



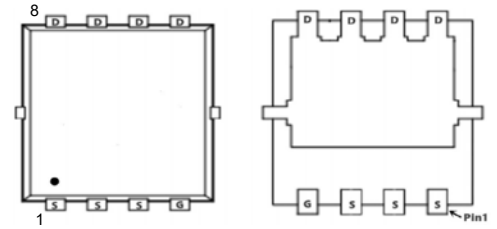
PJM10H100NDN

N-Channel Enhancement Mode Power MOSFET

Features

- Extremely low switching loss
- $V_{DS}=100V, I_D=100A$
- $R_{DS(on)} < 8.0m\Omega @ V_{GS}=10V$

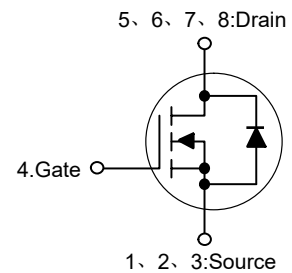
PDFN5x6-8L



Applications

- Consumer electronic power supply
- Motor control
- Synchronous-rectification
- Synchronous-rectification applications

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C junction temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous ($T_C=25^\circ C$) at $V_{GS}=10V$ <small>Note1</small>	I_D	100	A
Drain Current-Pulsed ($T_C=25^\circ C$) <small>Note2</small>	I_{DM}	300	A
Single Pulse Avalanche Energy <small>Note3</small>	E_{AS}	130	mJ
Maximum Power Dissipation ($T_C=25^\circ C$) <small>Note4</small>	P_D	148	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient <small>Note5</small>	$R_{\theta JA}$	62	$^\circ C/W$
Maximum Junction-to-Case	$R_{\theta JC}$	0.84	$^\circ C/W$



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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	100	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	--	4.0	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =12A	--	--	8.0	mΩ
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1MHz	--	3530	--	pF
Output Capacitance	C _{oss}		--	560.1	--	pF
Reverse Transfer Capacitance	C _{rss}		--	9	--	pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DS} =20V, I _D =10A V _{GS} =10V, R _G =2Ω	--	22.5	--	nS
Turn-on Rise Time	t _r		--	8.6	--	nS
Turn-off Delay Time	t _{d(off)}		--	66.6	--	nS
Turn-off Fall Time	t _f		--	42.1	--	nS
Total Gate Charge	Q _g	V _{DS} =50V, I _D =10A, V _{GS} =10V	--	60.7	--	nC
Gate-Source Charge	Q _{gs}		--	7.2	--	nC
Gate-Drain Charge	Q _{gd}		--	14.6	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =30A	--	--	1.3	V
Diode Forward Current	I _S		--	--	100	A

Note :

