Product Summary

V$_{(BR)DSS}$	R$_{DS(on)TYP}$	I$_D$
-30V	11mΩ@-10V	-12A
	17mΩ@-4.5V	

Feature

- TrenchFET Power MOSFET
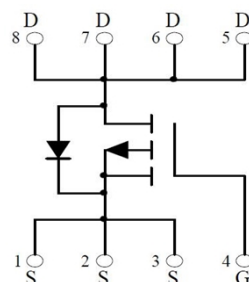- Excellent R$_{DS(on)}$ and Low Gate Charge

Application

- Advanced trench process technology
- High density cell design for ultra-low on-resistance
- High power and current handing capability
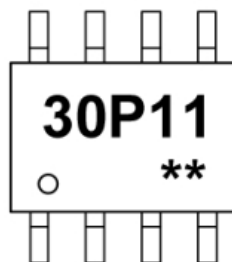- Ideal for Lion battery pack applications

Package

SOP-8

Circuit diagram

Marking


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30P11   =Device Code
**      =Week Code
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Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±25	V
Continuous Drain Current	I_D	-12	A
Pulsed Drain Current[1]	I_{DM}	-55	A
Power Dissipation	P_D	3.2	W
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	39	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55～ +150	℃

Notes:

1. Repetitive rating: Pulse width limited by junction temperature.

2. Surface mounted on FR4 board, t≤10s.

Electrical characteristics

(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D = -250µA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -30V, V_{GS} = 0V			-1	uA
Gate-Source Leakage	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	uA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250µA	-1.2	-1.8	-2.5	V
Drain-Source On-Resistance[1]	$R_{DS(on)}$	V_{GS} = -20V, I_D = -12A		9.5	12	mΩ
		V_{GS} = -10V, I_D = -12A		11	14	
		V_{GS} = -6V, I_D = -10A		13	18	
		V_{GS} = -4.5V, I_D = -10A		17	23	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = -15V, V_{GS} = 0V, f=1MHz		2070		pF
Output Capacitance	C_{oss}			503		
Reverse Transfer Capacitance	C_{rss}			302		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{GS} = -10V, V_{DD} = -15V, R_{GEN}=3Ω, R_L=3Ω		12.4		nS
Turn-on Rise Time	T_r			8.2		
Turn-off Delay Time	$T_{d(off)}$			25.+		
Turn-off Fall Time	T_f			12		
Total Gate Charge	Q_g	V_{DS} = -15V, I_D = -10A, V_{GS} = -12V		37.4		nC
Gate-Source Charge	Q_{gs}			7		
Gate-Drain Charge	Q_{gd}			10.4		
Drain-Source Diode Characteristics						
Forward on voltage	V_{SD}	I_{SD} = -1A, V_{GS} = 0V			-1	V

Note:

1. Repetitive rating: Pulse width limited by junction temperature.

2. Surface mounted on FR4 board, t≤10s.

3. Pulse Test: Pulse Width≤80µs, Duty Cycle≤0.5%.

4. Guaranteed by design, not subject to producting.

Typical Characteristics
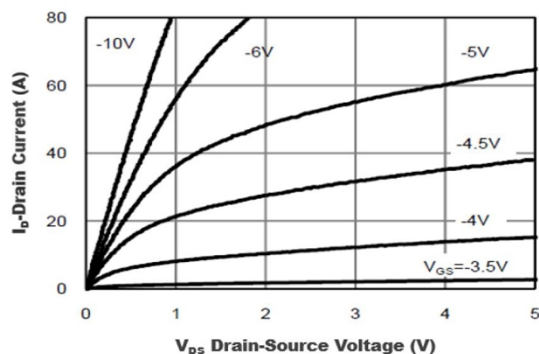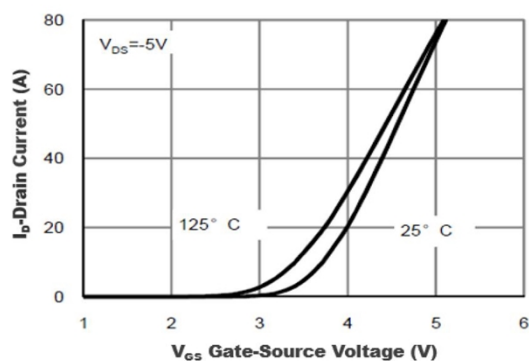

