



PJM30P60DN

P-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = -60V, I_D = -30A$
- $R_{DS(on)} < 25m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 33m\Omega @ V_{GS} = -4.5V$

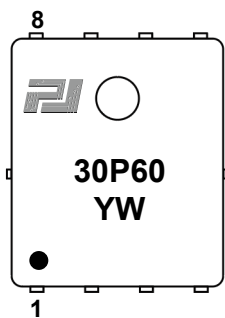
Features

- Advanced Trench Technology
- 100% Avalanche Tested
- RoHS Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

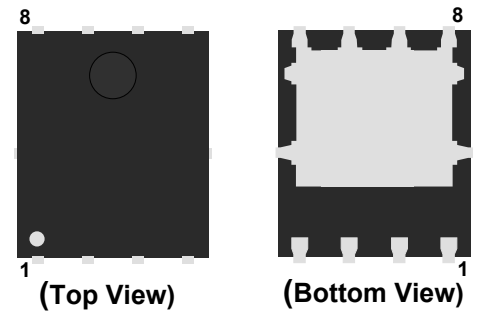
Application

- Lithium Battery Protection
- Wireless Impact
- Mobile Phone Fast Charging

Marking Code

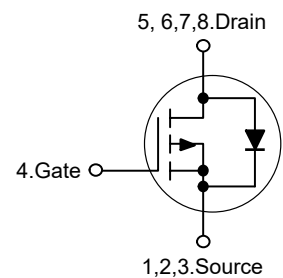


PDFN5x6-8L



Pin	Description
1,2,3	Source
4	Gate
5,6,7,8	Drain

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C case temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	$-I_D$	30	A
Drain Current-Pulsed ^{Note1}	$-I_{DM}$	85	A
Maximum Power Dissipation	P_D	52.1	W
Single Pulse Avalanche Energy ^{Note2}	E_{AS}	80	mJ
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.4	°C/W
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Electrical Characteristics

(T_J=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	-V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	60	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} =-60V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	1	1.6	2.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =-10V, I _D =-10A	--	21	25	mΩ
		V _{GS} =-4.5V, I _D =-8A	--	26	33	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =-10V, I _D =-18A	--	31	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V, f=1MHz	--	6805	--	pF
Output Capacitance	C _{oss}		--	2099	--	pF
Reverse Transfer Capacitance	C _{rss}		--	1285	--	pF
Gate Resistance	R _G	V _{DS} =0V, V _{GS} =0V, f=1MHz	--	4.1	--	Ω
Total Gate Charge	Q _g	V _{DS} =-20V, I _D =-12A, V _{GS} =-4.5V	--	25	--	nC
Gate-Source Charge	Q _{gs}		--	6.7	--	nC
Gate-Drain Charge	Q _{gd}		--	5.5	--	nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-15V, I _D =-1A, V _{GS} =-10V, R _{GEN} =3.3Ω	--	38	--	nS
Turn-on Rise Time	t _r		--	23.6	--	nS
Turn-off Delay Time	t _{d(off)}		--	100	--	nS
Turn-off Fall Time	t _f		--	6.8	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	-V _{SD}	V _{GS} =0V, I _S =-18A	--	--	1.2	V
Diode Forward Current	-I _S		--	--	30	A

