

- ★ 100% EAS Guaranteed
- ★ Green Device Available
- ★ Super Low Gate Charge
- ★ Excellent CdV/dt effect decline
- ★ Advanced high cell density Trench technology

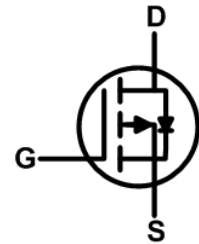
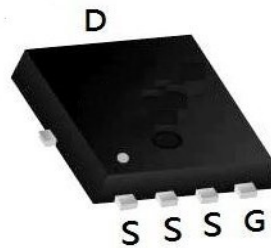
**Product Summary**


BVDSS	RDSON	ID
-60V	24mΩ	-30A

**Description**

The XXW30P06DF is the high cell density trenched P-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

The XXW30P06DF meet the RoHS and Green Product requirement, 100% EAS guaranteed with full function reliability approved.

**PRPAK5X6 Pin Configuration**

**Table 1. Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Limit	Unit
V <sub>DS</sub>	Drain-Source Voltage (V <sub>GS</sub> =0V)	-60	V
V <sub>GS</sub>	Gate-Source Voltage (V <sub>DS</sub> =0V)	±20	V
I <sub>D</sub>	Drain Current-Continuous(T <sub>C</sub> =25°C)	-30	A
	Drain Current-Continuous(T <sub>C</sub> =100°C)	-25.5	A
I <sub>DM (pluse)</sub>	Drain Current-Continuous@ Current-Pulsed (Note 1)	-144	A
P <sub>D</sub>	Maximum Power Dissipation(T <sub>C</sub> =25°C)	79	W
	Maximum Power Dissipation(T <sub>C</sub> =100°C)	39.5	W
E <sub>AS</sub>	Avalanche energy (Note 2)	196	mJ
T <sub>J</sub> , T <sub>STG</sub>	Operating Junction and Storage Temperature Range	-55 To 175	°C

**Table 2. Thermal Characteristic**

Symbol	Parameter	Typ	Max	Unit
R <sub>θJC</sub>	Thermal Resistance, Junction-to-Case		1.9	°C/W