Figure1. Output Characteristics
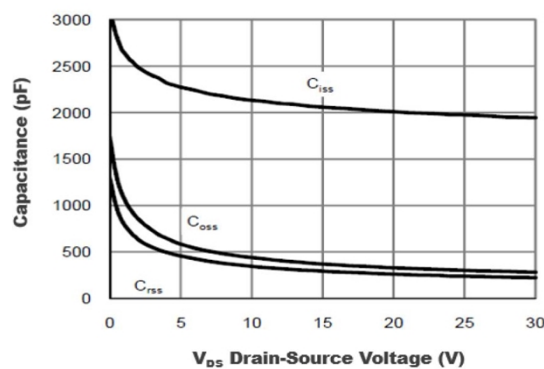

Figure2. Transfer Characteristics

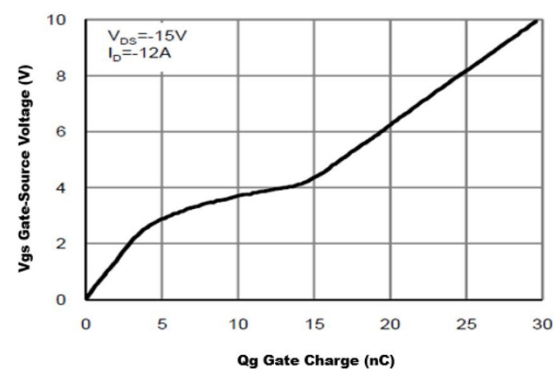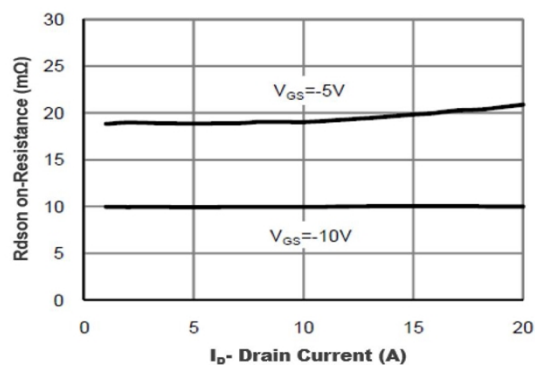Figure3. Capacitance Characteristics

