



PJMG10H100HDN

N-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = 100V, I_D = 100A$
- $R_{DS(on)} < 8.4m\Omega @ V_{GS} = 10V$

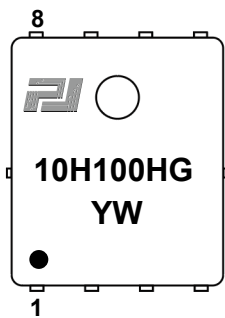
Features

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

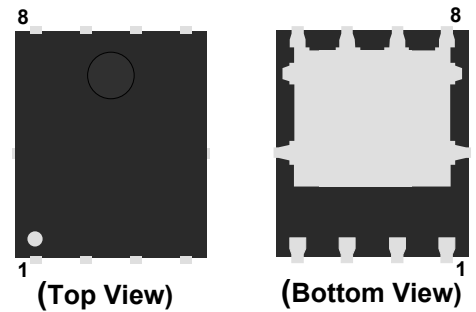
Application

- Consumer electronic power supply
- Synchronous-rectification
- Isolated DC

Marking Code

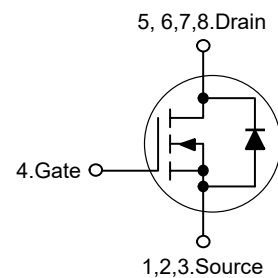


PDFN5x6-8L



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}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous ^{Note1}	I_D	$T_C = 25^\circ C$	100
		$T_C = 100^\circ C$	60
Drain Current-Pulsed ^{Note2}	I_{DM}	400	A
Single Pulse Avalanche Energy ^{Note3}	E_{AS}	144	mJ
Maximum Power Dissipation ^{Note3}	P_D	147	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 ^{Note1}	$R_{\theta JC}$	0.85	$^\circ C/W$
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Electrical Characteristics

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note2}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.4	--	3.6	V
Drain-Source On-Resistance ^{Note2}	$R_{DS(on)}$	$V_{GS}=10V, I_D=30A$	--	--	8.4	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1\text{MHz}$	--	1757	--	pF
Output Capacitance	C_{oss}		--	985	--	pF
Reverse Transfer Capacitance	C_{rss}		--	12	--	pF
Total Gate Charge	Q_g	$V_{DS}=50V, I_D=20A, V_{GS}=10V$	--	29	--	nC
Gate-Source Charge	Q_{gs}		--	6.8	--	nC
Gate-Drain Charge	Q_{gd}		--	8.4	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=50V, I_D=20A, V_{GS}=10V, R_{GEN}=6\Omega$	--	8.4	--	nS
Turn-on Rise Time	t_r		--	9.4	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	27	--	nS
Turn-off Fall Time	t_f		--	18	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note2}	V_{SD}	$V_{GS}=0V, I_S=30A$	--	--	1.2	V
Diode Forward Current	I_S		--	--	100	A
Reverse Recovery Time	t_{rr}	$I_F=15A, di/dt=100A/\mu s$	--	45	--	ns
Reverse Recovery Charge	Q_{rr}		--	53	--	nC

Note :

