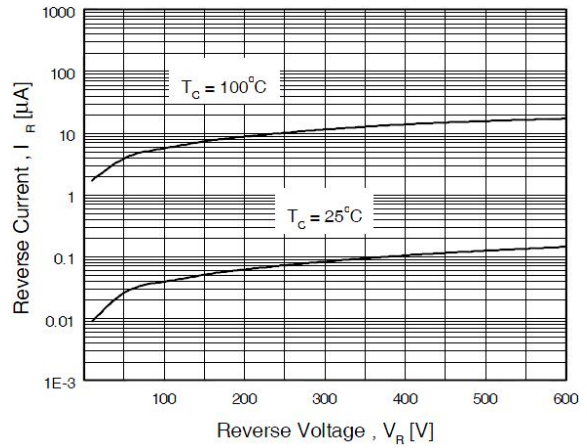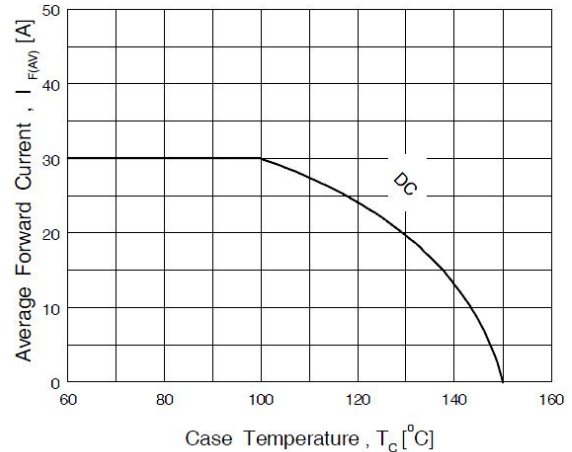
Figure 2. Typical Reverse Current
vs. Reverse Voltage
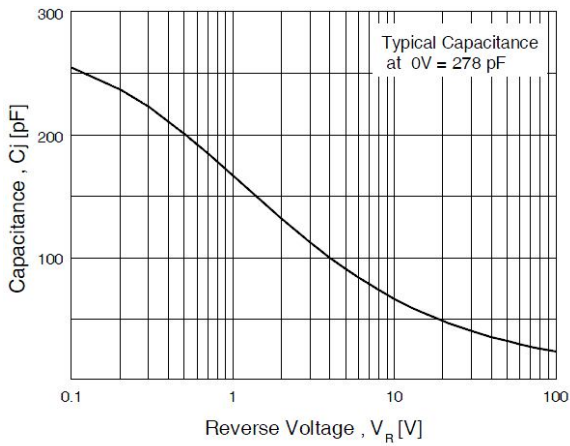
Figure 3. Typical Junction Capacitance
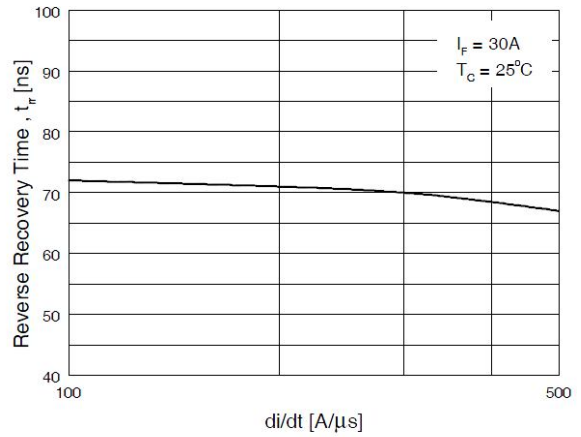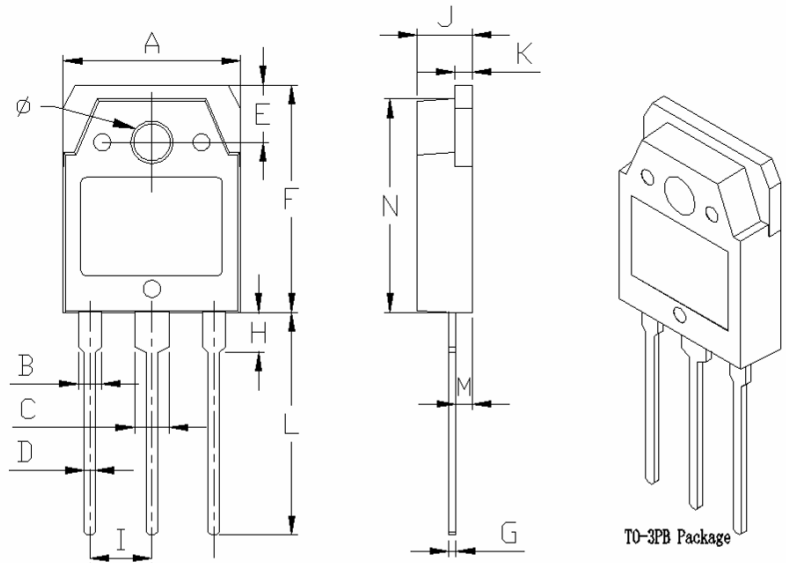
Figure 4. Typical Reverse Recovery Time
vs. di/dt

Figure 5. Typical Reverse Recovery Current
vs. di/dt

Figure 6. Forward Current Derating Curve

Mechanical Dimensions

Dim	Millimeters	
	MIN.	MAX.
A	15.50	15.70
B	1.90	2.10
C	2.90	3.10
D	0.90	1.10
E	4.90	5.10
F	19.80	20.00
G	0.55	0.65
H	3.40	3.60
I	5.45 BSC.	
J	4.70	4.9
K	1.45	1.55
L	19.9	20.10
M	1.35	1.5
N	18.6	18.8
ø	3.20	3.40

TO-3PB Package

Attention

■ Specifications of any and all SPE products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

■ Any and all Invsemi products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with us described or contained herein in such applications.

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