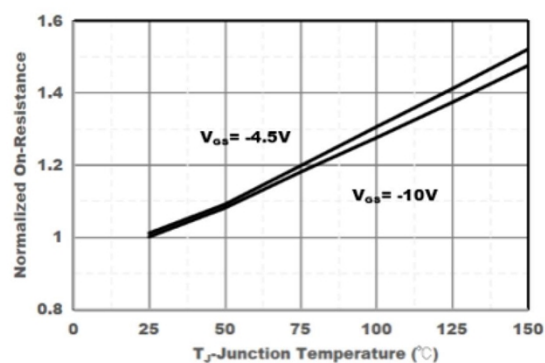Figure4. Gate Charge

Figure5. Drain-Source on Resistance
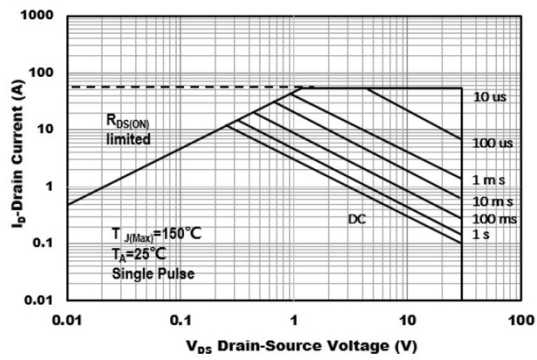

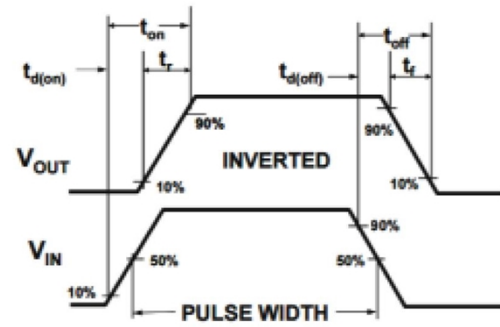Figure6. Drain-Source on Resistance
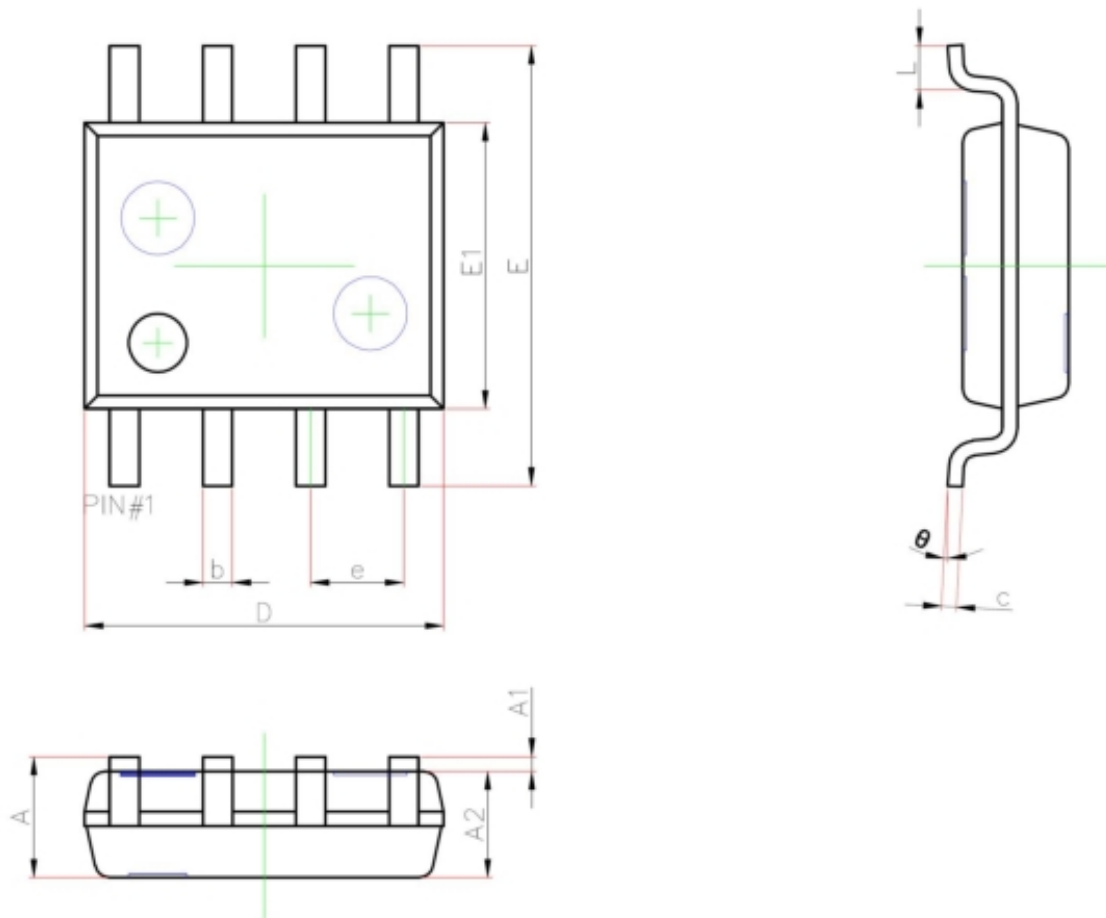
Figure7. Safe Operation Area

Figure8. Switching wave

SOP-8 Package Information

Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
c	0.17	0.25
D	4.80	5.00
e	1.27 REF.	
E	5.80	6.20
E1	3.80	4.00
L	0.40	1.27
θ	0°	8°