

25V/60A N-Channel MOSFET

Features

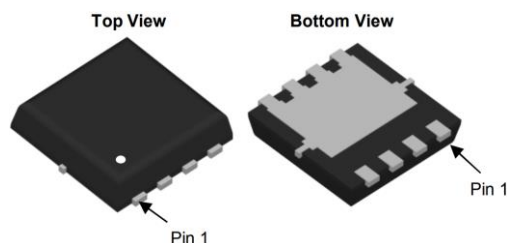
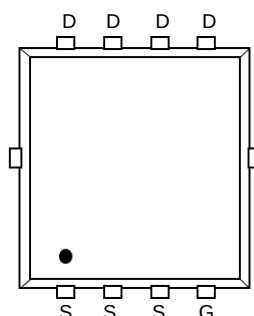
- Trench Power LV MOSFET technology
- High Power and Current handling capability
- Low Gate Charge

Product Summary

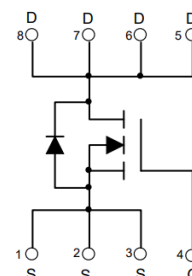
V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
25V	4.6mΩ@10V	60A
	10mΩ@4.5V	

Application

- PWM applications
- Power management
- Load switch



PDFN3X3-8L



Schematic diagram



Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

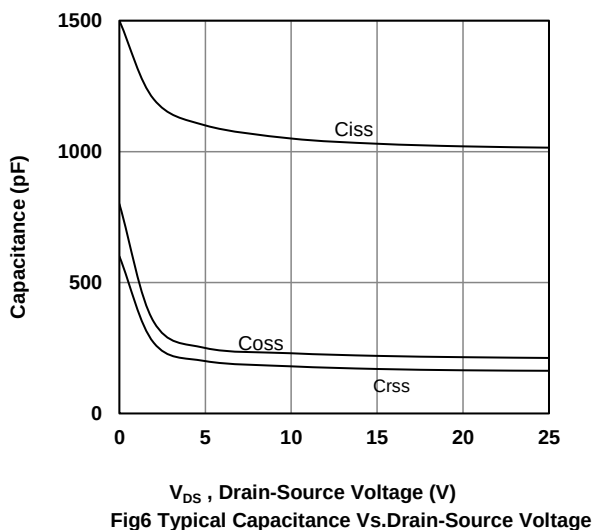
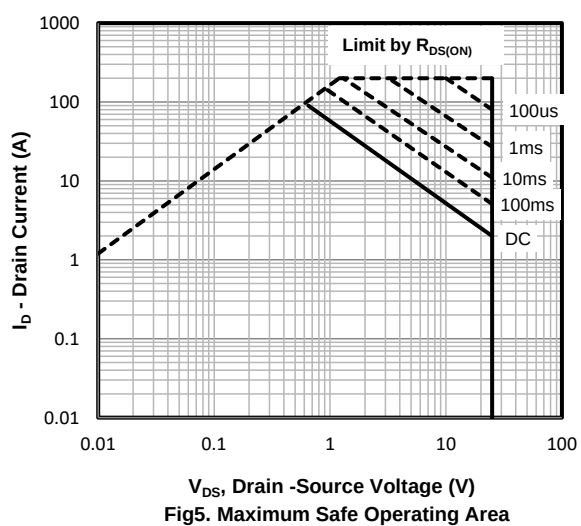
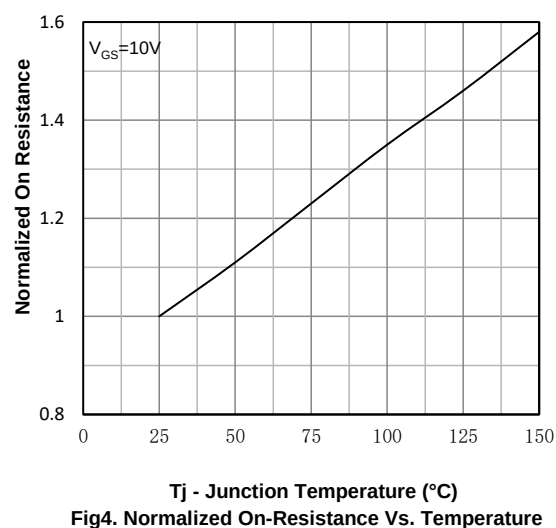
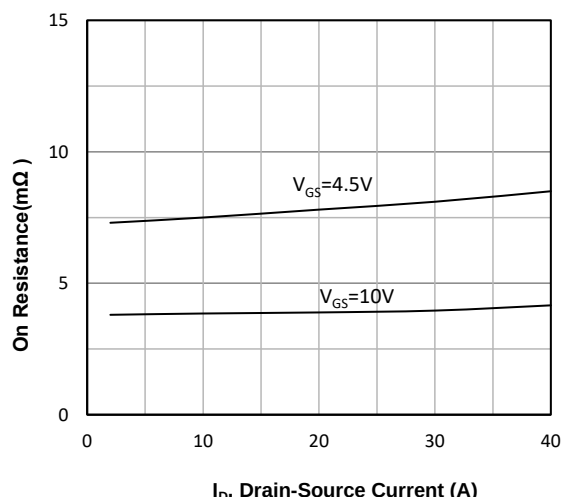
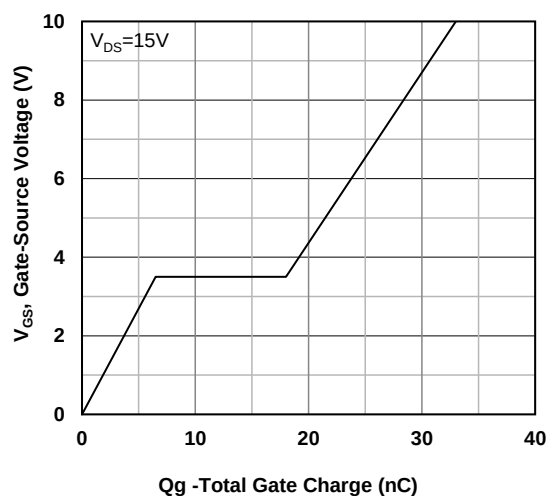
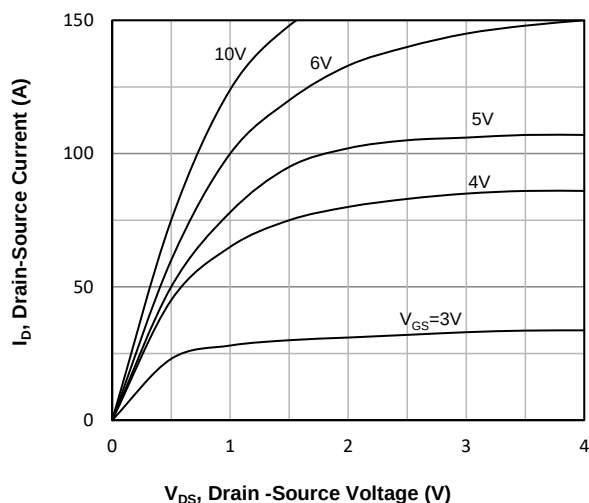
V _{DS}	Drain-Source Breakdown Voltage		25	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	16	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$	80	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$	16	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$	1.5	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient		65	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	25	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =25V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.0	1.5	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =30A	--	3.5	4.5	mΩ
		V _{GS} =4.5V, I _D =10A	--	7.5	10	mΩ
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =12.5V, V _{GS} =0V, f=1MHz	--	1050	--	pF
C _{OSS}	Output Capacitance		--	220	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	190	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =12.5V, I _D =30A, V _{GS} =10V	--	33	--	nC
Q _{gs}	Gate Source Charge		--	7	--	nC
Q _{gd}	Gate Drain Charge		--	11	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =12.5V, I _D =30A, V _{GS} =10V, R _G =2.5Ω	--	6	--	nS
t _r	Turn-on Rise Time		--	20.5	--	nS
t _{d(off)}	Turn-Off Delay Time		--	19	--	nS
t _f	Turn-Off Fall Time		--	9	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25℃, I _S =30A,	--	--	1.2	V

Typical Operating Characteristics



PDFN3X3-8L Package information

