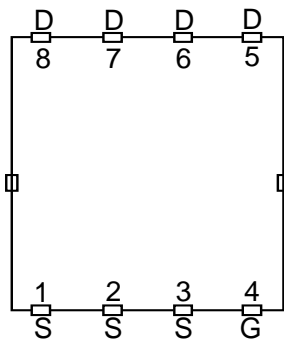


Description

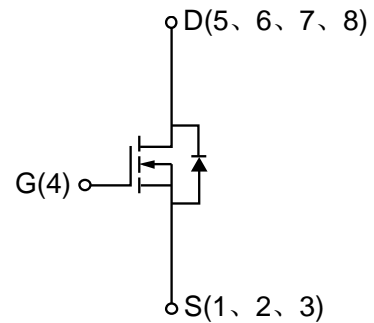
The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

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°C (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)	I _D	T _A =25°C	-12
		T _A =70°C	-8.5
300µs Pulsed Drain Current(V _{GS} =-10V)	I _{DM}	-80	A
Continuous Drain Current(V _{GS} =-10V)	I _D	T _C =25°C	-33
		T _C =100°C	-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	P _D	T _A =25°C	3.1
		T _A =70°C	2
Maximum Power Dissipation	P _D	T _C =25°C	29
		T _C =100°C	12
Maximum Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{STG}	-55 to 150	
Thermal Resistance-Junction to Ambient	R _{θJA}	t ≤ 10s	40
		Steady State	75
Thermal Resistance-Junction to Case	R _{θJC}	4.2	°C/W

Electrical characteristics per line @25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	$I_{DS}=-250\mu A, V_{GS}=0V$	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-24V, V_{GS}=0V$	-	-	-1	μA
		$T_J=85^\circ C$	-	-	-30	
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-1.5	-2	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_{DS}=-11A$	-	14	18	m Ω
		$V_{GS}=-4.5V, I_{DS}=-4A$	-	22	30	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=-1A$	-	-0.7	-1	V
Reverse Recovery Time	t_{rr}	$I_{SD}=-11A, di_{SD}/dt=100A/\mu s$	-	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	$t_{d(on)}$	$V_{DD}=-15V, V_{GEN}=-10V, R_G=6\Omega, R_L=15\Omega, I_{DS}=-1A$	-	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