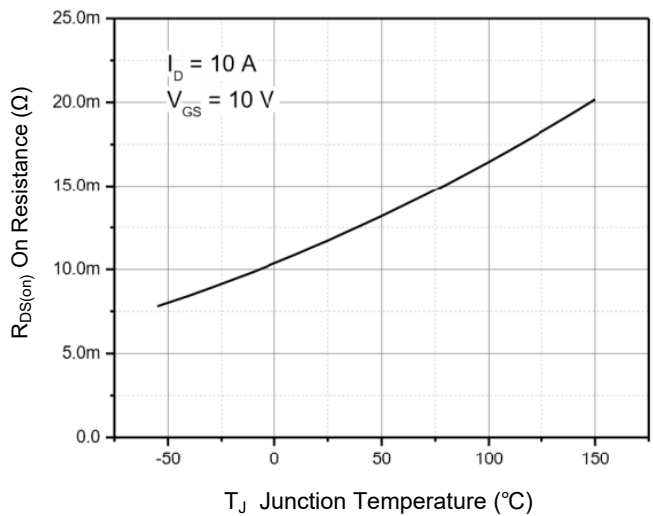
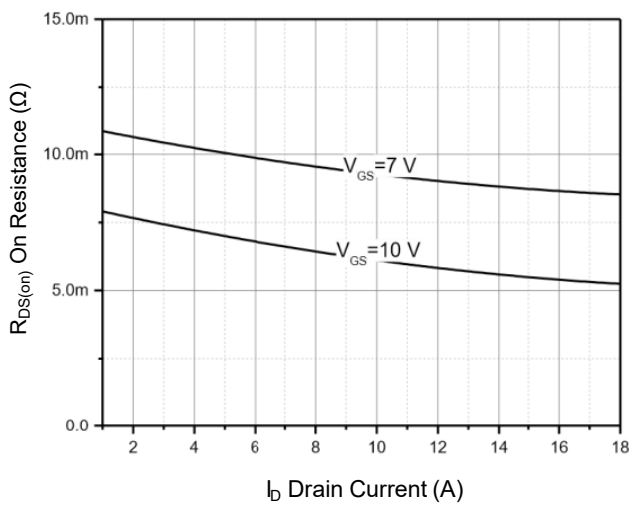
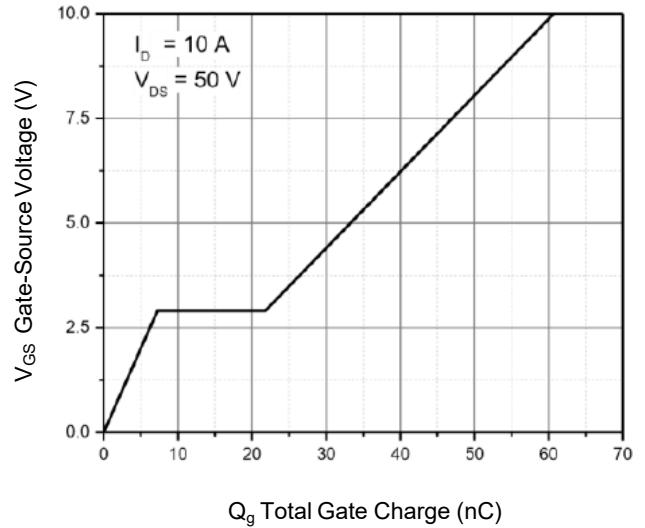
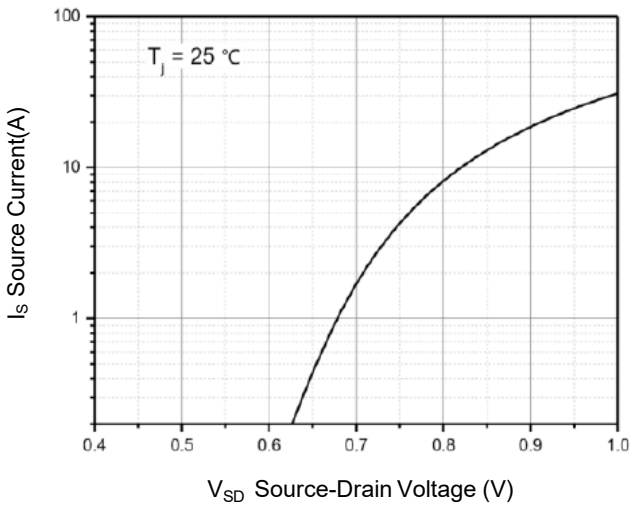
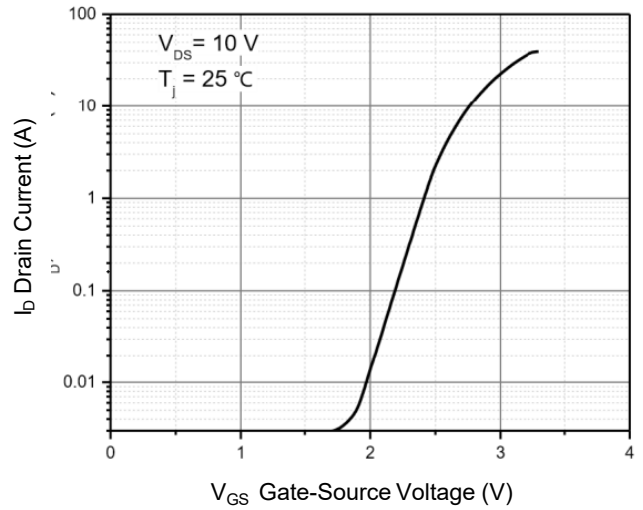
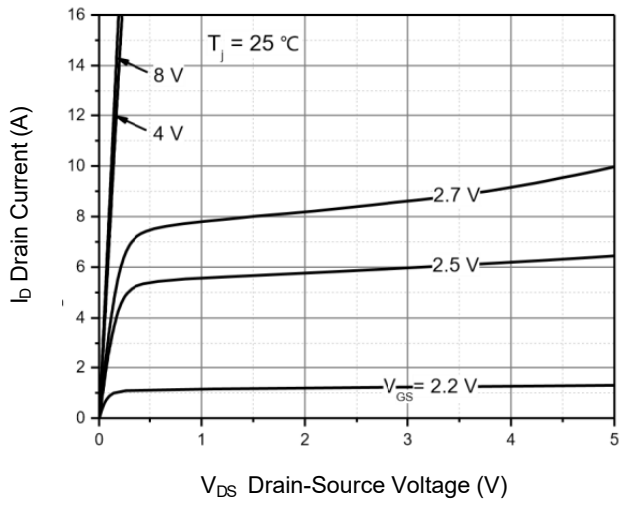
- 1.Calculated continuous current based on maximum allowable junction temperature.
- 2.Repetitive rating; pulse width limited by max. junction temperature.
- 3.The E_{AS} data shows Max. rating . The test condition is V_{DD}=50V, R_G=50 Ω, L=0.3 mH, starting T_J=25 °C
- 4.P_D is based on max. junction temperature, using junction-case thermal resistance.
- 5.The value of R_{θJA} is measured with the device mounted on 1 inch² FR-4 board with 20Z. Copper, in a still air environment with T_a=25 °C



