NP4834D6

30V Dual N-Channel Enhancement Mode MOSFET

Description

The NP4834D6 uses advanced trench technology to provide excellent $R_{DS(ON)}$ with low gate charge.

This device is suitable for high side switch in SMPS and general purpose applications.

General Features

◆ V_{DS} =30V，ID =20A

  $R_{DS(ON)}$=10mΩ (typical) @ VGS=10V

  $R_{DS(ON)}$=14mΩ (typical) @ VGS=4.5V

◆ Excellent gate charge x $R_{DS(ON)}$ product(FOM)

◆ Very low on-resistance $R_{DS(ON)}$

◆ 150 °C operating temperature
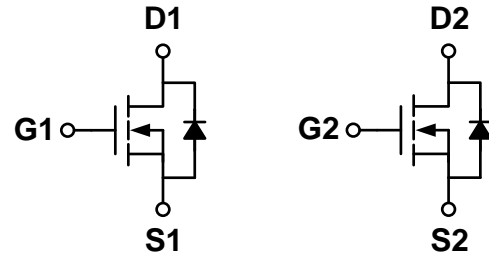
◆ Pb-free lead plating

◆ 100% UIS tested

Application

◆ DC/DC Converter

◆ Ideal for high-frequency switching and synchronous rectification
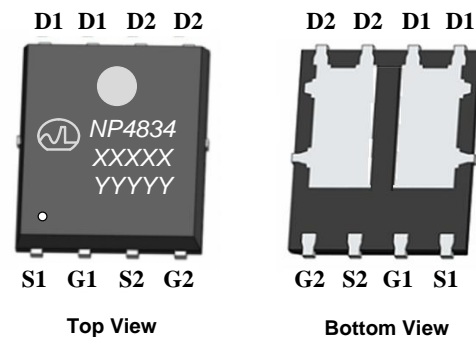
Package

◆ PDFN5*6-8L-B

Schematic diagram

Marking and pin assignment

PDFN5×6-8L-B

Note：

XXXX—Wafer Information

YYYY—Quality Code

Ordering Information

Part Number	Storage Temperature	Package	Devices Per Reel
NP4834D6-G	-55°C to +150°C	PDFN5*6-8L-B	5000

Absolute Maximum Ratings (TA=25℃ unless otherwise noted)

parameter		symbol	limit	unit
Drain-source voltage		V_{DS}	30	V
Gate-source voltage		V_{GS}	±20	V
Drain Current-Continuous (Silicon Limited)	T_A=25°C	I_D	20	A
	T_A=75°C		16	
Pulsed Drain Current (Package Limited)		I_{DM}	80	A
Single pulse avalanche energy		E_{AS}	22	mJ
Maximum power dissipation	T_A=25°C	P_D	31	W
	T_A=75°C		16	
Operating junction Temperature range		Tj	-55—150	℃

Electrical Characteristics (TA=25℃ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
OFF Characteristics						
Drain-source breakdown voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	30	-	-	V
Zero gate voltage drain current	I_{DSS}	V_{DS}=30V, V_{GS}=0V	-	-	1	μA
Gate-body leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±20V	-	-	±100	nA
ON Characteristics						
Gate threshold voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0	1.65	3.0	V
Drain-source on-state resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A	-	10	15	mΩ
		V_{GS}=4.5V, I_D=10A	-	14	20	
Forward transconductance	gfs	V_{DS}=5V, I_D=10A	-	43	-	S
Dynamic Characteristics						
Input capacitance	C_{ISS}	V_{DS}=15V ,V_{GS}=0V f=1.0MHz	-	1021	-	pF
Output capacitance	C_{OSS}		-	273	-	
Reverse transfer capacitance	C_{RSS}		-	166	-	
Gate resistance	Rg	V_{GS}=0V, V_{DS}=0V, f=1.0MHz	-	1.6	2.4	Ω
Switching Characteristics						
Turn-on delay time	$t_{D(ON)}$	V_{DS}=15V V_{GS}=10V R_L=1.5Ω R_{GEN}=3Ω	-	4.4	-	ns
Rise time	tr		-	9	-	
Turn-off delay time	$t_{D(OFF)}$		-	17	-	
Fall time	tf		-	6	-	
Total gate charge	Qg（VGS=10V）	V_{DS}=15V,I_D=10A	-	19.5	-	nC
	Qg（VGS=4.5V）			9.4	9.8	
Gate-source charge	Qgs		-	2.45	-	
Gate-drain charge	Qgd		-	3.9	-	