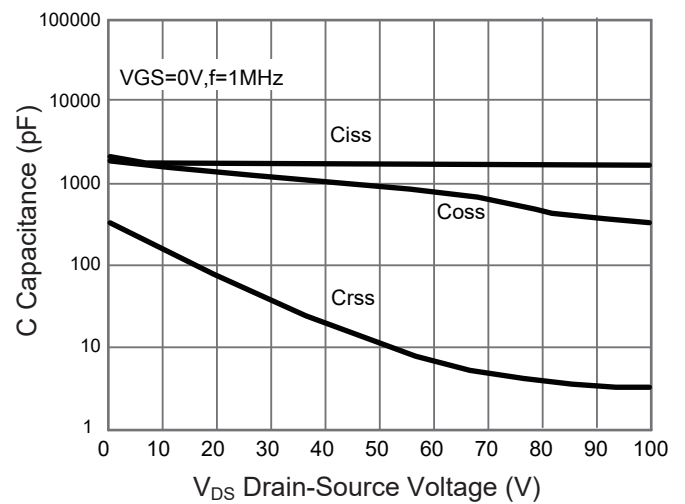
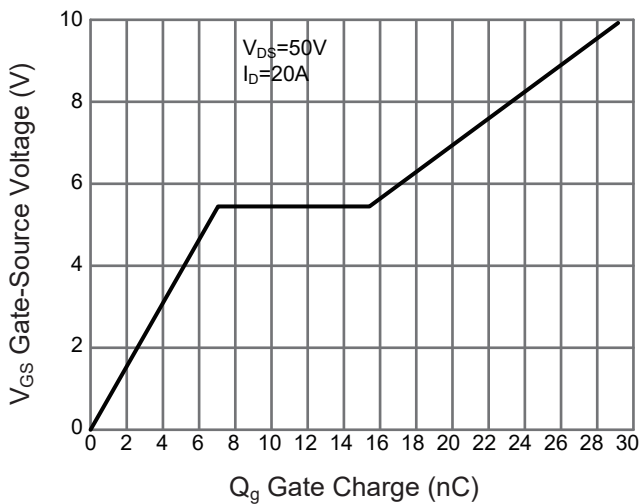
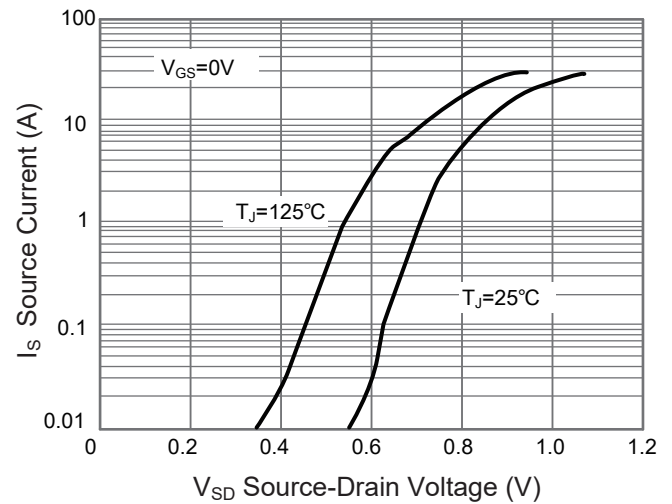
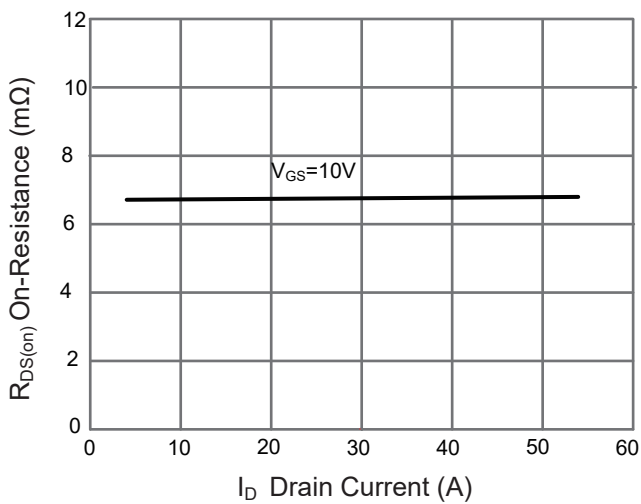
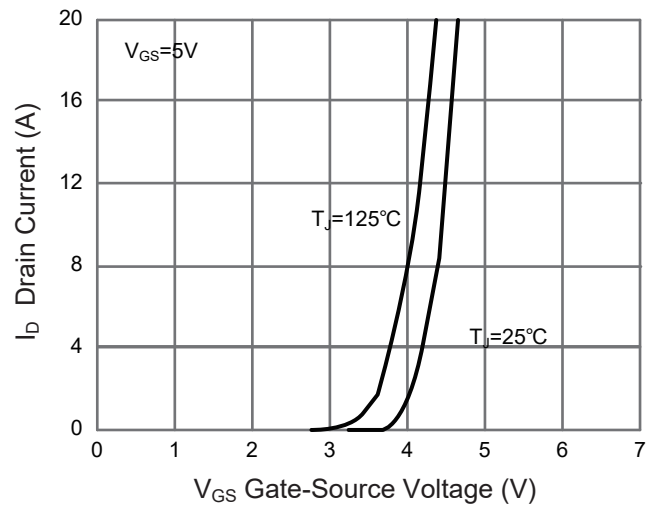
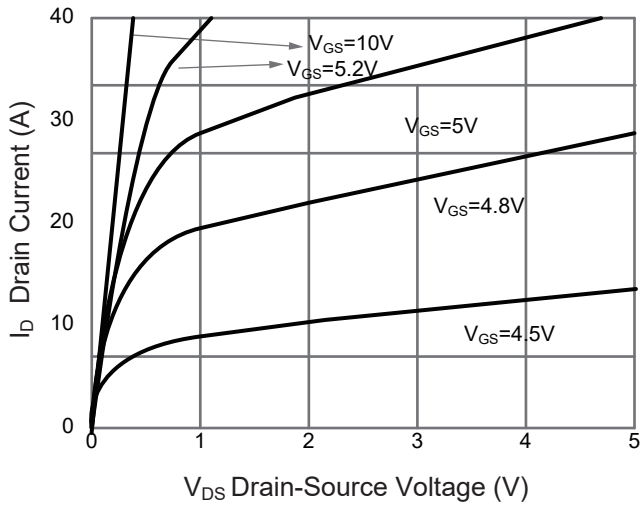
- 1.Repetitive Rating:Pulse Width Limited by Maximum Junction Temperature.
- 2.EAS Condition: $T_J=25^{\circ}\text{C}$, $V_{DD}=50V, V_G=10V, R_G=25\Omega, L=0.5\text{mH}, I_{AS}=24A$.
- 3..Pulse Test:Pulse Width $\leq 300\mu s$, duty cycle $\leq 0.5\%$