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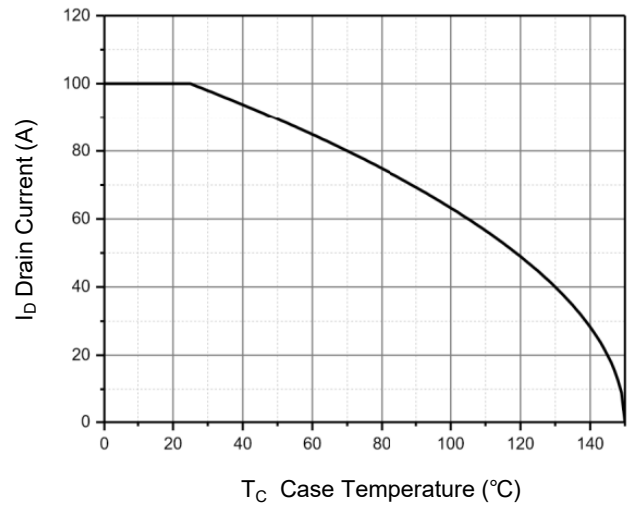
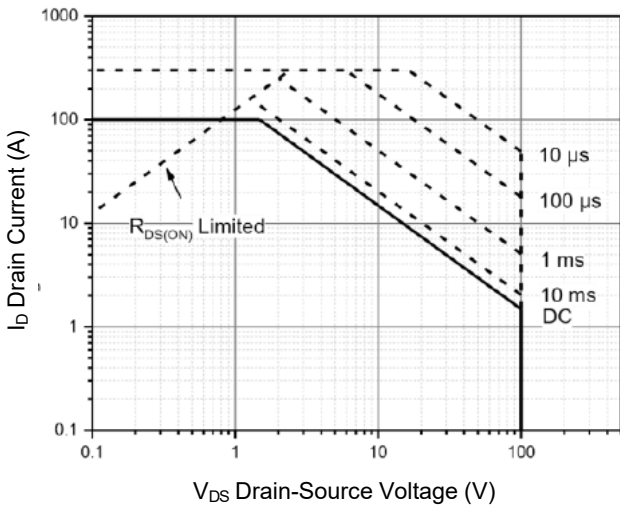
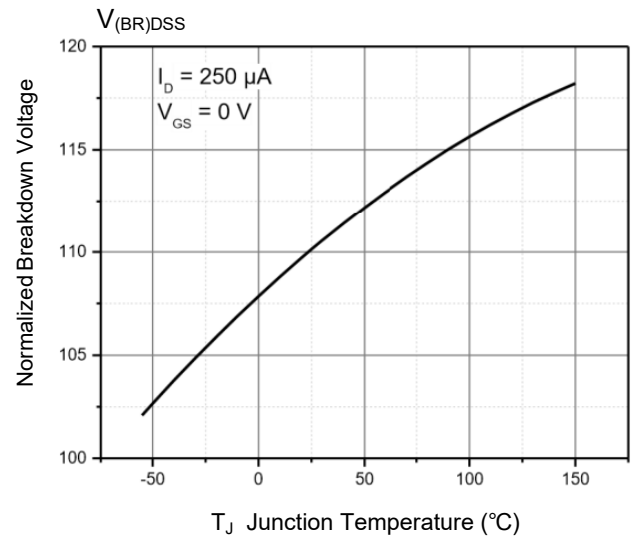
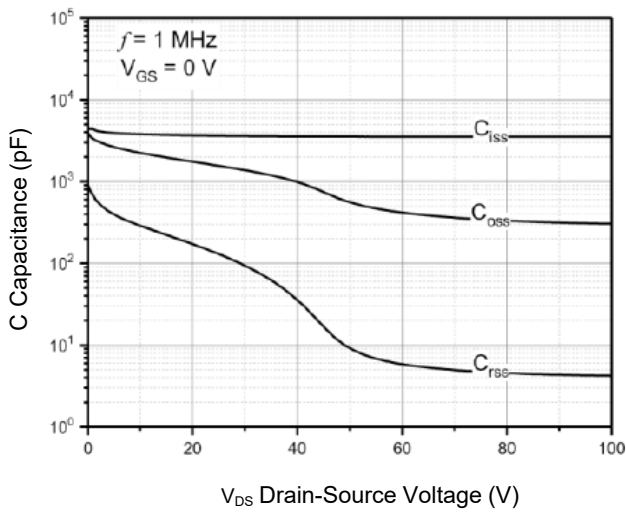
Typical Characteristic Curves





