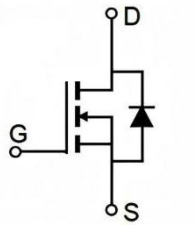
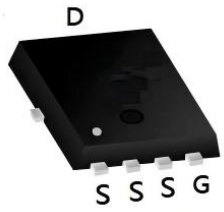
N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	200	V
$R_{DS(on)}$	27	mΩ
I_D	36	A





PDFN5x6

Features

- Split Gate Trench MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low RDS(ON)

Applications

- DC-DC converters
- Power management functions
- Synchronous-rectification applications

Absolute Maximum Ratings(Ta=25℃,unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	200	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25℃	I_D	36	A
	T_C=100℃		24	
Pulsed Drain Current		I_{DM}	144	A
Single Pulse Avalanche Energy		E_{AS}	248	mJ
Total Power Dissipation	T_C=25℃	P_D	125	W
Storage Temperature Range		T_{STG}	-55 to 150	℃
Operating Junction Temperature Range		T_J	-55 to 150	℃

Thermal Characteristics

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	--	75	℃/W
Thermal Resistance Junction-Case	$R_{\theta JC}$	--	1	℃/W

Electrical Characteristics(T_J=25℃,unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	B_{VDSS}	V_{GS}=0V, I_D=250uA	200	--	--	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=15A	--	27	32	mΩ
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250uA	3	--	5	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=160V,V_{GS}=0V	--	--	1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	--	--	±100	nA
Forward Transconductance	gfs	V_{DS}=10V, I_D=15A	--	19	--	S
Gate Resistance	R_G	V_{DS}=0V,V_{GS}=0V, f=1MHz	--	1.8	--	Ω
Total Gate Charge	Q_g	I_D=18A, V_{DD}=100V V_{GS}=0 to 10V	--	30	--	nC
Gate-Source Charge	Q_{gs}		--	10	--	
Gate-Drain Charge	Q_{gd}		--	5	--	
Turn-On Delay Time	$T_{d(on)}$	V_{DD}=100V, R_G=1.6Ω V_{GS}=10V, I_D=18A	--	20	--	ns
Rise Time	T_r		--	10	--	
Turn-Off Delay Time	$T_{d(off)}$		--	30	--	
Fall Time	T_f		--	6	--	
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V , f=1MHz	--	2600	--	pF
Output Capacitance	C_{oss}		--	1250	--	
Reverse Transfer Capacitance	C_{rss}		--	100	--	

Diode Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Diode continuous forward current	I_S	V_G=V_D=0V , Force Current	--	--	36	A
Diode pulse current	I_{SM}		--	--	144	
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=10A ,T_J=25℃	--	0.8	1.2	V

Notes

1. The EAS data shows Max. rating . The test condition is VDD=50V , VGS=10V , L=0.5mH , IAS=31.5A.

   This product has been designed and qualified for the consumer market.

