



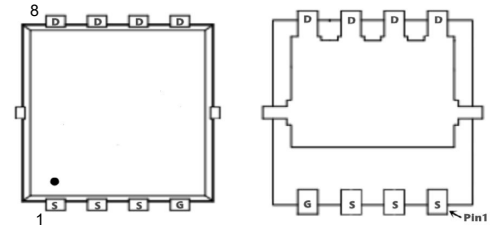
# PJM80P60DN

## P-Channel Enhancement Mode Power MOSFET

### Features

- Excellent  $R_{DS(ON)}$  and Low Gate Charge
- $V_{DS} = -60V, I_D = -80A$   
 $R_{DS(on)} < 11m\Omega @ V_{GS} = -10V$

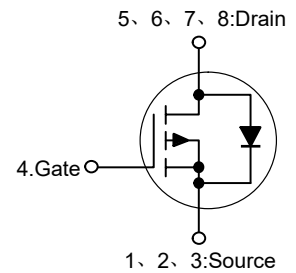
### PDFN5x6-8L



### Applications

- Lithium battery protection
- Wireless impact
- Mobile phone fast charging

### 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	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous at $V_{GS} = 10V$ <sup>Note1</sup>	$-I_D$	80	A
Drain Current-Pulsed <sup>Note2</sup>	$-I_{DM}$	240	A
Single Pulse Avalanche Energy <sup>Note3</sup>	$E_{AS}$	400	mJ
Avalanche Current	$I_{AS}$	41	A
Maximum Power Dissipation <sup>Note4</sup>	$P_D$	104	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Thermal Characteristics

Thermal Resistance, Junction-to-Ambient <sup>Note1</sup>	$R_{\theta JA}$	70	°C/W
Maximum Junction-to-Case <sup>Note1</sup>	$R_{\theta JC}$	1.2	°C/W



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### Electrical Characteristics

( $T_C=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	60	68	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	$V_{DS}=-60V, V_{GS}=0V$	--	--	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	$\pm 100$	nA
Gate Threshold Voltage <sup>Note2</sup>	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	1.2	1.8	2.5	V
Drain-Source On-Resistance <sup>Note2</sup>	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-20A$	--	9	11	m $\Omega$
		$V_{GS}=-4.5V, I_D=-15A$	--	12	16	m $\Omega$
Forward Transconductance <sup>Note2</sup>	$g_{FS}$	$V_{DS}=-5V, I_D=-20A$	--	50	--	S
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V, f=1\text{MHz}$	--	3500	--	pF
Output Capacitance	$C_{oss}$		--	600	--	pF
Reverse Transfer Capacitance	$C_{rss}$		--	25	--	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-30V, I_D=-20A,$ $V_{GS}=-10V, R_G=3\Omega$	--	4.5	--	nS
Turn-on Rise Time	$t_r$		--	2.5	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	14.5	--	nS
Turn-off Fall Time	$t_f$		--	3.8	--	nS
Total Gate Charge	$Q_g$	$V_{DS}=-30V, I_D=-20A,$ $V_{GS}=-10V$	--	56	--	nC
Gate-Source Charge	$Q_{gs}$		--	11	--	nC
Gate-Drain Charge	$Q_{gd}$		--	9	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note2</sup>	$-V_{SD}$	$V_{GS}=0V, I_S=-1A$	--	--	1.2	V
Diode Forward Current <sup>Note1,5</sup>	$-I_S$		--	--	80	A

Note :