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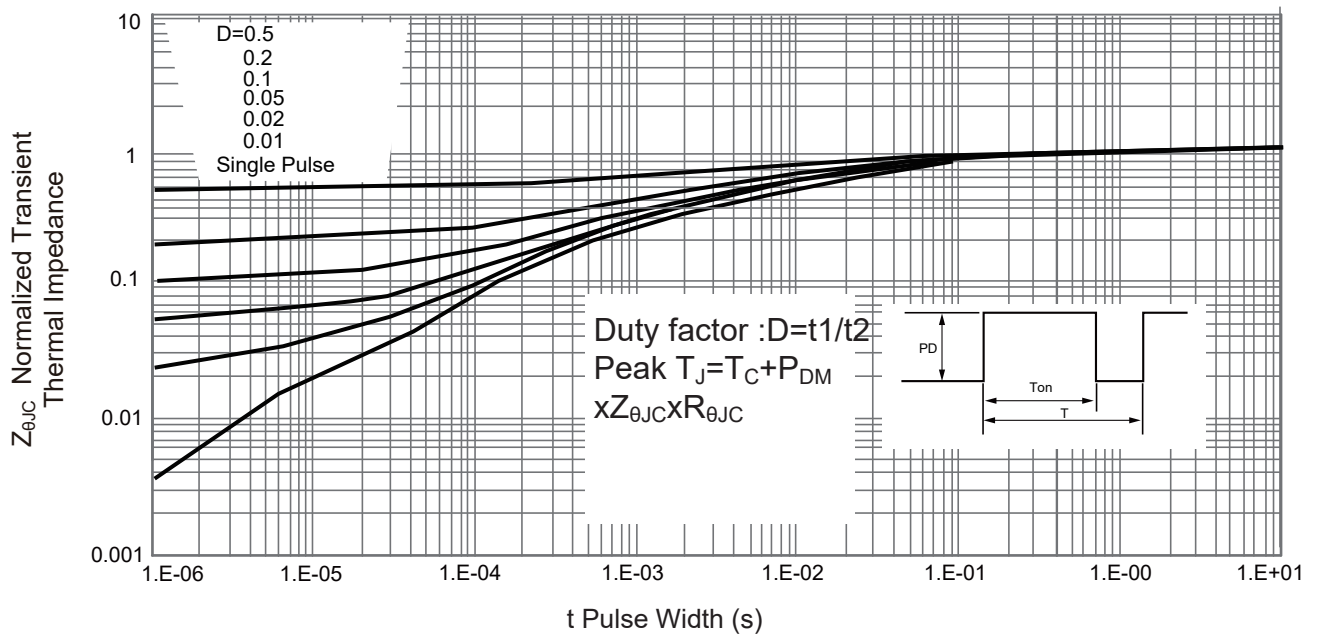
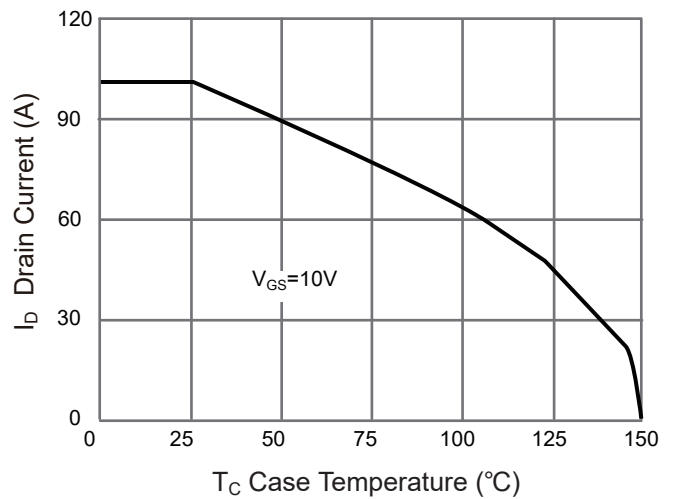
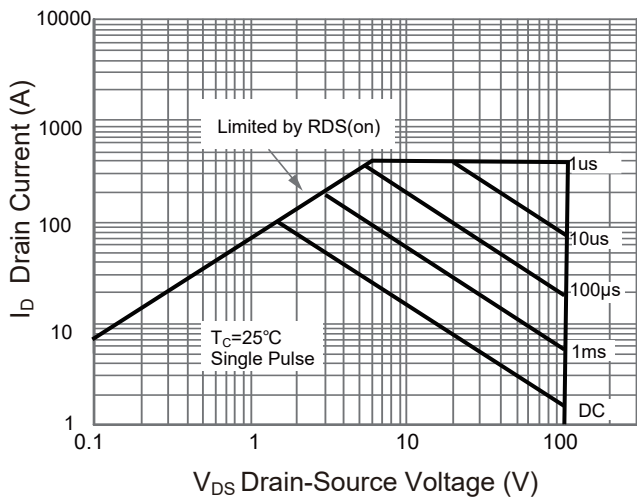
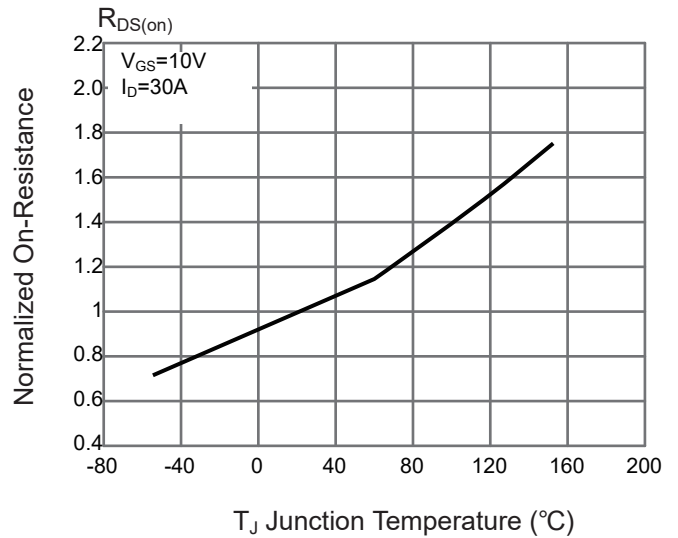
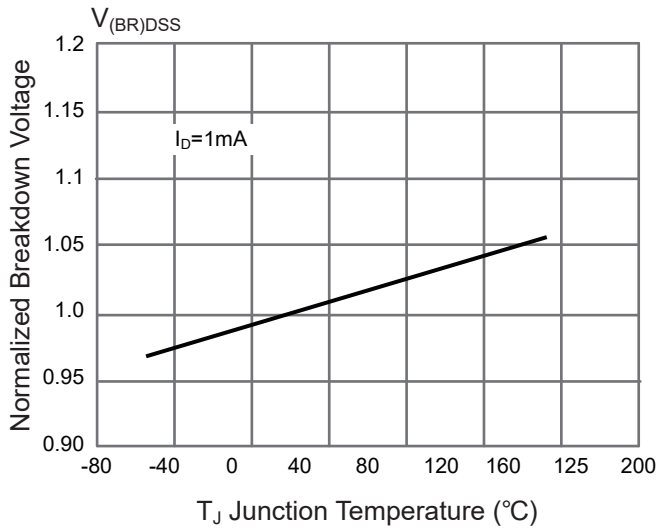
Typical Characteristic Curves





