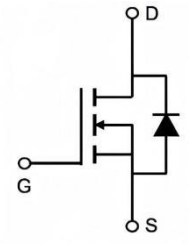
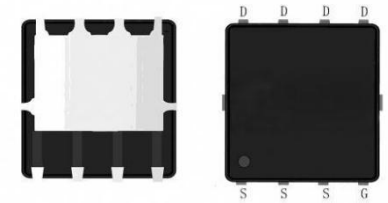
N-Channel Enhancement Mode MOSFET

Parameter	Value	Unit
V_{DS}	28	V
$R_{DS(on)}$	4.4	mΩ
I_D	55	A





PDFN3x3

Features

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

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}	28	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C=25°C	I_D	55	A
Pulsed Drain Current		I_{DM}	240	A
Single Pulse Avalanche Energy [1]		E_{AS}	110	mJ
Total Power Dissipation	T_C=25°C	P_D	50	W
Maximum Junction Temperature		T_J	150	°C
Storage Temperature Range		T_{STG}	-55 to 150	°C

Note :

1.The EAS test condition is VDD=20V, VG=10V, L=0.5mH, Rg=25Ω

Thermal Characteristics

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	--	65	℃/W
Thermal Resistance from Junction-to-Case	$R_{\theta JC}$	--	2.5	℃/W

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	28	30	--	V
Gate-body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}= ±20V	--	--	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=25V, V_{GS}=0V	--	--	1.0	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0	1.5	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=30A	--	4.4	5.2	mΩ
		V_{GS}=4.5V, I_D=10A	--	7.8	10	
Gate resistance	R_g	f =1MHz	--	1.5	--	Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=12.5V, V_{GS}=0V f =1MHz	--	1050	--	pF
Output Capacitance	C_{oss}		--	220	--	
Reverse Transfer Capacitance	C_{rss}		--	190	--	
Switching Characteristics						
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS} =12.5V I_D=30A	--	23	--	nC
Gate-Source Charge	Q_{gs}		--	7	--	
Gate-Drain Charge	Q_{gd}		--	11	--	
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DD}=12.5V R_G=2.5Ω , I_D=30A	--	6	--	ns
Rise Time	t_r		--	20.5	--	
Turn-Off Delay Time	$t_{d(off)}$		--	19	--	
Fall Time	t_f		--	9	--	
Reverse Recovery Time	t_{rr}	I_F=30A, dI/dt=100A/μs	--	5.7	--	ns
Reverse Recovery Charge	Q_{rr}		--	0.35	--	nC
Drain-Source Body Diode Characteristics						
Diode Forward Voltage	V_{SD}	I_S=30A,V_{GS}=0V,T_C=25°C	--	--	1.2	V
Continuous Source Current (T_C=25°C)	I_S	-	--	--	55	A

