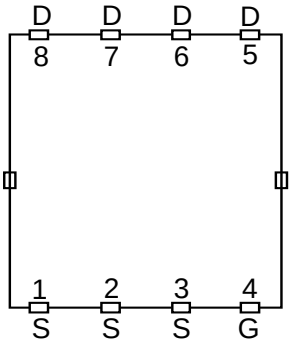
Description

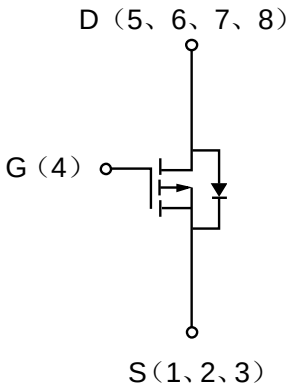
The MOSFET provide the best combination of fast switching,
low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(mΩ)	I_D(A)
-30	＜30@ V_{GS}=-4.5V	-12
	＜18@ V_{GS}=-10V	

Top View (PDFN3.3*3.3-8L)



Internal Structure



Absolute maximum ratings @ T_A=25℃(unless otherwise specified)

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	±25	V
Continuous Drain Current(V_{GS}=-10V)	T_A=25℃	I_D	-12	A
	T_A=70℃		-8.5	
300μs Pulsed Drain Current(V_{GS}=-10V)	T_A=25℃	I_{DM}	-80	A
Continuous Drain Current(V_{GS}=-10V)	T_C=25℃	I_D	-33	A
	T_C=100℃		-21	
Diode Continuous Forward Current		I_S	-3	A
Avalanche Current, Single pulse (L=0.1mH)		I_{AS}	-24	A
Avalanche Energy, Single pulse (L=0.1mH)		E_{AS}	29	mJ
Maximum Power Dissipation	T_A=25℃	P_D	3.1	W
	T_A=70℃		2	
Maximum Power Dissipation	T_C=25℃	P_D	29	W
	T_C=100℃		12	
Maximum Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	t≤10s	$R_{\theta JA}$	40	℃/W
	Steady State		75	
Thermal Resistance-Junction to Case	Steady State	$R_{\theta JC}$	4.2	

Electrical characteristics per line @25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	I_{DS}=-250μA, V_{GS}=0V	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V, V_{GS}=0V	-	-	-1	μA
		T_J=85℃	-	-	-30	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_{DS}=-250μA	-1.5	-2	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_{DS}=-11A	-	14	18	mΩ
		V_{GS}=-4.5V, I_{DS}=-4A	-	22	30	
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_{SD}=-1A	-	-0.7	-1	V
Reverse Recovery Time	t_{rr}	I_{SD}=-11A, di_{SD}/dt=100A/μs	-	19	-	ns
Reverse Recovery Charge	Q_{rr}		-	10	-	nC
Total Gate Charge	Q_g	V_{GS}=-10, V_{DS}=-15V, I_{DS}=-11A	-	21	-	nC
Gate-Source Charge	Q_{gs}		-	2.6	-	
Gate-Drain Charge	Q_{gd}		-	6.2	-	
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-15V, f=1MHz	-	1000	-	pF
Output Capacitance	C_{oss}		-	210	-	
Reverse Transfer Capacitance	C_{rss}		-	150	-	
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=-15V, V_{GEN}=-10V, R_G=6Ω, R_L=15Ω, I_{DS}=-1A	-	8	-	ns
Turn-Off Delay Time	$t_{d(off)}$		-	32	-	
Turn-On Rise Time	t_r		-	12	-	
Turn-On Fall Time	t_f		-	16	-	
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	-	3	-	Ω