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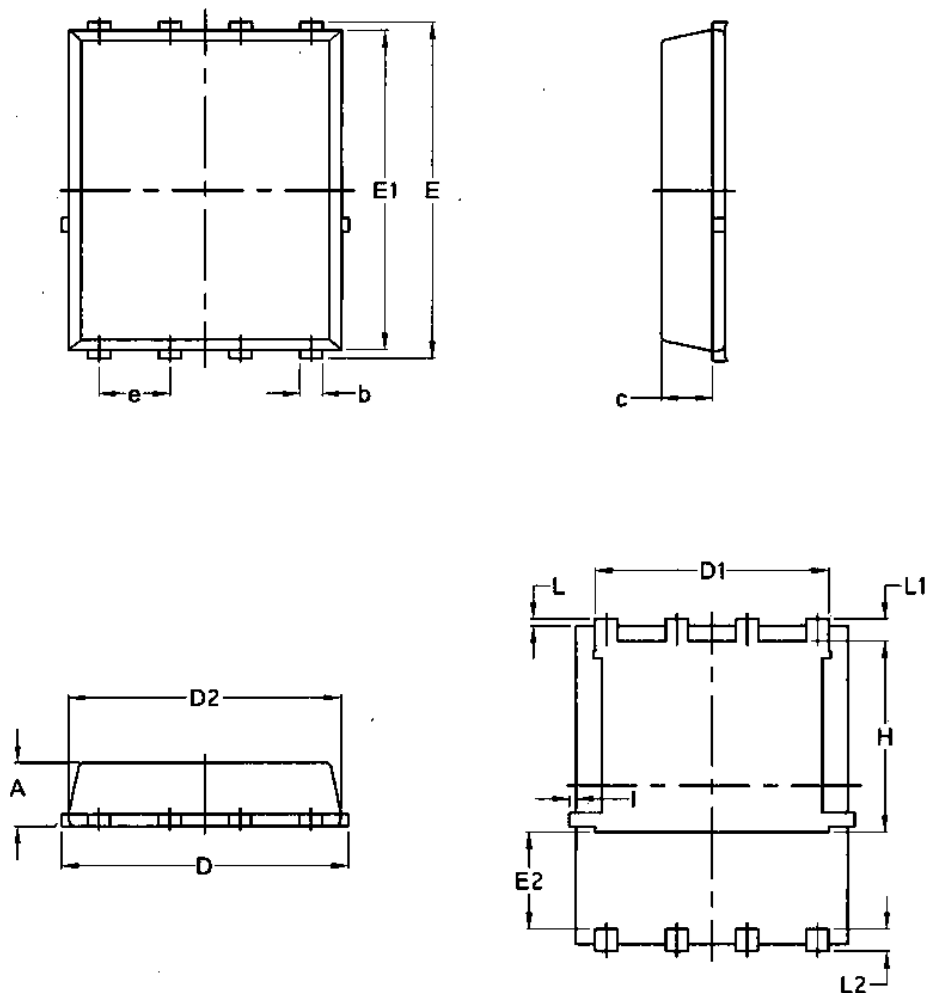
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Package Outline

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