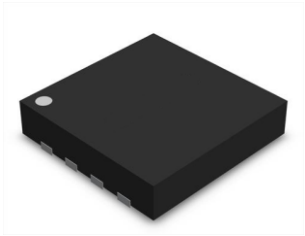
GP18P07D33

18V P-Channel MOSFET

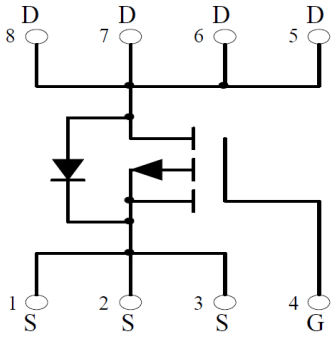
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-18V	5.6mΩ@-4.5V	-45A
	6.0mΩ@-3.7V	
	7.0mΩ@-2.5V	
	10.0mΩ@-1.8V	

DFNWB3×3-08L-C



Schematic diagram



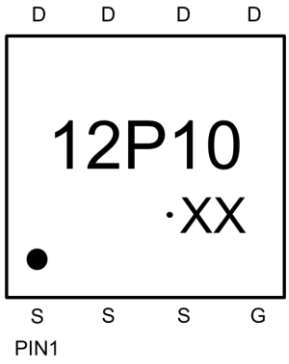
Feature

- High cell density trenched P-ch MOSFETs
- Super low gate charge
- Advanced high cell density Trench technology

Application

- Battery protection applications
- Load switch

MARKING:



12P10 = Device code

Solid dot1 = Pin1 indicator

Solid dot2 = Green device,if none,normal device

XX = Date Code

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-18	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current[1]	I_D	-45	A
Pulsed Drain Current[1]	I_{DM}	-135	A
Power Dissipation[2]	P_D	3	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	42	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-18			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±100	nA
Gate threshold voltage[3]	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.35	-0.5	-1	V
Drain-source on-resistance[3]	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-10A		5.6	7.3	mΩ
		V_{GS} =-3.7V, I_D =-10A		6.0	7.8	
		V_{GS} =-2.5V, I_D =-8A		7.0	9.4	
		V_{GS} =-1.8V, I_D =-6A		10	15	
Forward tranconductance[3]	g_{FS}	V_{DS} =-6V, I_D =-10A	5			S
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =-6V,V_{GS} =0V,f =1MHz		4850		pF
Output Capacitance	C_{oss}			1520		
Reverse Transfer Capacitance	C_{rss}			1610		
Gate resistance	R_g	f =1MHz			30	Ω
Total Gate Charge	Q_g	V_{DS} =-6V,V_{GS} =-4.5V,I_D=-5A		65		nC
Gate-Source Charge	Q_{gs}			20		
Gate-Drain Charge	Q_{gd}			325		
Turn-on delay time	$t_{d(on)}$	V_{DD}=-6V,V_{GEN}=-4.5V,I_D=-4A R_L=6Ω,R_{GEN}=1Ω		22		ns
Turn-on rise time	t_r			50		
Turn-off delay time	$t_{d(off)}$			100		
Turn-off fall time	t_f			30		
Source-Drain Diode characteristics						
Diode forward current[4]	I_S	T_C=25℃			-45	A
Diode pulsed forward curren[4]	I_{SM}				-135	A
Diode Forward voltage[3]	V_{DS}	V_{GS} =0V, I_S=-10A			-1.2	V

Notes:

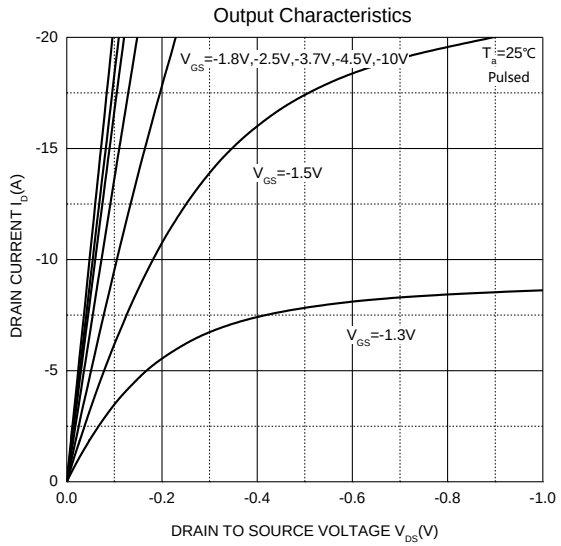
1.Device mounted on FR-4 substrate board, with minimum recommended pad layout, single side.