Thermal Characteristics

Thermal Resistance junction-to ambient	$R_{θJA}$	4	℃/W

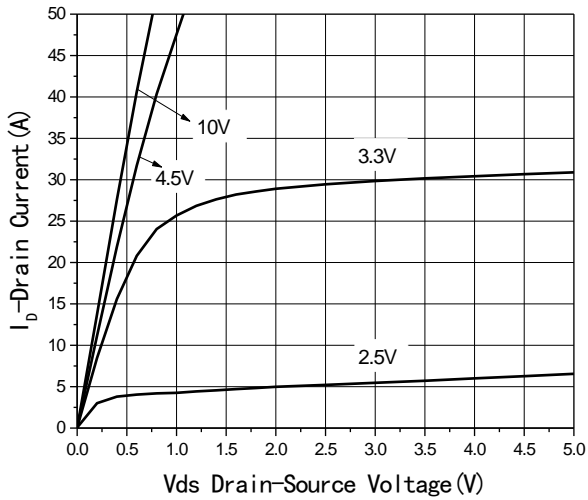## Typical Performance Characteristics
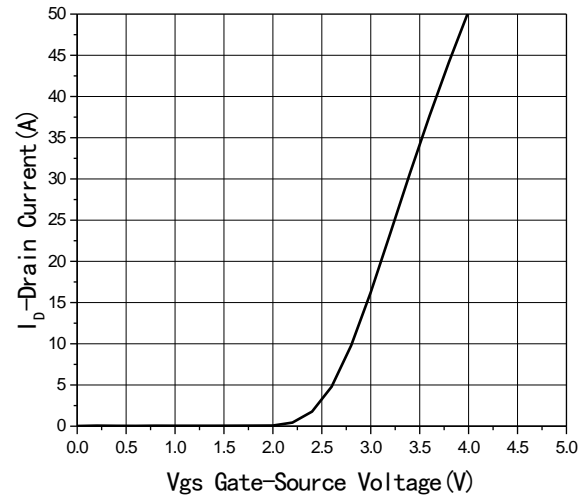