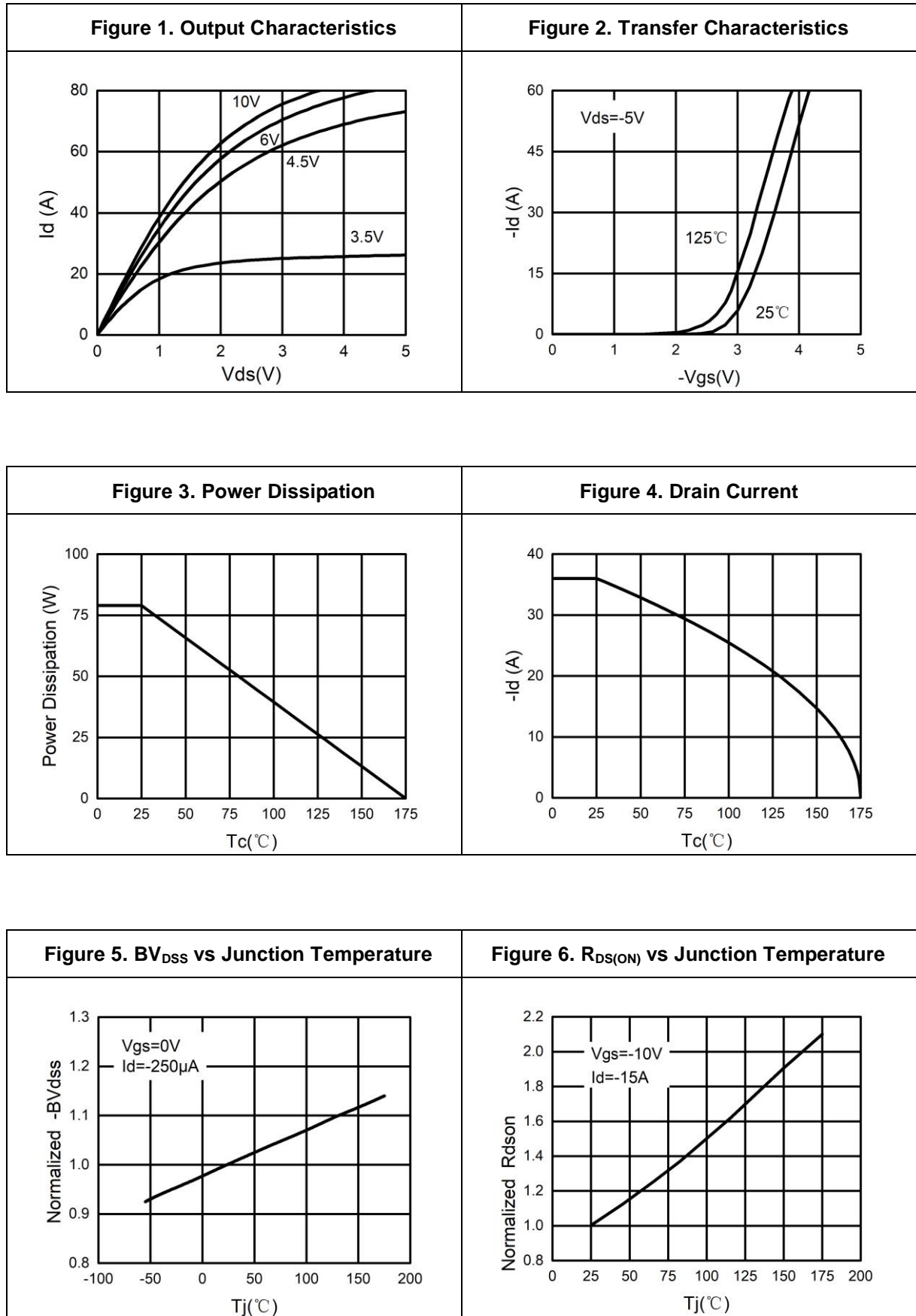
**Table 3. Electrical Characteristics (T<sub>J</sub>=25°C unless otherwise noted)**

