

20V/20A N-Channel MOSFET

Features

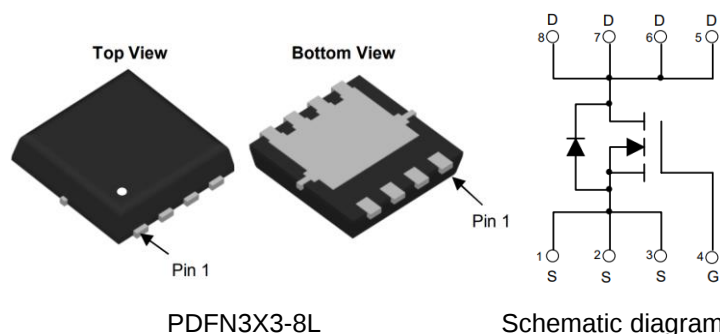
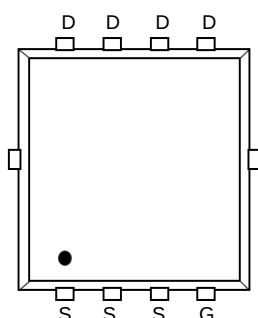
- High density cell design for ultra low $R_{DS(on)}$
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
20V	10mΩ@10V	20A
	13mΩ@4.5V	

Application

- Load switching
- Hard switched and high frequency circuits
- Uninterruptible power supply

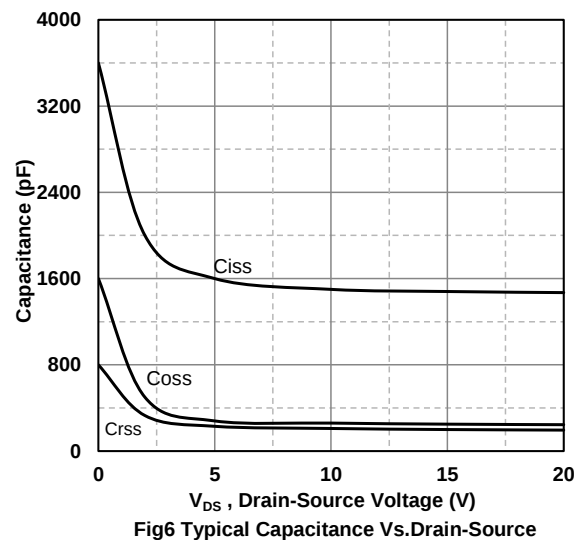
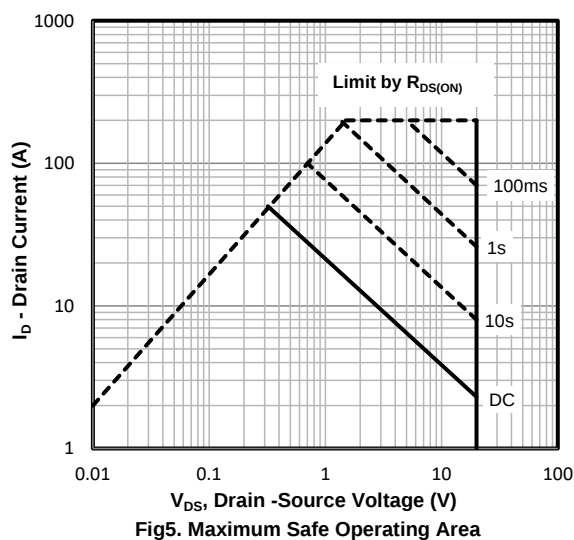
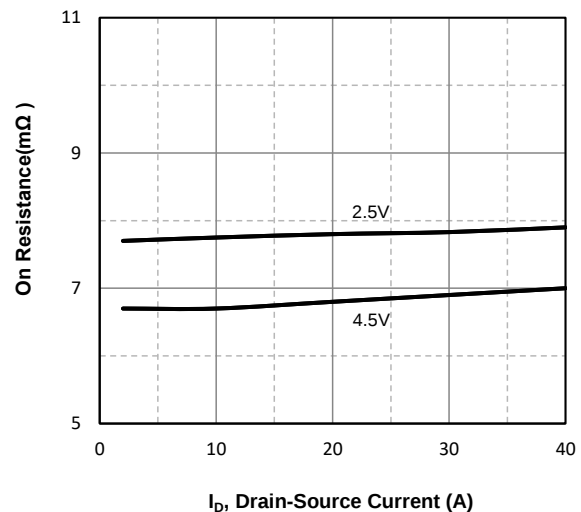
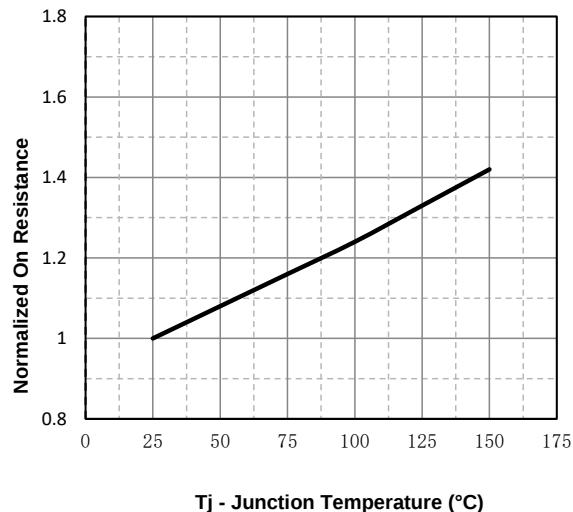
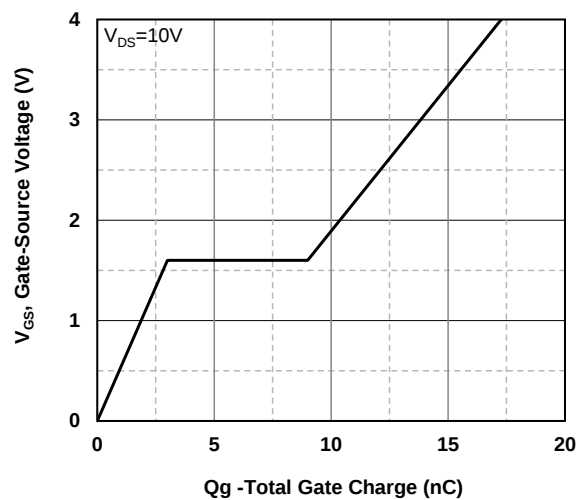
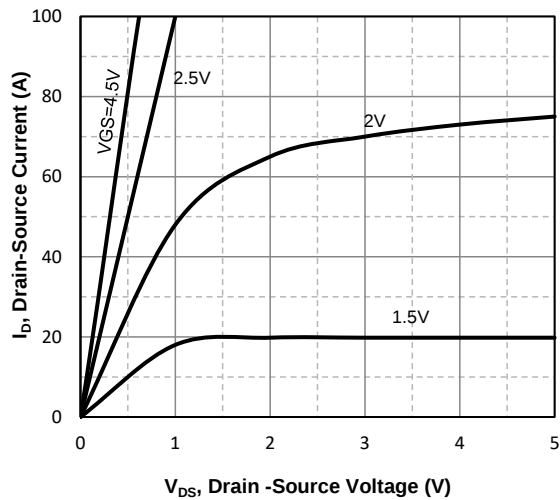


Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		20	V
V _{GS}	Gate-Source Voltage		±12	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 155	°C
I _S	Diode Continuous Forward Current	Tc=25°C	20	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	100	A
I _D	Continuous Drain Current@GS=10V	Tc=25°C	20	A
P _D	Maximum Power Dissipation	Tc=25°C	31	W
E _{AS}	Single pulse avalanche energy		11.25	mJ

Electrical Characteristics (T _J =25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
B _{V(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±12V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.4	0.75	1.2	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =20A	--	6.8	10	mΩ
		V _{GS} =4.5V, I _D =18A	--	8	13	mΩ
		V _{GS} =2.5V, I _D =5A	--	12	19	mΩ
Dynamic Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	--	1460	--	pF
C _{OSS}	Output Capacitance		--	240	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	215	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =10V, I _D =25A, V _{GS} =10V	--	20	--	nC
Q _{gs}	Gate Source Charge		--	3	--	nC
Q _{gd}	Gate Drain Charge		--	6.5	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =10V, I _D =10A, V _{GS} =4.5V, R _G =3Ω	--	10	--	nS
t _r	Turn-on Rise Time		--	20	--	nS
t _{d(off)}	Turn-Off Delay Time		--	40	--	nS
t _f	Turn-Off Fall Time		--	20	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25℃, I _S =20A,	--	--	1.2	V

Typical Operating Characteristics



PDFN3X3-8L Package information