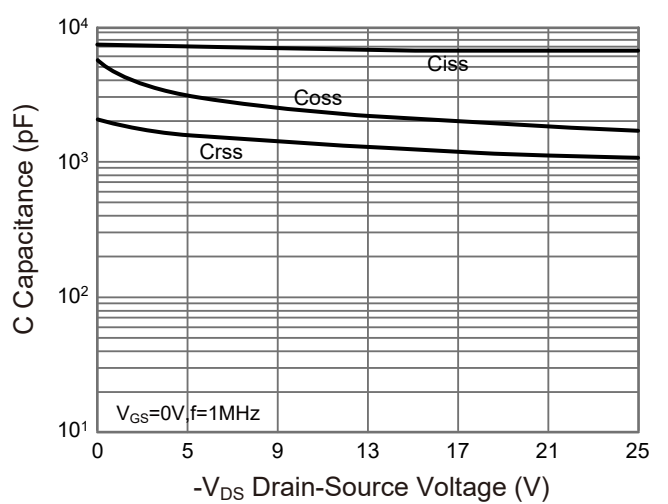
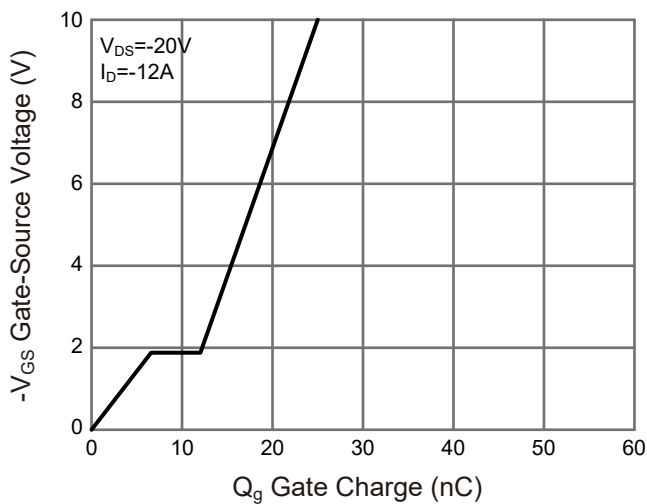
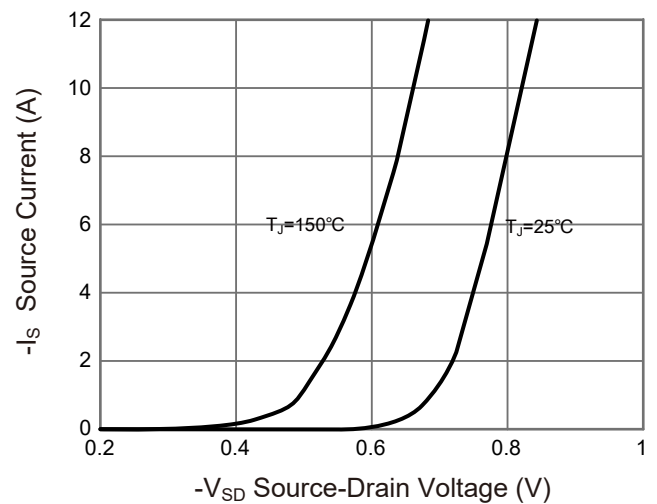
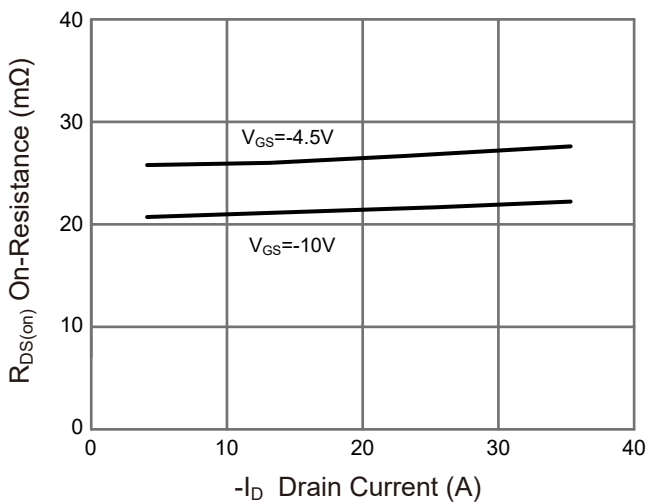
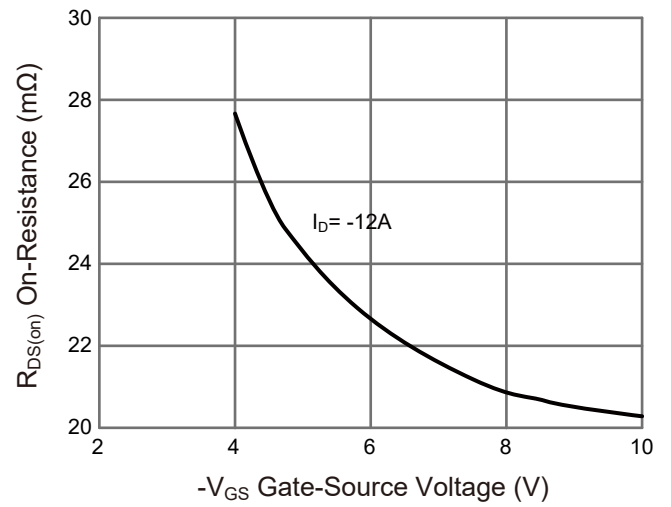
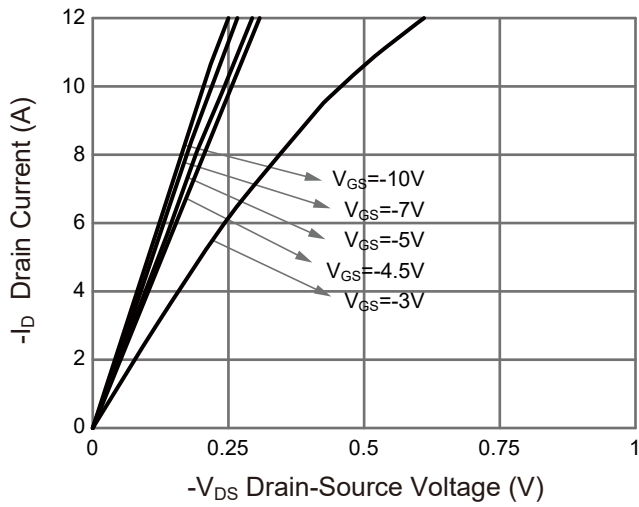
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. EAS Condition: T_J=25°C, V_{DD}=-25V, V_G=-10V, R_G=25Ω, L=0.1mH, I_{AS}=-40A.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.