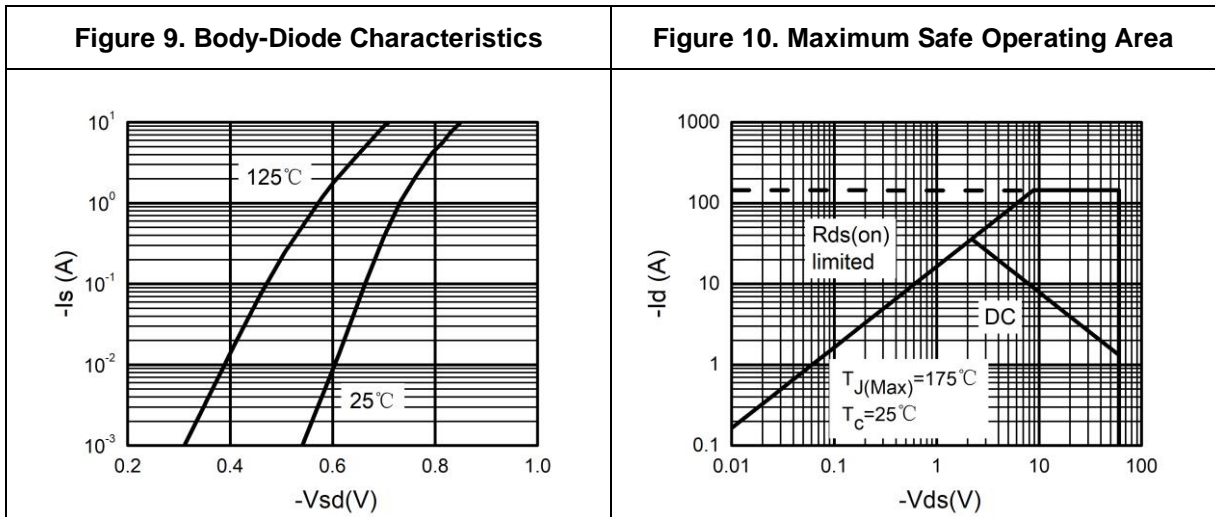
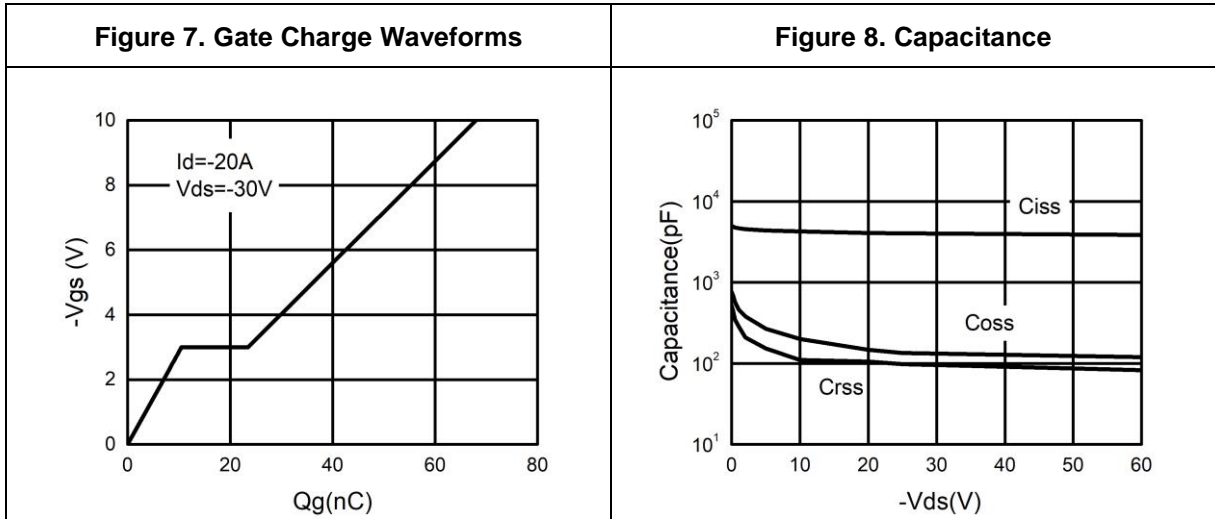
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>On/Off States</b>						
B <sub>VDSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V I <sub>D</sub> =-250μA	-60			V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =-60V, V <sub>GS</sub> =0V			-1	μA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V			±100	nA
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =-250μA	-1	-1.8	-2.5	V
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> =-5V, I <sub>D</sub> =-15A		35		S
R <sub>DS(ON)</sub>	Drain-Source On-State Resistance	V <sub>GS</sub> =-10V, I <sub>D</sub> =-15A		24	30	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-10A		30	40	mΩ
<b>Dynamic Characteristics</b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =-25V, V <sub>GS</sub> =0V, f=1.0MHz		4026		pF
C <sub>oss</sub>	Output Capacitance			134		pF
C <sub>rss</sub>	Reverse Transfer Capacitance			98		pF
<b>Switching Parameters</b>						
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-30V, R <sub>L</sub> =1.5Ω, R <sub>GEN</sub> =3Ω		12.2		nS
t <sub>r</sub>	Turn-on Rise Time			10		nS
t <sub>d(off)</sub>	Turn-Off Delay Time			64		nS
t <sub>f</sub>	Turn-Off Fall Time			14		nS
Q <sub>g</sub>	Total Gate Charge	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-30V, I <sub>D</sub> =-20A		68		nC
Q <sub>gs</sub>	Gate-Source Charge			10.5		nC
Q <sub>gd</sub>	Gate-Drain Charge			13		nC
<b>Source-Drain Diode Characteristics</b>						
I <sub>SD</sub>	Source-Drain Current (Body Diode)				30	A
V <sub>SD</sub>	Forward on Voltage <sup>(Note 3)</sup>	V <sub>GS</sub> =0V, I <sub>S</sub> =-15A			-1.2	V
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> =-20A, di/dt=100A/μs		26		ns
Q <sub>rr</sub>	Reverse Recovery Charge	I <sub>F</sub> =-20A, di/dt=100A/μs		29		nC