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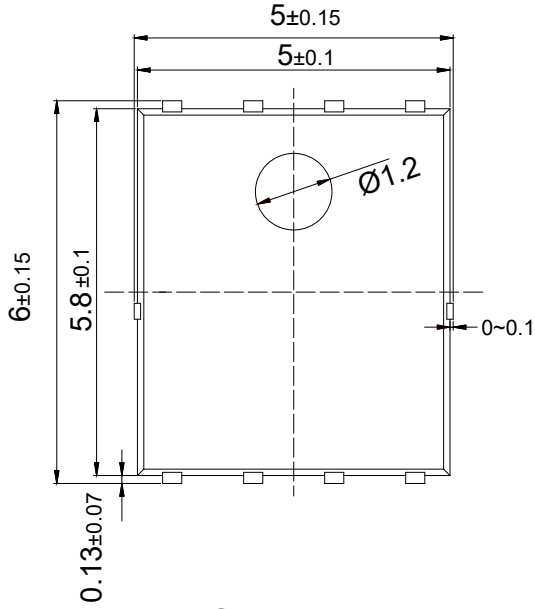
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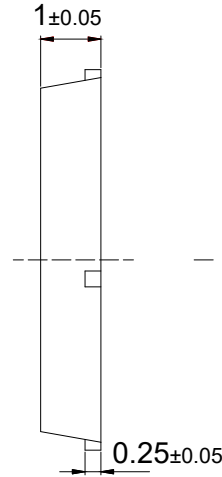
Package Outline