Typical Characteristics

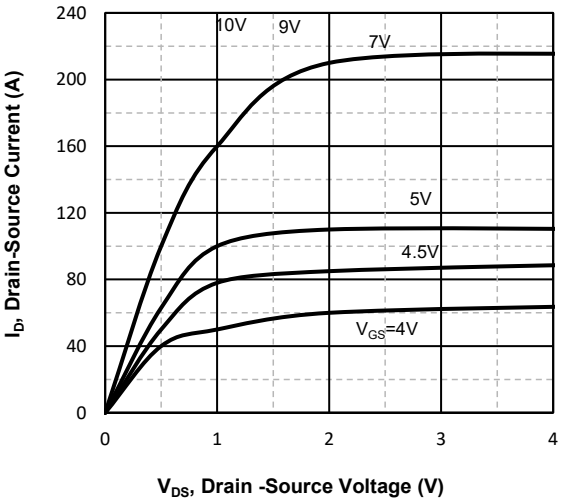


Fig1. Typical Output Characteristics

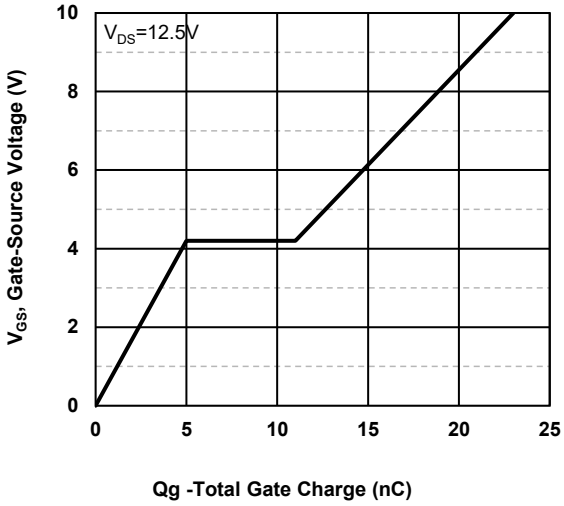


Fig2. Typical Gate Charge Vs.Gate-Source Voltage

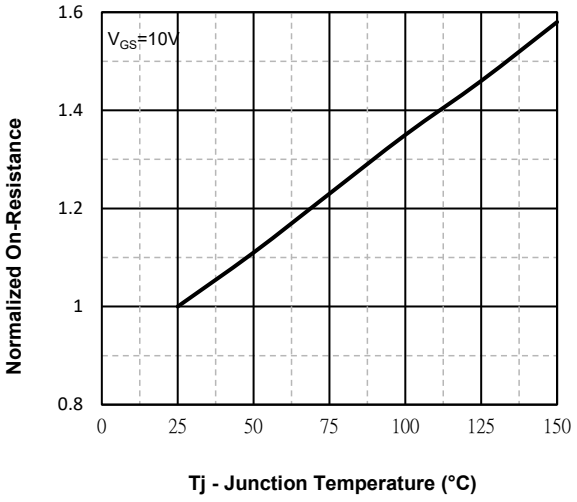


Fig3. Normalized On-Resistance Vs. Temperature

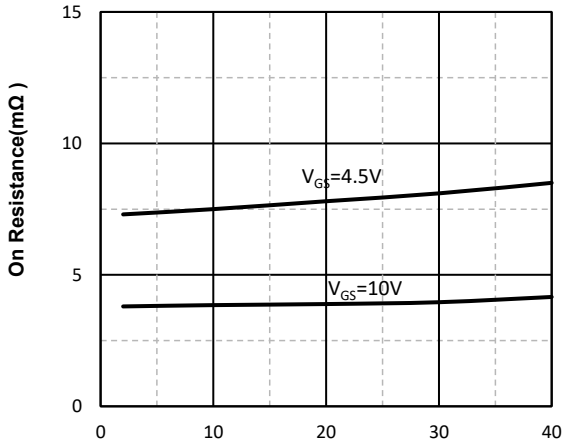


Fig4. On Resistance Vs. Drain-Source Current

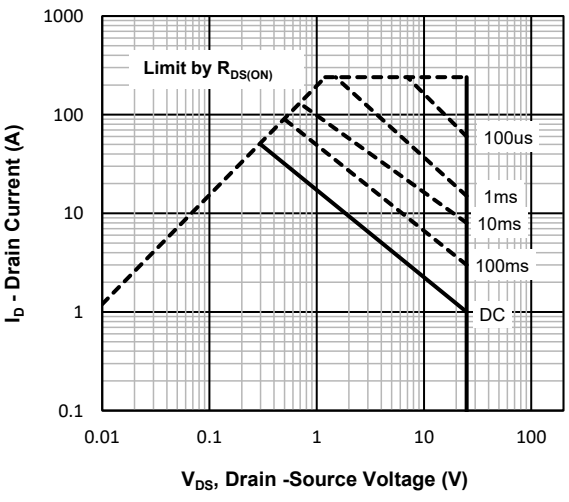


Fig5. Maximum Safe Operating Area

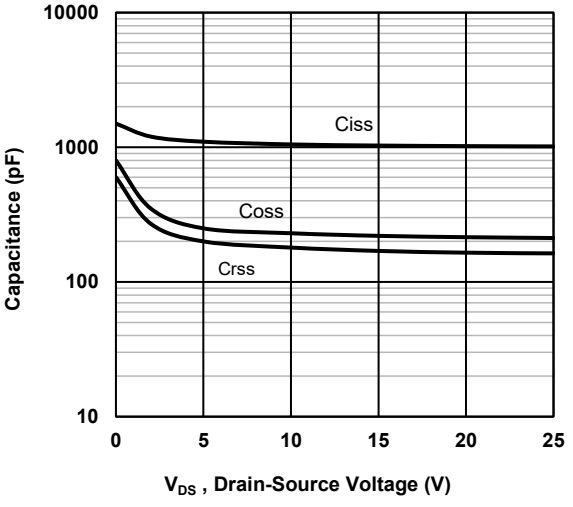
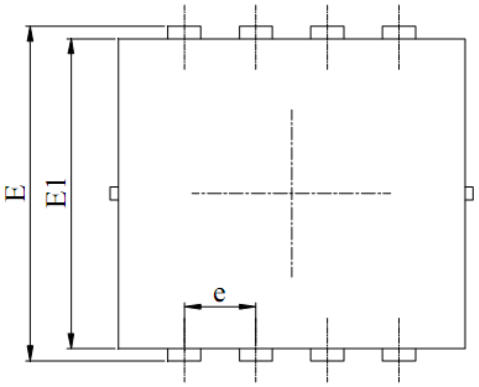


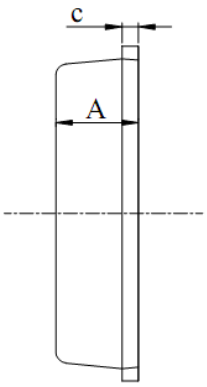
Fig6. Typical Capacitance Vs.Drain-Source Voltage

Package Outline