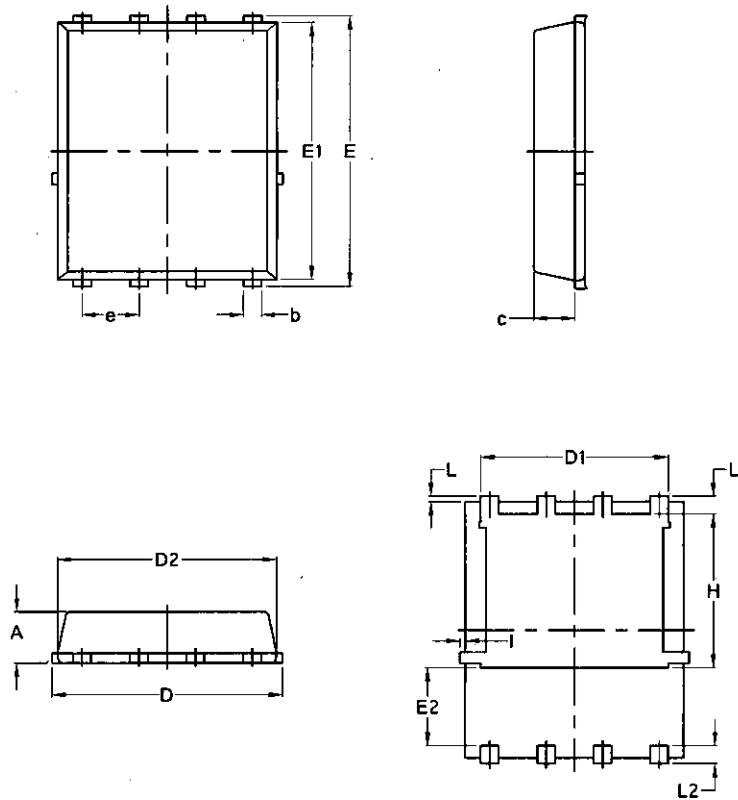
Notes 1.Repetitive Rating: Pulse width limited by maximum junction temperature.

 Notes 2.E<sub>AS</sub> condition: T<sub>J</sub>=25°C, V<sub>DD</sub>=40V, V<sub>G</sub>=-10V, R<sub>G</sub>=25Ω, L=0.5mH.

Notes 3.Repetitive Rating: Pulse width limited by maximum junction temperature.

**Typical Electrical And Thermal Characteristics (Curves)**




**Package Mechanical Data-DFN5\*6-8L-JQ Single**


Symbol	Common			
	mm		Inch	
	Min	Max	Min	Max
A	1.03	1.17	0.0406	0.0461
b	0.34	0.48	0.0134	0.0189
c	0.824	0.0970	0.0324	0.082
D	4.80	5.40	0.1890	0.2126
D1	4.11	4.31	0.1618	0.1697
D2	4.80	5.00	0.1890	0.1969
E	5.95	6.15	0.2343	0.2421
E1	5.65	5.85	0.2224	0.2303
E2	1.60	/	0.0630	/
e	1.27 BSC		0.05 BSC	
L	0.05	0.25	0.0020	0.0098
L1	0.38	0.50	0.0150	0.0197
L2	0.38	0.50	0.0150	0.0197
H	3.30	3.50	0.1299	0.1378
I	/	0.18	/	0.0070