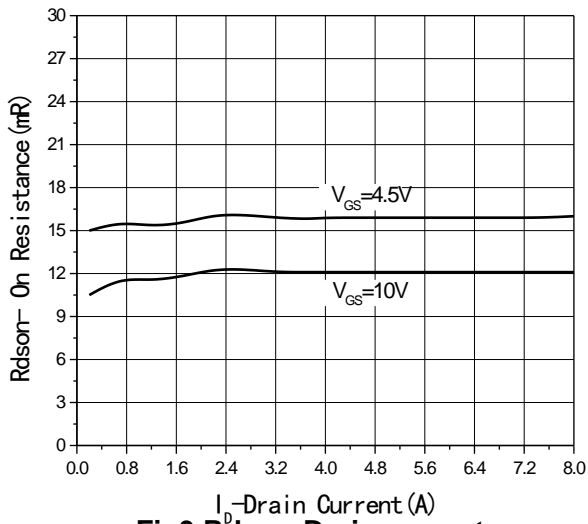**Fig1 Output Characteristics**

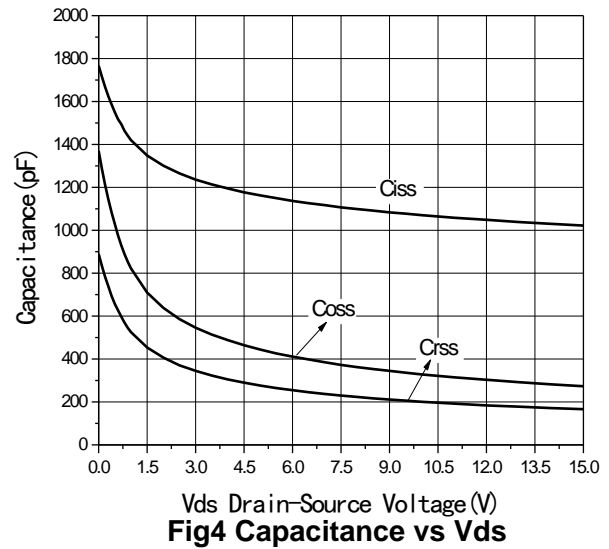**Fig2 Transfer Characteristics**

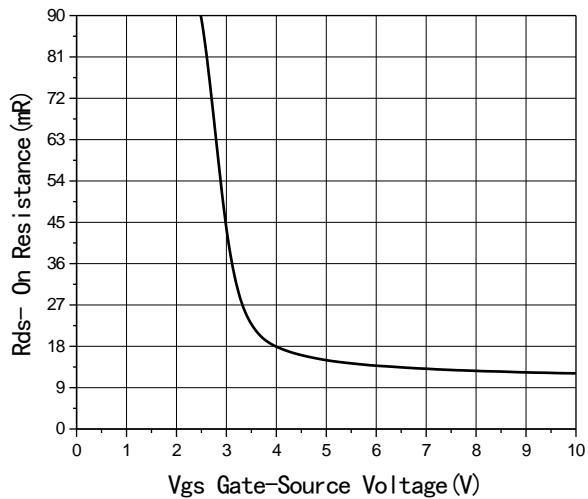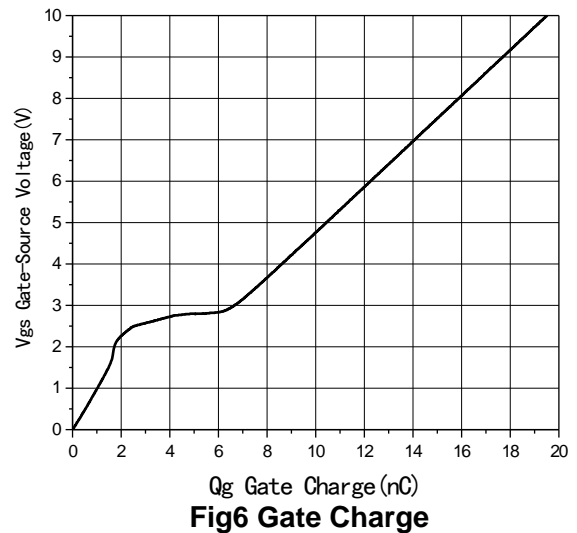**Fig3 Rdson-Drain current**