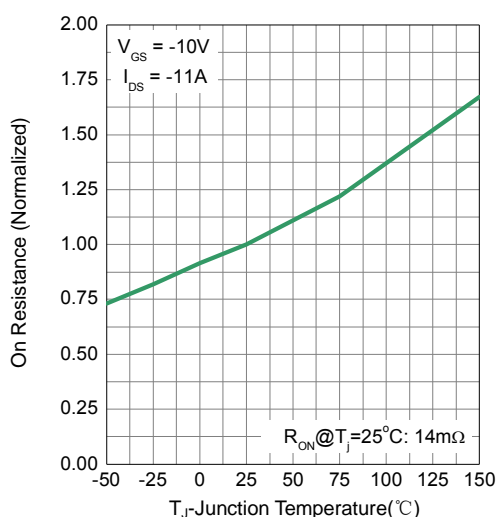


Fig 1. On Resistance vs. Junction Temperature

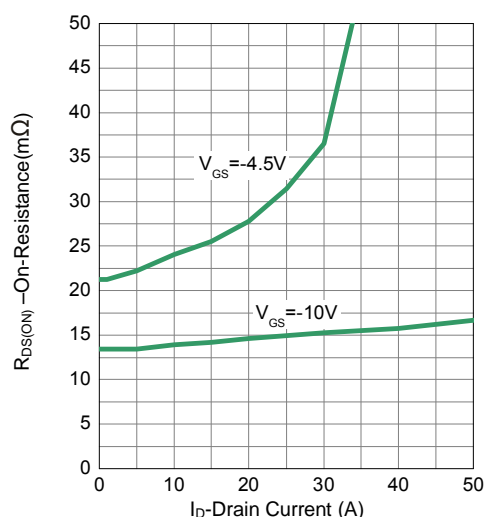


Fig 2. On-Resistance vs. Drain Current

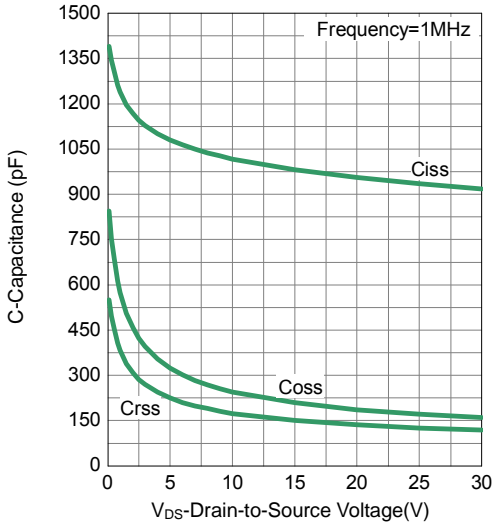


Fig 3. Capacitance

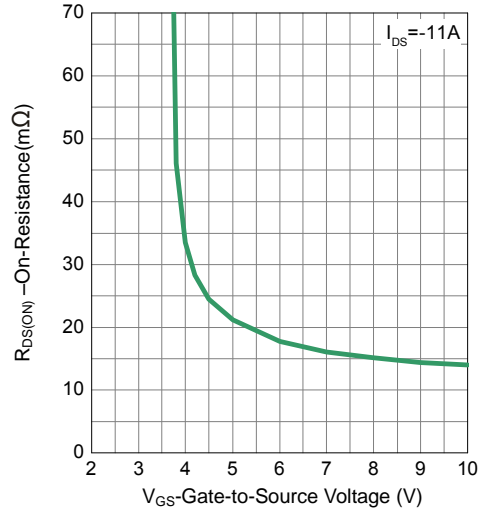


Fig 4. On-Resistance vs. Gate-to-Source Voltage

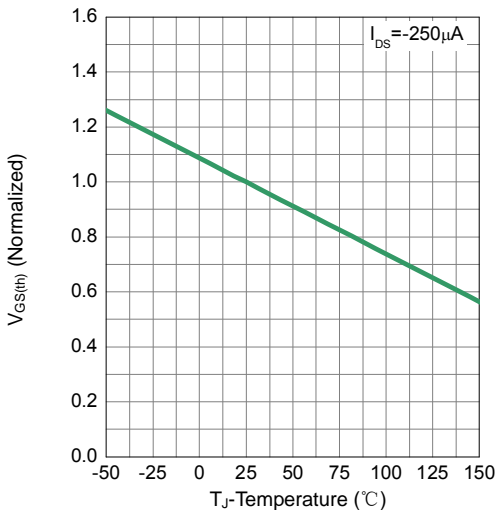