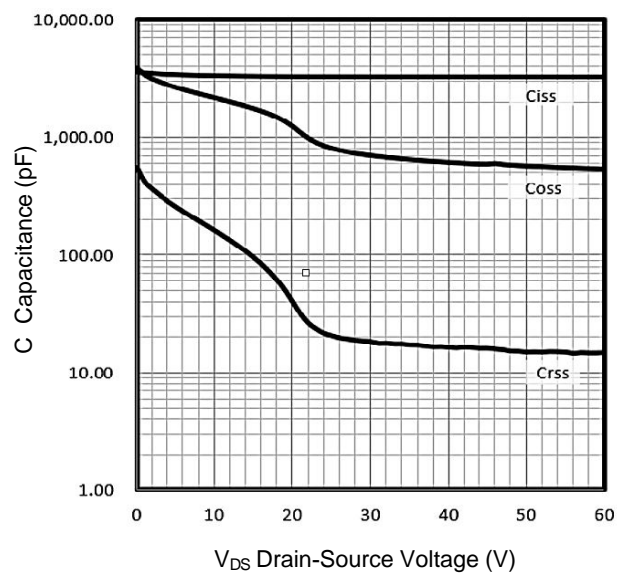
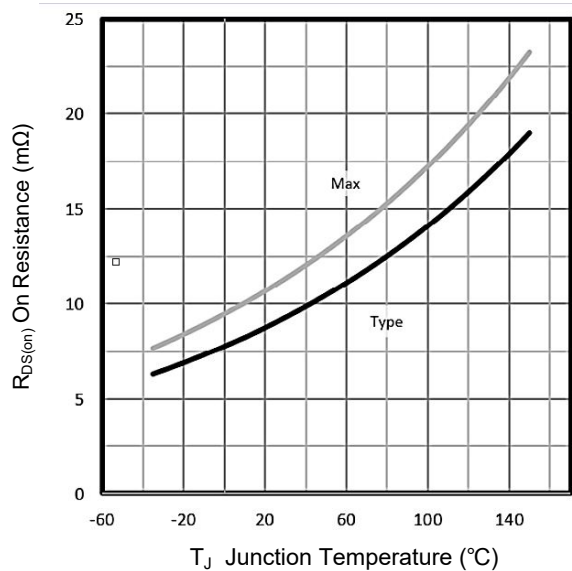
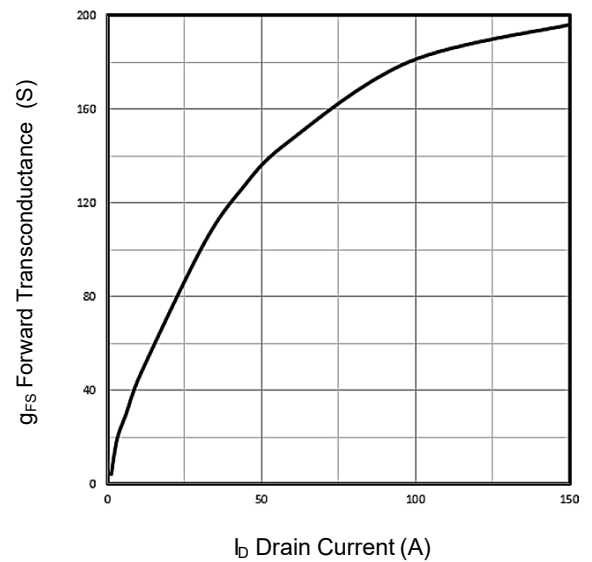
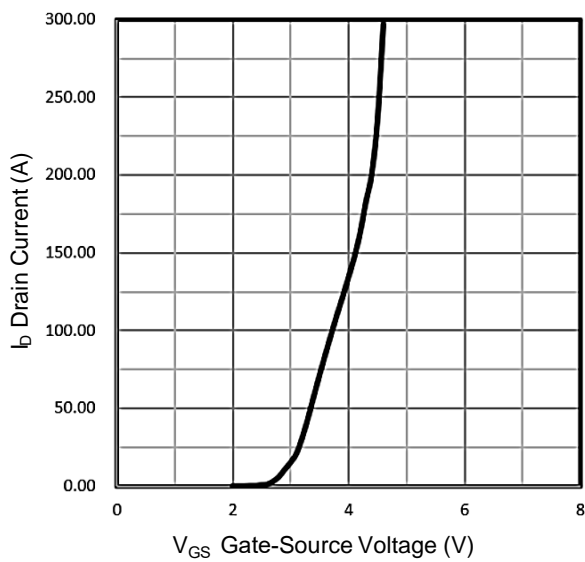
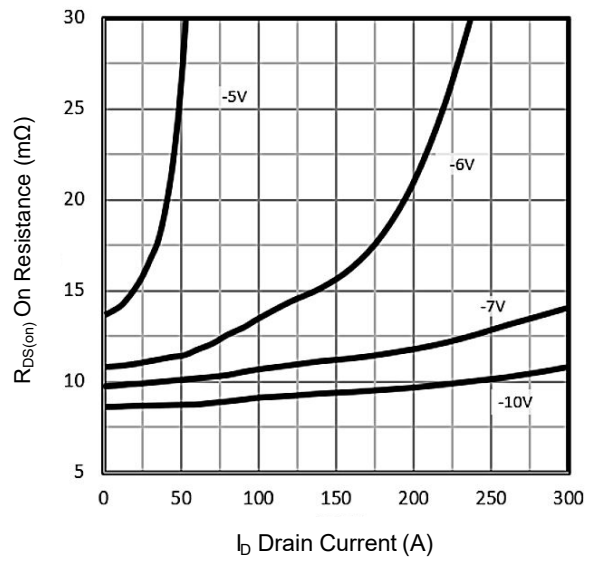
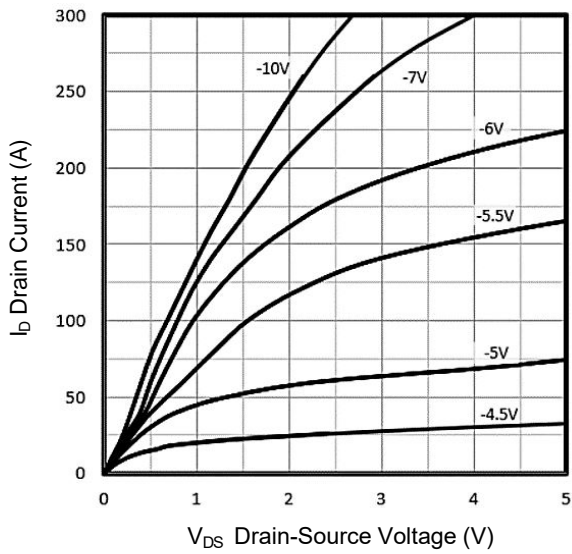
- 1.The data tested by surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper.
- 2.The data tested by pulsed , pulse width  $\leq 300\mu s$  , duty cycle  $\leq 2\%$
- 3.The  $E_{AS}$  data shows Max. rating . The test condition is  $V_{DD}=48V, V_{GS}=10V, L=0.1\text{mH}, I_{AS}=41A$
- 4.The power dissipation is limited by  $150^\circ\text{C}$  junction temperature
- 5.The data is theoretically the same as  $I_D$  and  $I_{DM}$  , in real applications , should be limited by total power dissipation.