Typical Characteristics

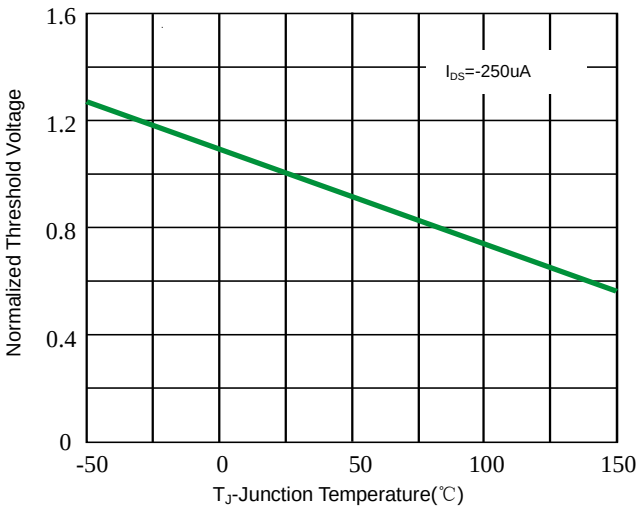


Fig 1. Gate Threshold Voltage

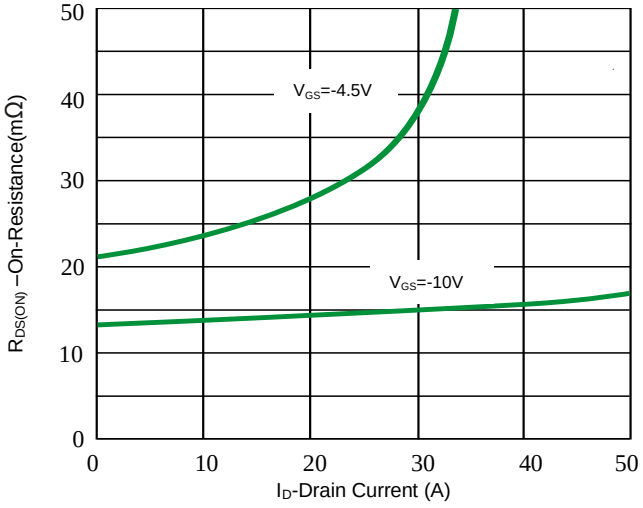


Fig 2. On-Resistance vs. Drain Current

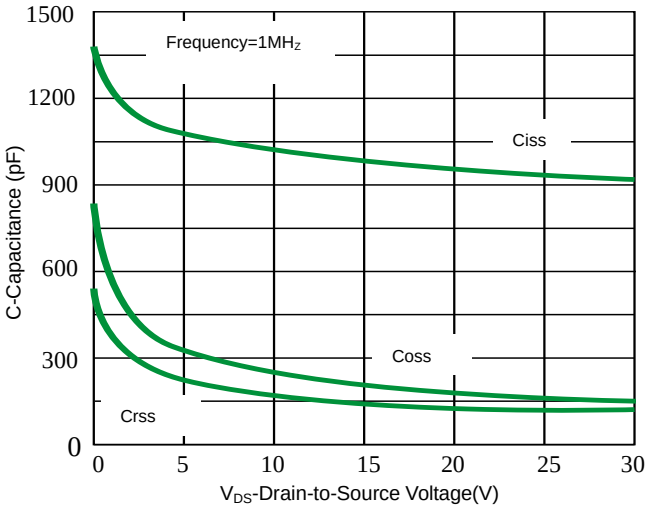


Fig 3. Capacitance

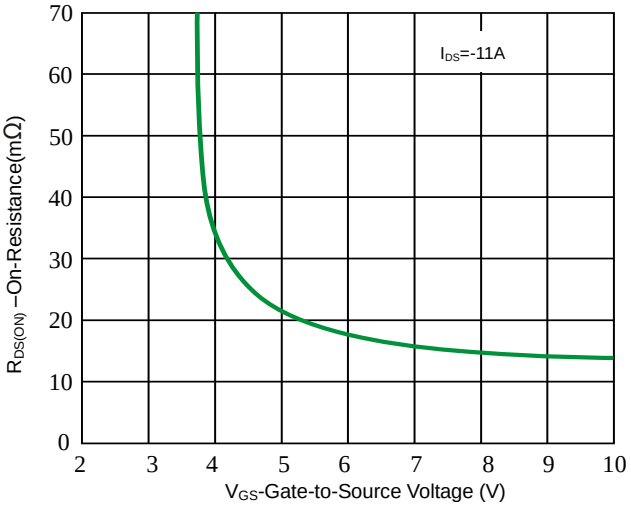


Fig 4. On-Resistance vs. Gate-to-Source Voltage

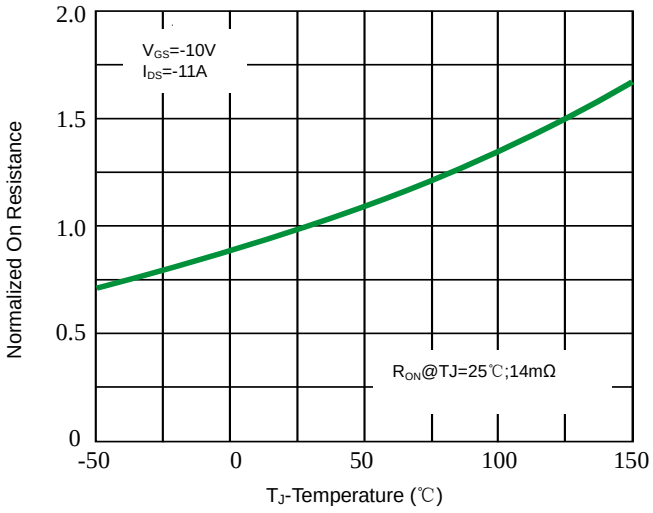