Fig 5. Threshold Voltage

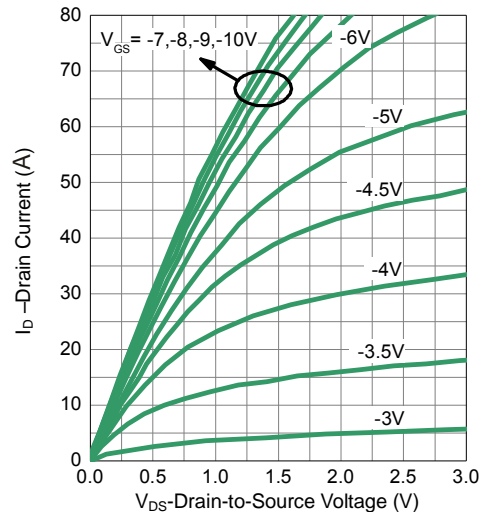


Fig 6. On-Region Characteristics

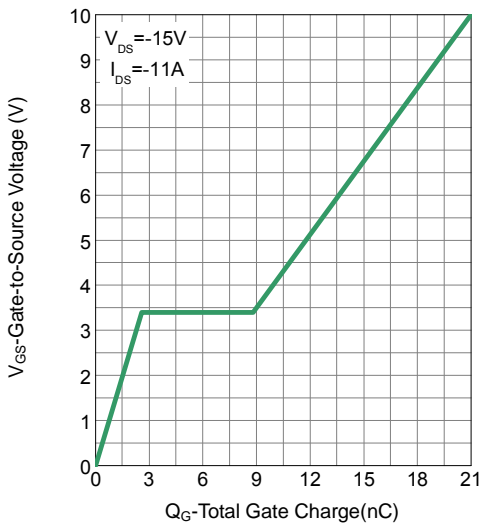


Fig 7. Gate Charge

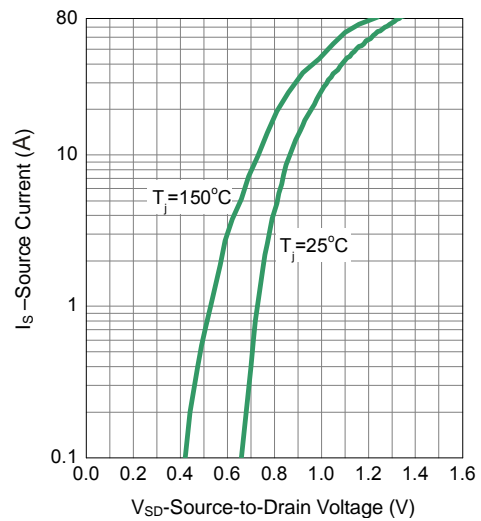


Fig 8. Source to Drain Diode Forward Voltage

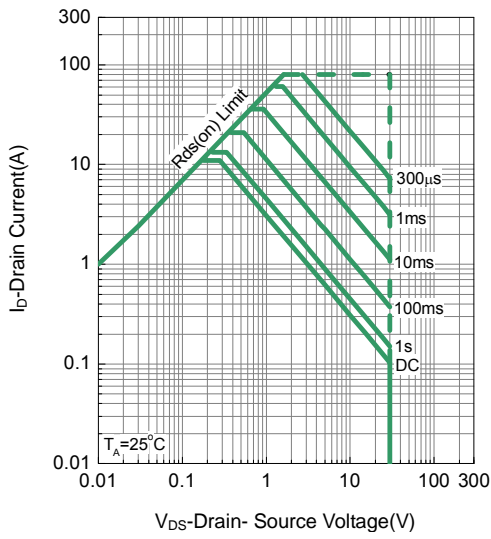


Fig 9. Maximum Forward Biased Safe Operating Area