# PJM80P60DN

## P-Channel Enhancement Mode Power MOSFET

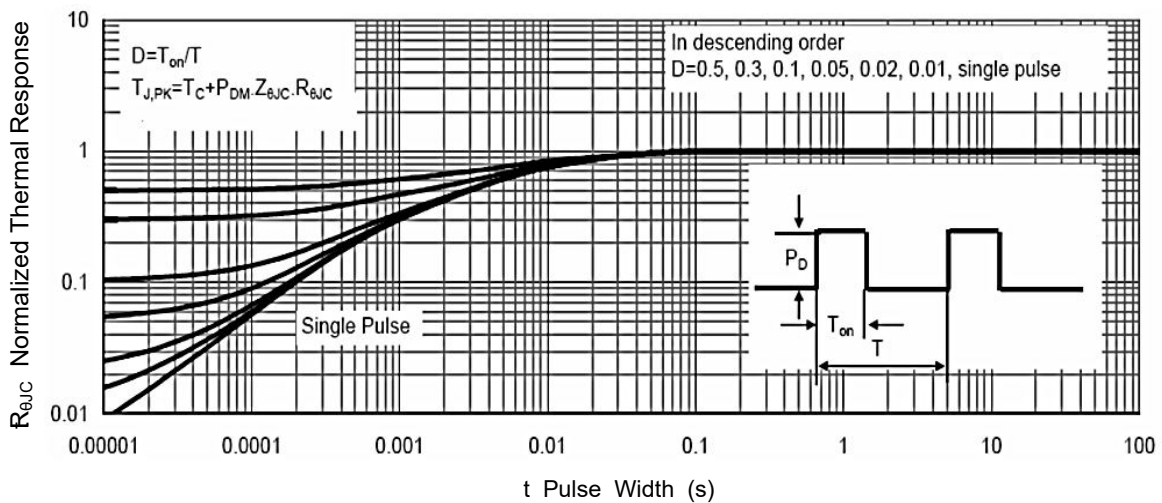
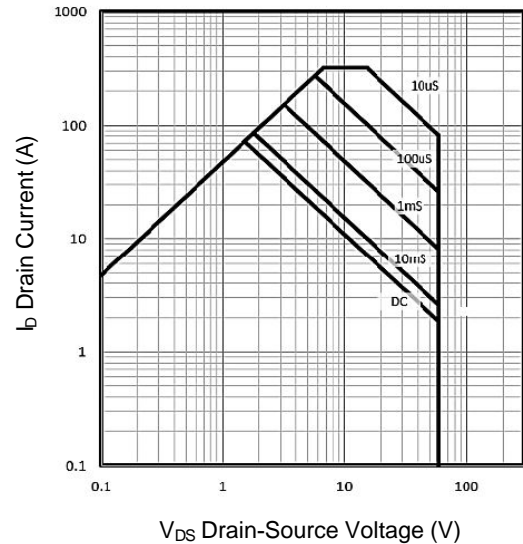
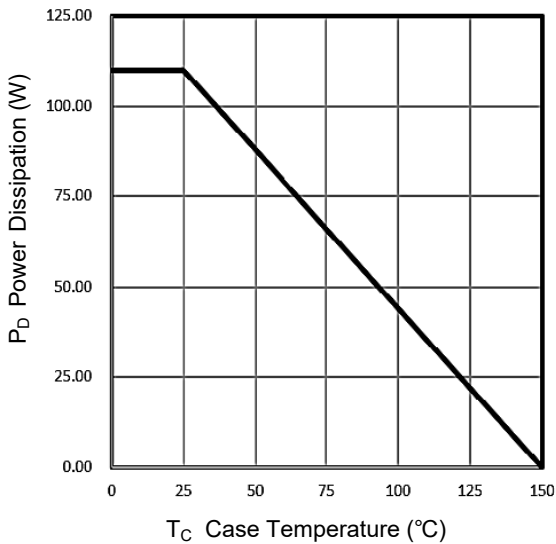
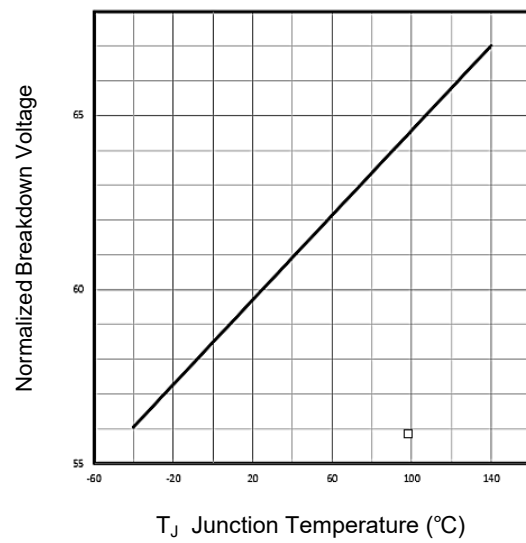
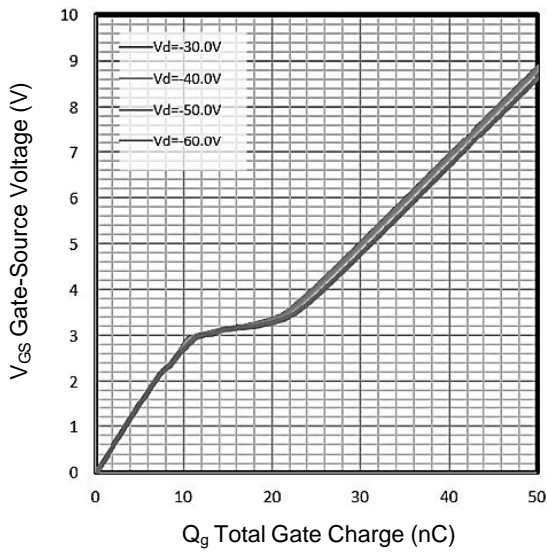
### Typical Characteristic Curves