Fig 5. Drain-Source On Resistance

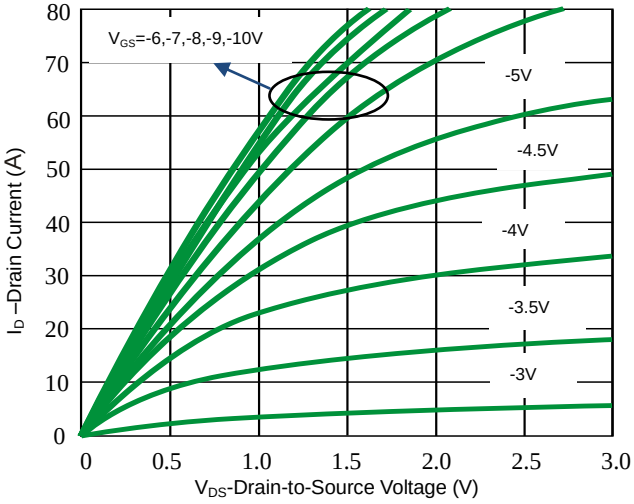


Fig 6. Output Characteristics

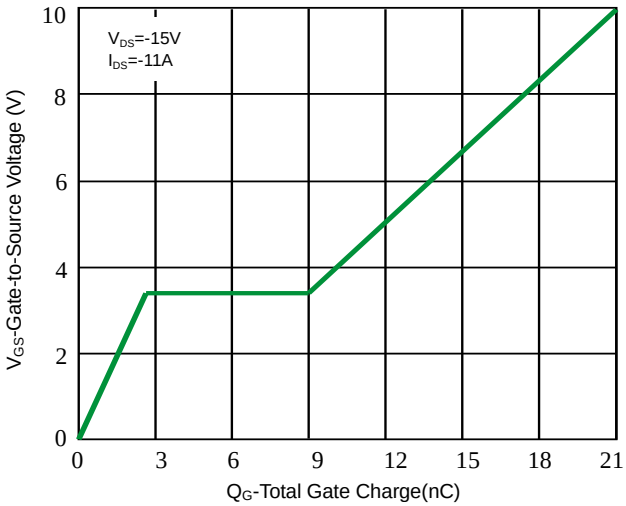


Fig 7 Gate Charge

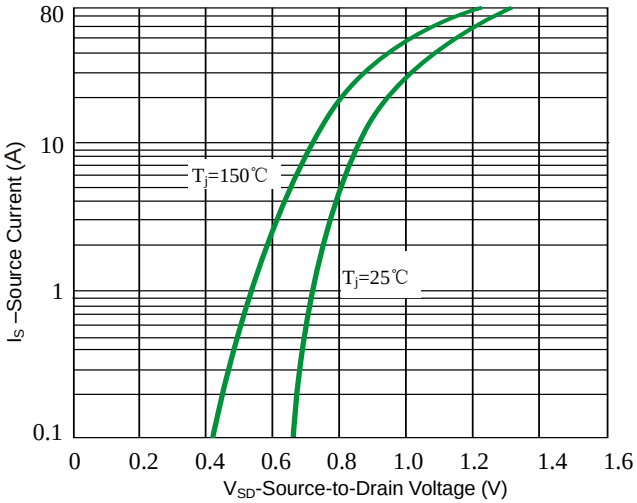


Fig 8. Source to Drain Diode Forward Voltage

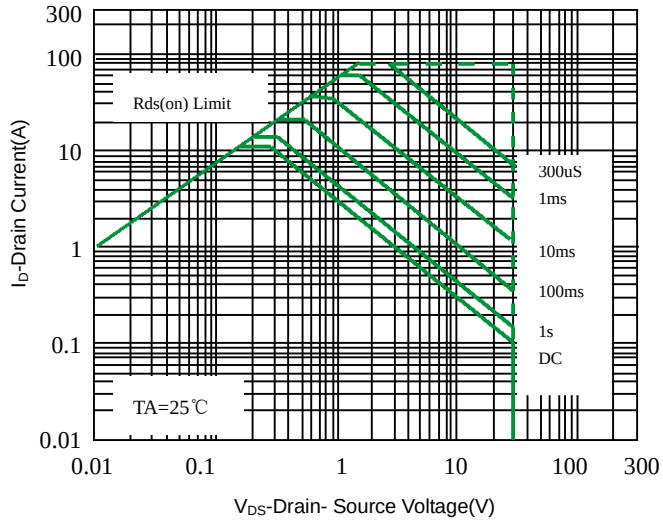


Fig 9. Maximum Forward Biased Safe Operating Area