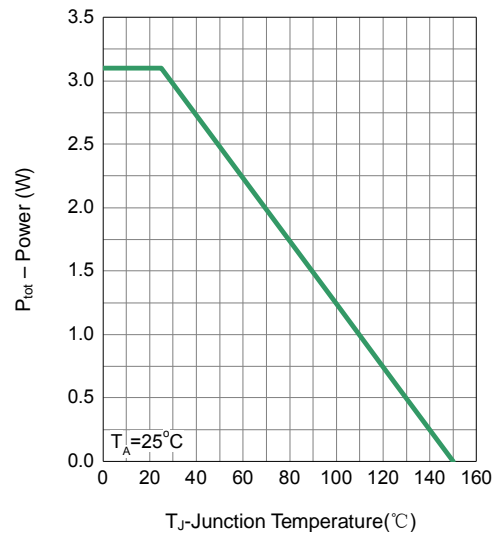


Fig 10. Power Dissipation

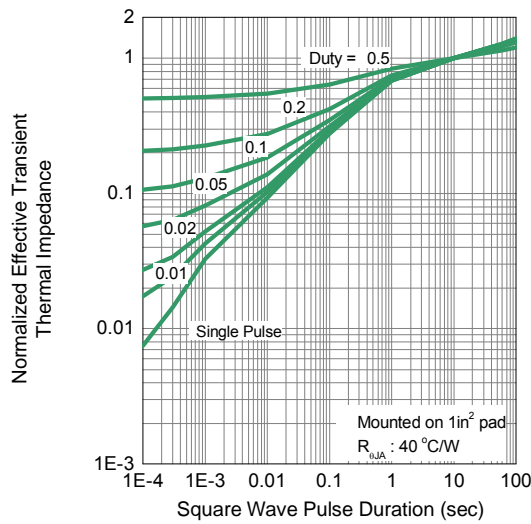
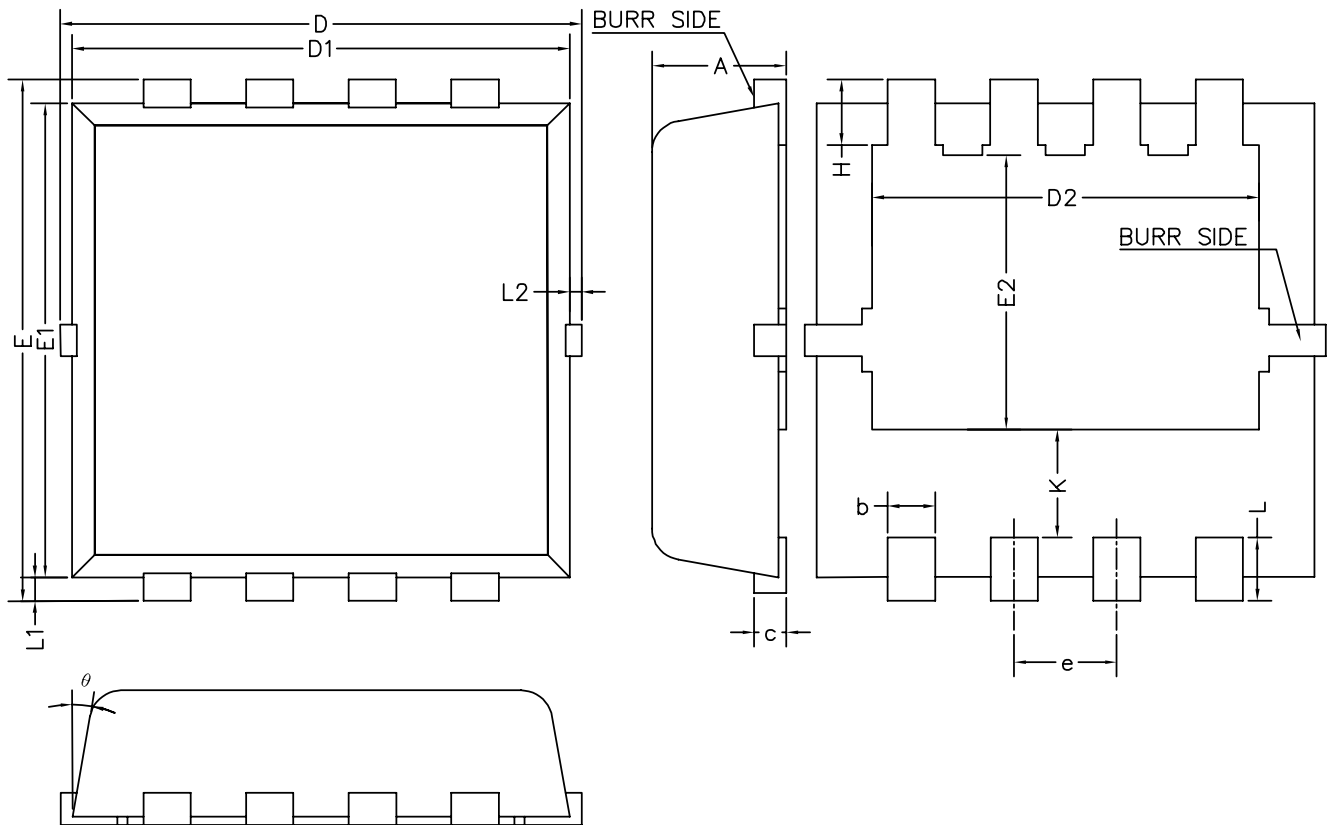



Fig 11. Normalized Thermal Transient Impedance, Junction-to-Ambient

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°


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