Typical Characteristics

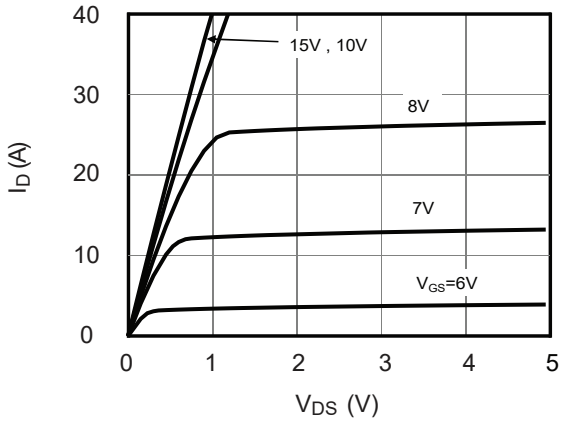


Fig 1. Output Characteristics

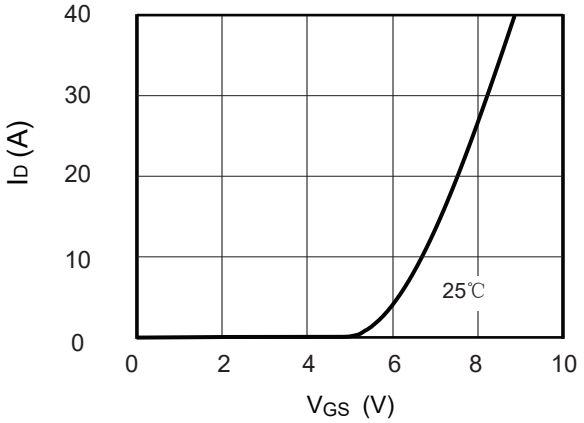


Fig 2. Transfer characteristics

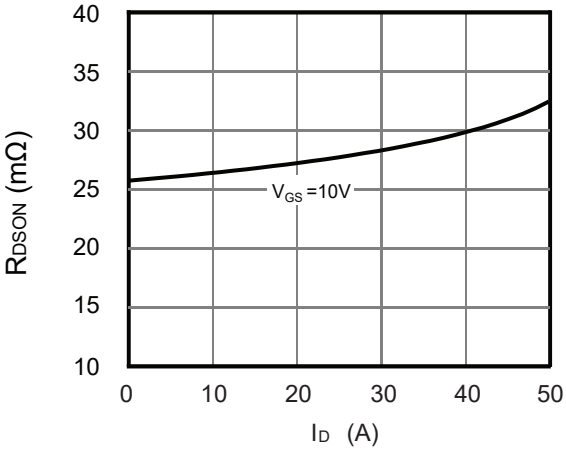


Fig 3. Drain-source on-resistance

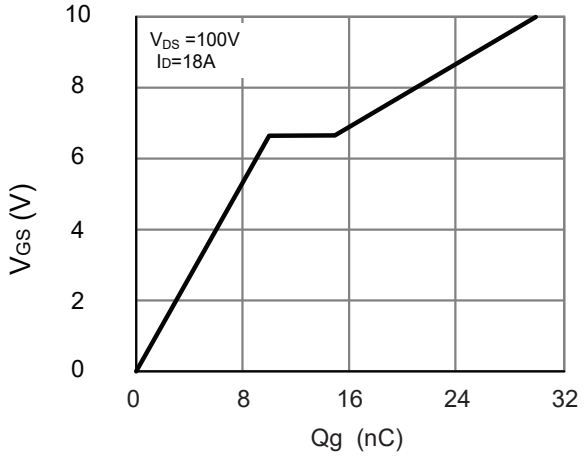


Fig 4. Gate charge vs gate-source voltage

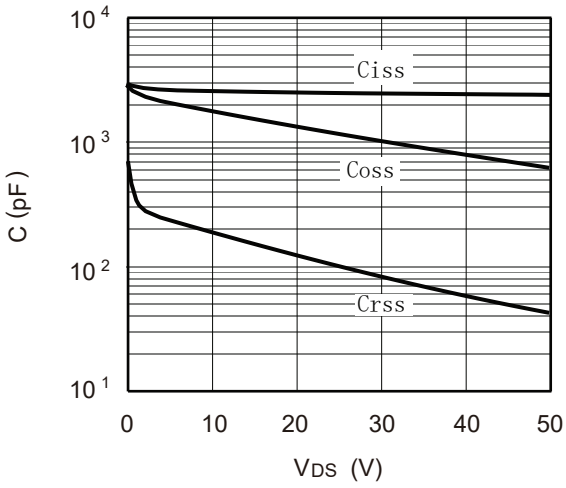


Fig 5. Capacitance Characteristics

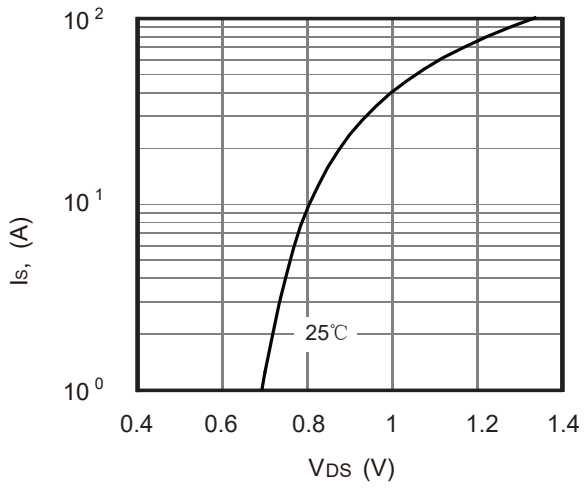
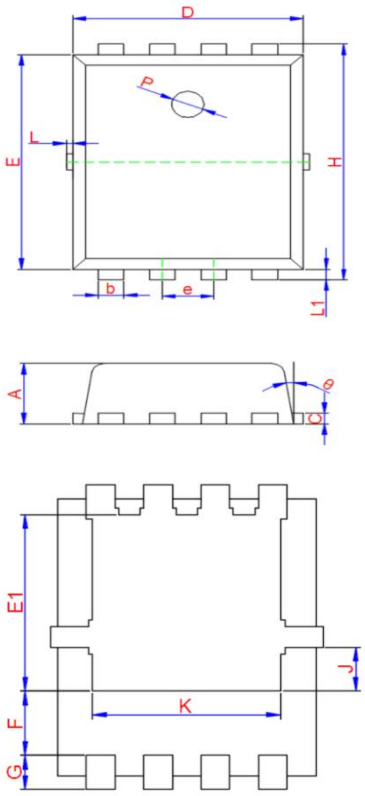


Fig 6. Body-Diode Characteristics

Package Outline Dimensions (Units: mm)

PDFN5x6



Symbol	Dimensions in mm		
	Min.	Typ.	Max.
A	0.800	1.050	1.200
b	0.250	0.350	0.490
c		0.254TYP.	
D	4.800	5.000	5.100
e		1.270TYP.	
E	5.650	5.800	5.900
E1		3.400TYP.	
F		1.300TYP.	
G		0.600TYP.	
H	5.950	6.080	6.200
J		0.950TYP.	
K		4.000TYP	
L	-	-	0.150
L1	0.100	0.140	0.180
P		1.180TYP.	
θ	6°	10°	14°

***Important Usage Information and Disclaimer**

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