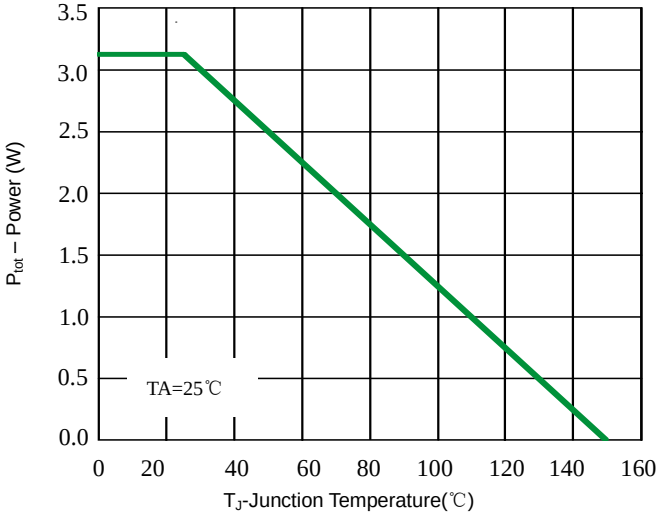


Fig 10. Power Dissipation

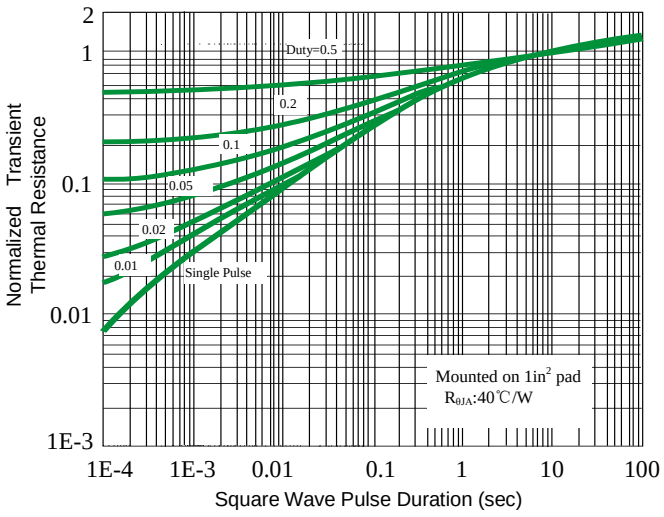


Fig 11.Thermal Transient Impedance

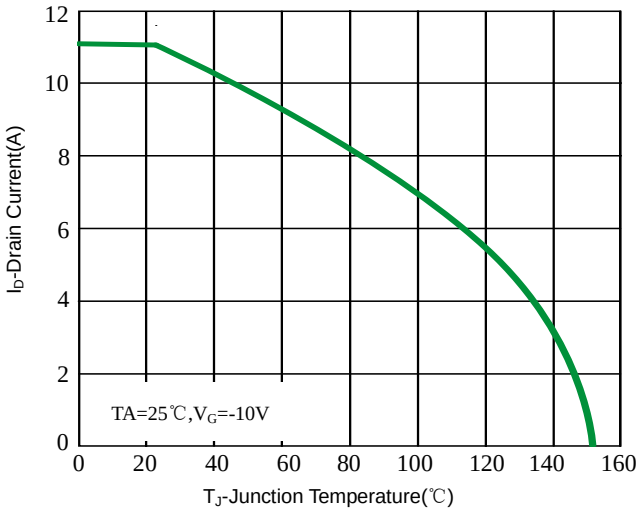
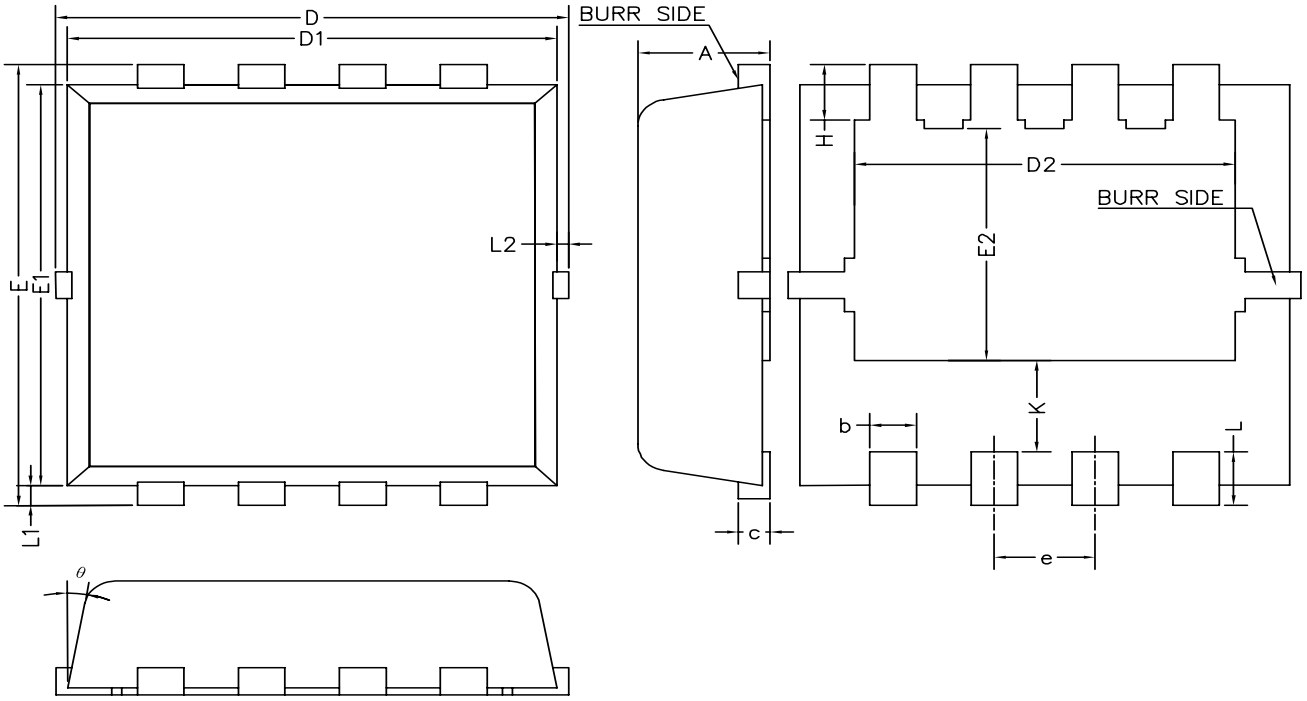


Fig 12. Drain Current

Product dimension (PDFN3.3*3.3-8L)



Dim	Millimeters		
	MIN	MAX	MAX
A	0.70	0.80	0.90
b	0.25	0.30	0.35
c	0.14	0.15	0.20
D	3.10	3.30	3.50
D1	3.05	3.15	3.25
D2	2.35	2.45	2.55
e	0.55	0.65	0.75
E	3.10	3.30	3.50
E1	2.90	3.00	3.10
E2	1.64	1.74	1.84
H	0.32	0.42	0.52
K	0.59	0.69	0.79
L	0.25	0.40	0.55
L1	0.10	0.15	0.20
L2	—	—	0.15
θ	8°	12°	12°

Ordering information

Device	Package	Shipping
PPM8PN30V12	PDFN3.3*3.3-8L (Pb-Free)	5000 / Tape & Reel

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