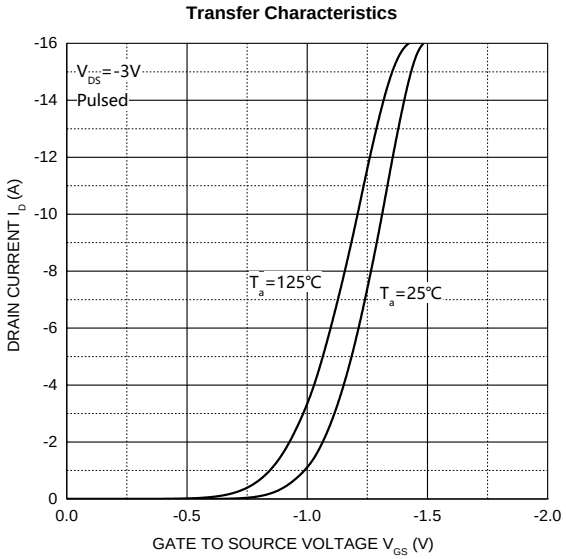
2.The power dissipation is limited by 150℃ junction temperature

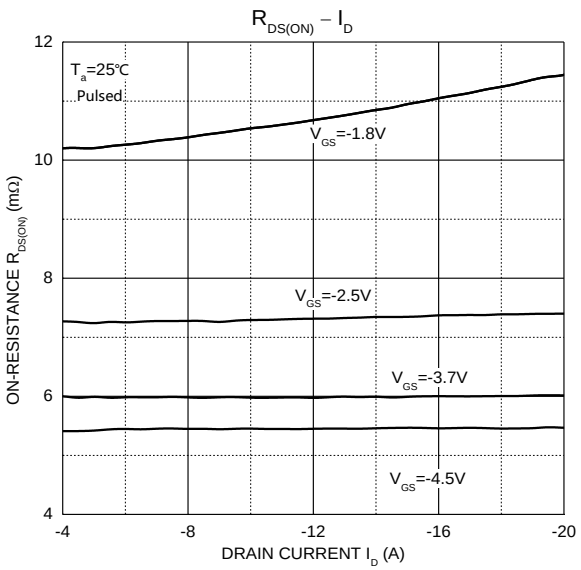
3.Pulse Test : Pulse width≤300μs, duty cycle≤2%.

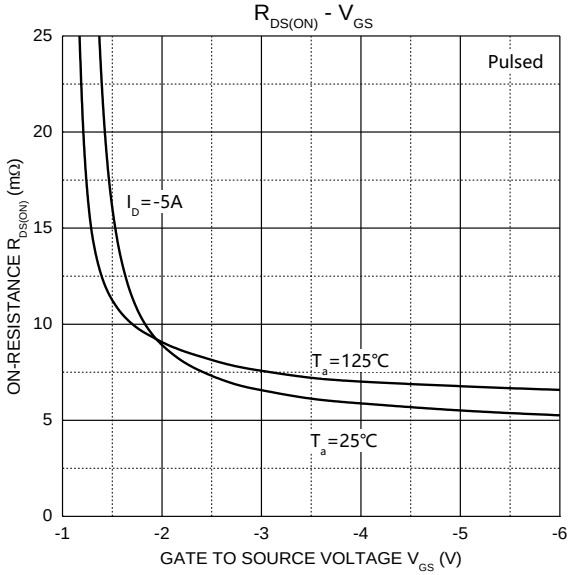
4.The data is theoretically the same as I_D, in real applications , should be limited by total power dissipation.