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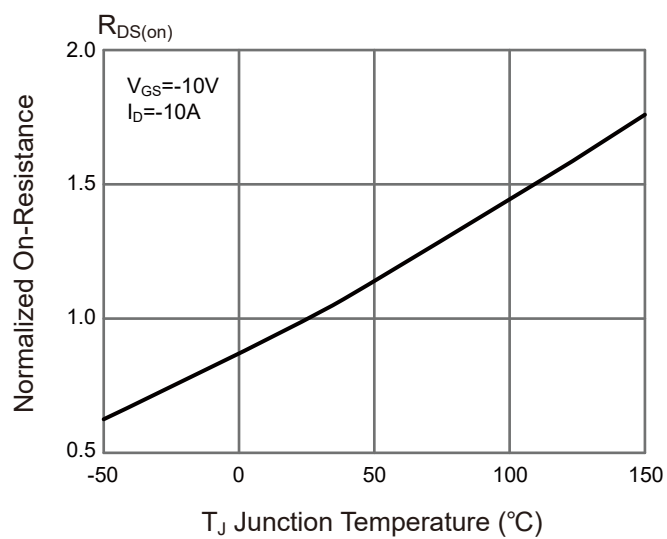
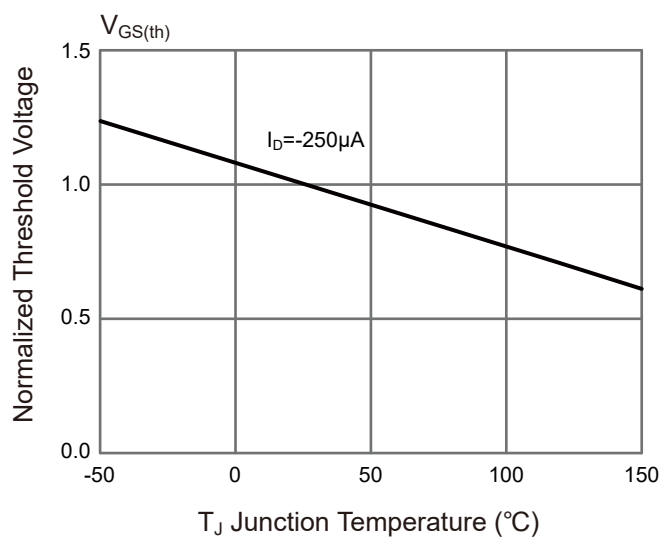
Typical Characteristic Curves





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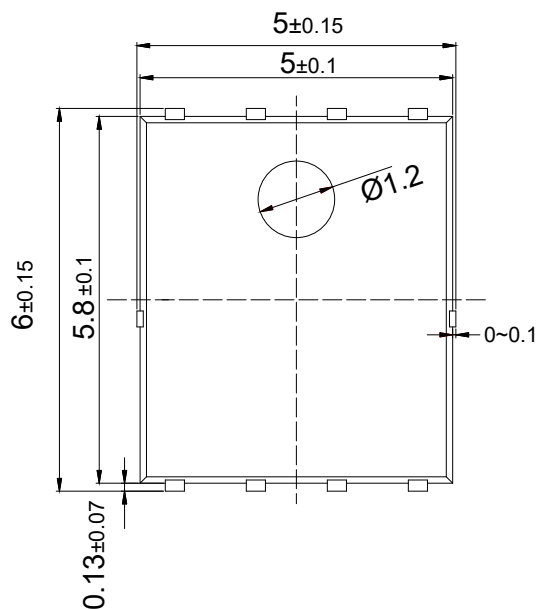
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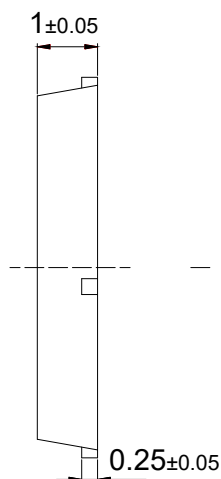
Package Outline

PDFN5x6-8L

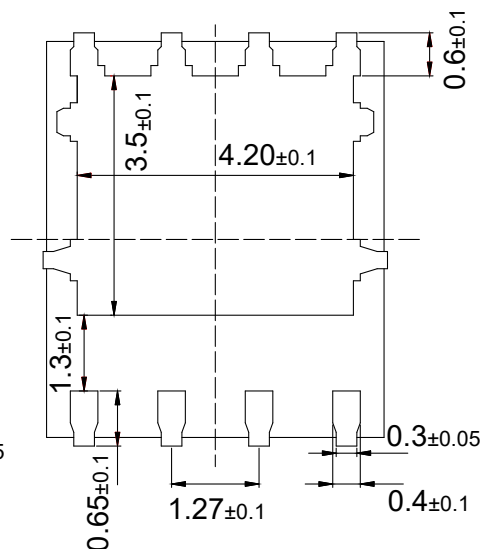
Dimensions in mm



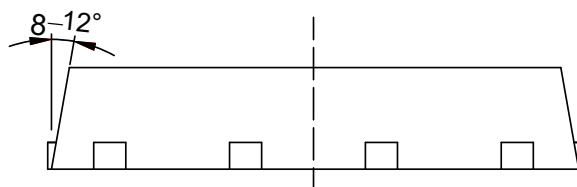
TOP VIEW



RIGHT VIEW



BOTTOM VIEW



SIDE VIEW