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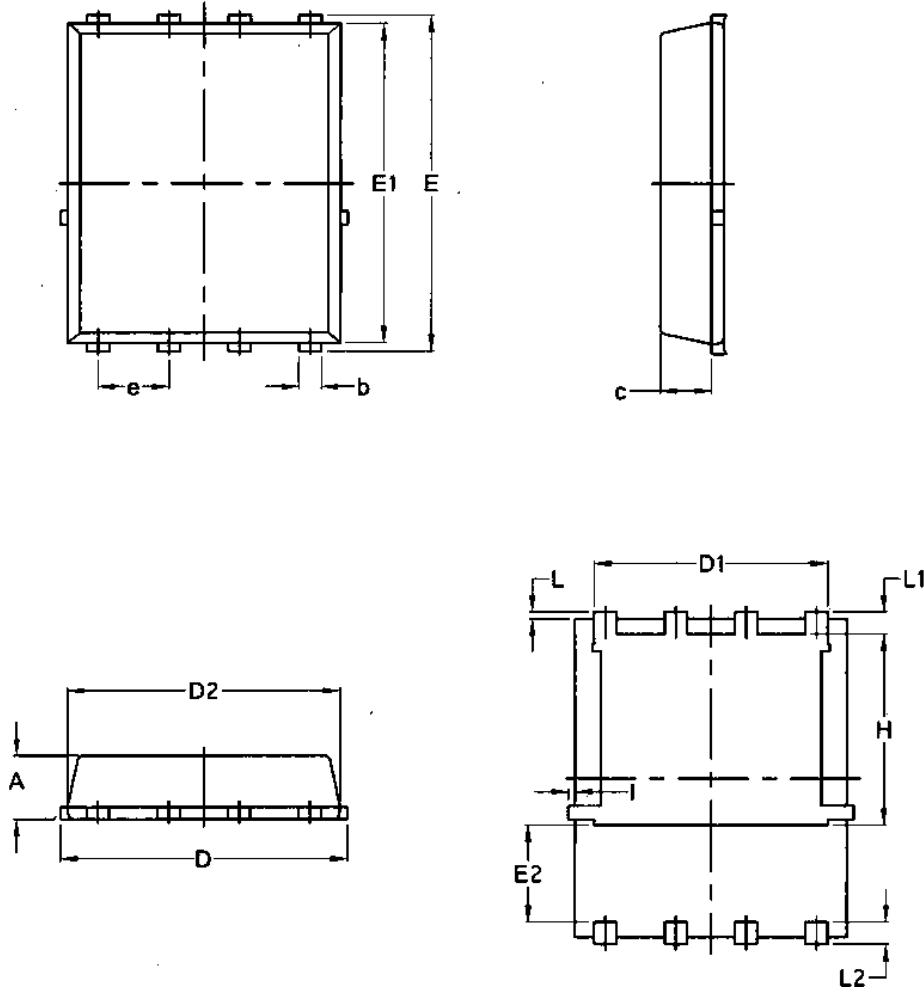
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## P-Channel Enhancement Mode Power MOSFET

### Package Outline

PDFN5x6-8L

Dimensions in mm



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	0.970	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