Fig4 Capacitance vs Vds
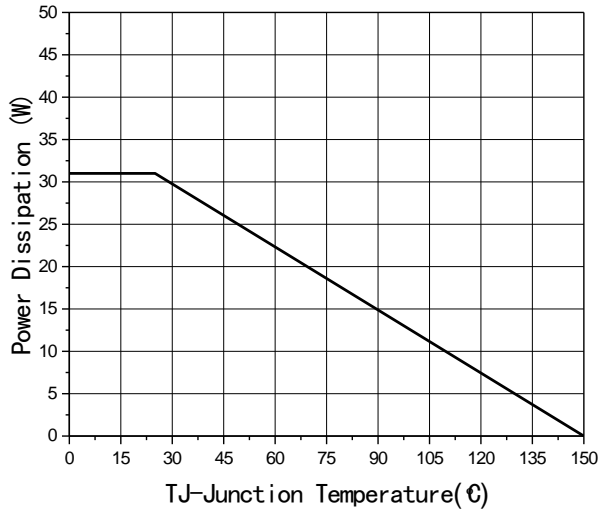

Fig5 Rdson-Gate Drain voltage

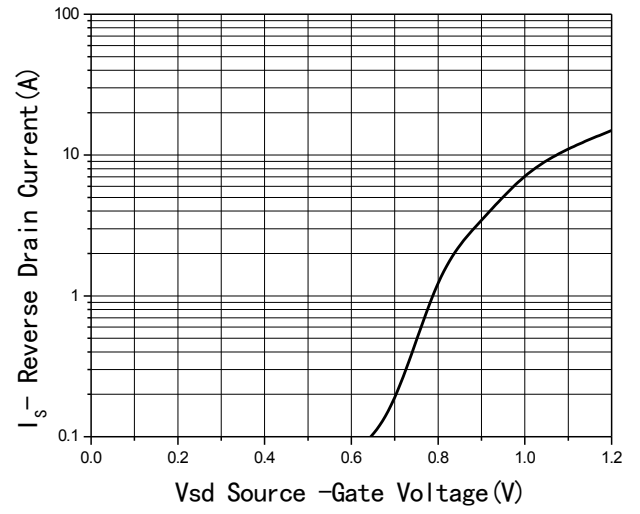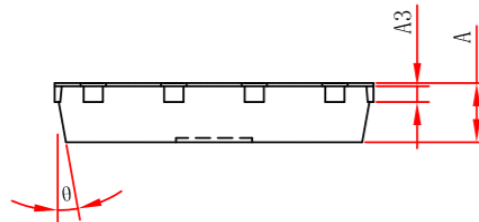

Fig6 Gate Charge

Fig7 Power De-rating

Fig8 Source-Drain Diode Forward

Package Information

● **PDFN5*6-8L-B**

Top View

Bottom View

Side View
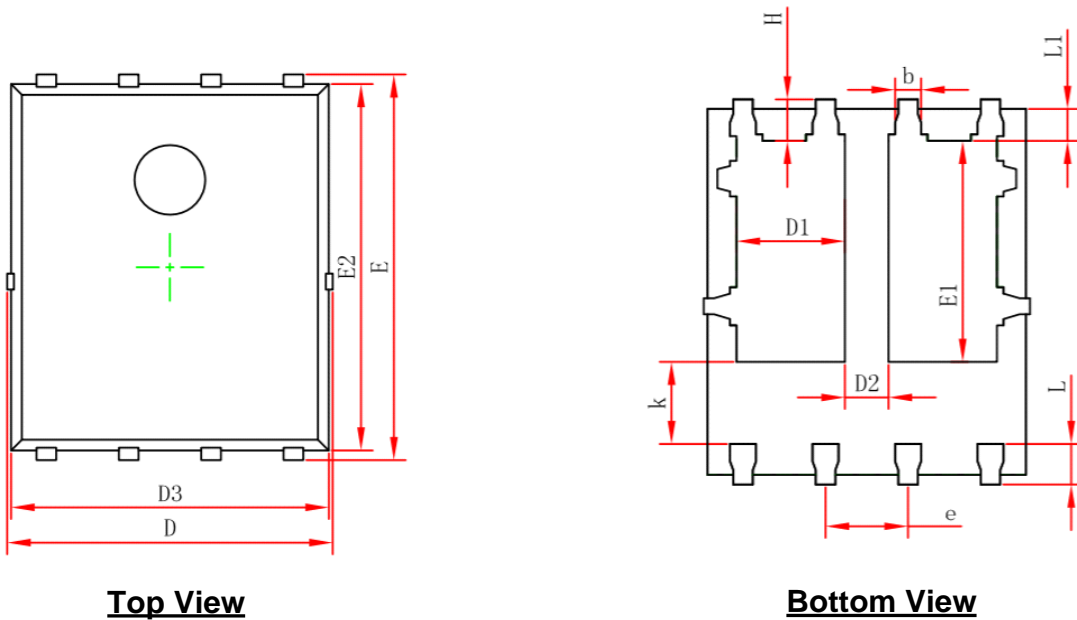
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.154REF.		0.006REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	1.470	1.870	0.058	0.074
D2	0.470	0.870	0.019	0.034
E1	3.375	3.575	0.133	0.141
D3	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET *category:*

Click to view products by NATLINEAR *manufacturer:*

Other Similar products are found below :

614233C 648584F IRFD120 IRFF430 JANTX2N5237 2N7000 FCA20N60_F109 FDZ595PZ AOD464 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 STU5N65M6 C3M0021120D DMN13M9UCA6-7 BSS340NWH6327XTSA1 MCM3400A-TP DMTH10H4M6SPS-13 IRF40SC240ARMA1 IPS60R1K0PFD7SAKMA1 IPS60R360PFD7SAKMA1 IPS60R600PFD7SAKMA1