PDFN5x6-8L

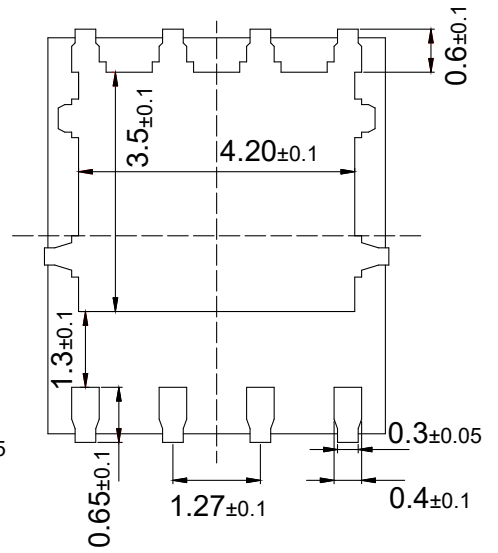
Dimensions in mm



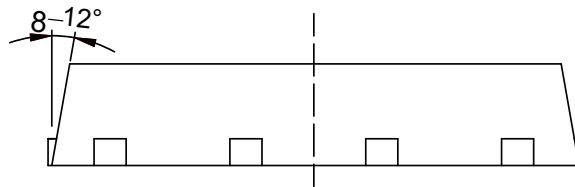
TOP VIEW



RIGHT VIEW



BOTTOM VIEW



SIDE VIEW