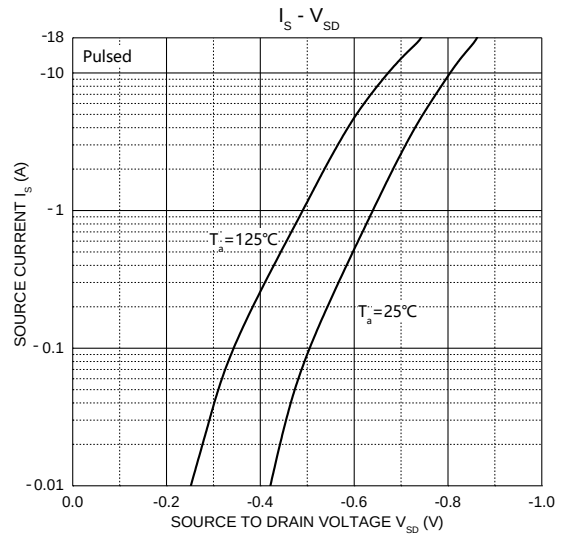
Typical Electrical and Thermal Characteristics

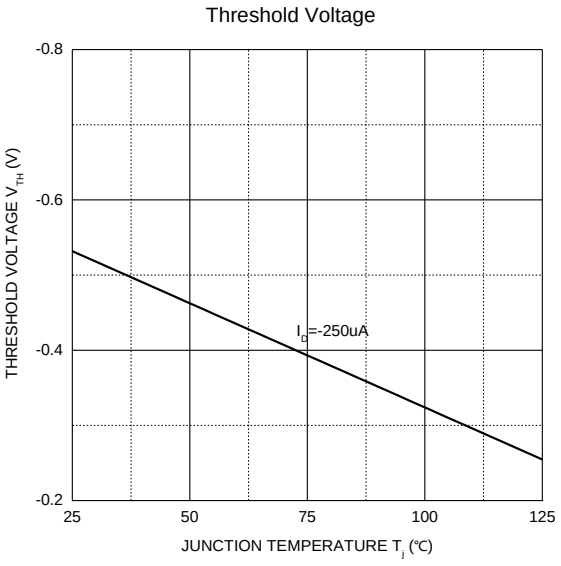






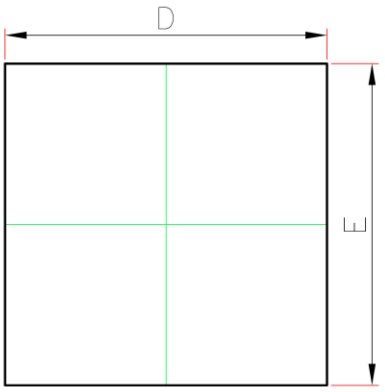




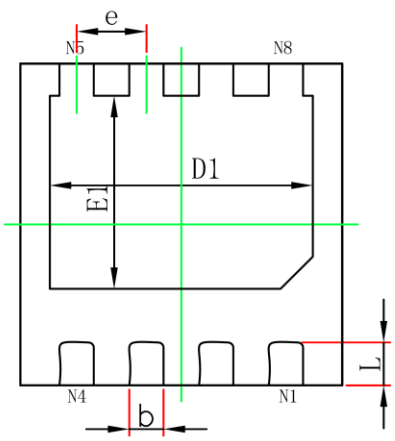


DFNWB3×3-08L-C Package Information

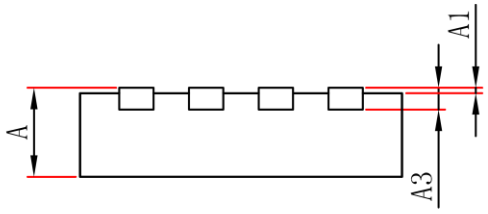
DFNWB3×3-8L-C(P0.65T0.75) PACKAGE OUTLINE DIMENSIONS



TOP VIEW



BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF		0.008REF	
D	2.924	3.076	0.115	0.121
E	2.924	3.076	0.115	0.121
D1	2.350	2.550	0.093	0.100
E1	1.700	1.900	0.067	0.075
k	0.200MIN.		0.008MIN.	
b	0.270	0.370	0.011	0.015
e	0.650TYP.		0.026TYP.	
L	0.324	0.476	0.013	0.019