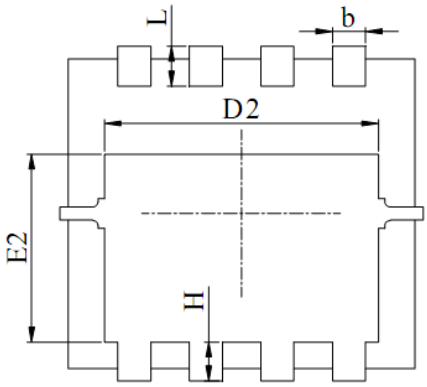
PDFN3X3



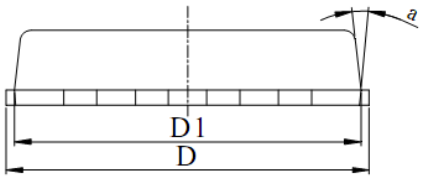
Top View



Side View



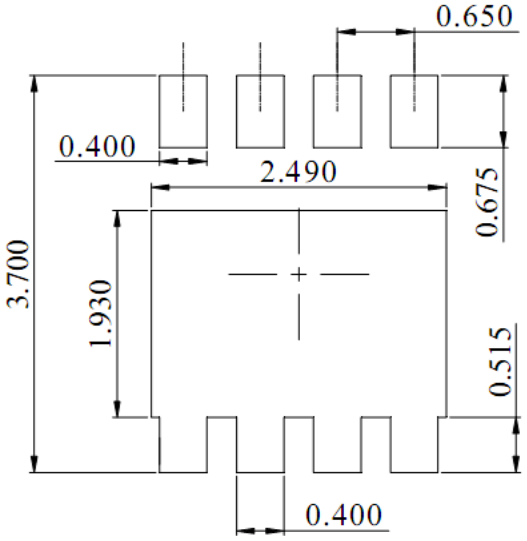
Bottom View



Front View

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M,1994.
2. ALL DIMNESIONS IN MILLIMETER (ANNGLE IN DEGREE).
3. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.

DIM.	MILLIMETER		
	MIN.	NOM.	MAX.
A	0.70	0.75	0.80
b	0.25	0.30	0.35
c	0.10	0.20	0.25
D	3.00	3.15	3.25
D1	2.95	3.05	3.15
D2	2.39	2.49	2.59
E	3.20	3.30	3.40
E1	2.95	3.05	3.15
E2	1.70	1.80	1.90
e	0.65 BSC		
H	0.30	0.40	0.50
L	0.25	0.40	0.50
a	---	---	15°



DIMENSIONS:MILLIMETERS

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