

## Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
-30V	38mΩ@-10V	-5.5A
	58mΩ@-4.5V	

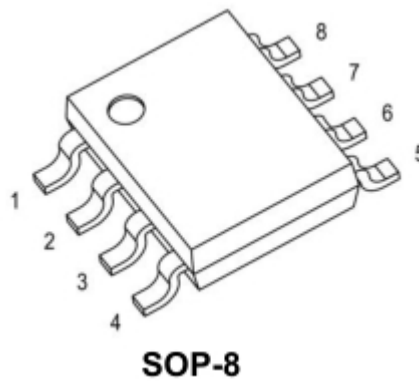
## Feature

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

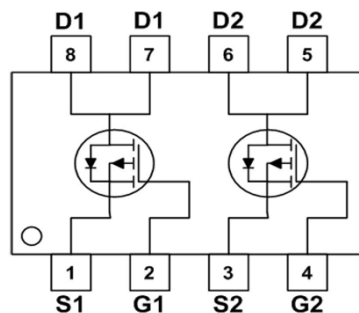
## Application

- Load Switch for Portable Devices
- Battery Switch

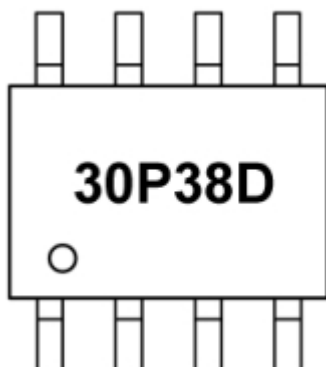
## Package



## Circuit diagram



## Marking



## Absolute maximum ratings

( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current( $t \leq 10s$ )	$I_D$	-5.5	A
Power Dissipation( $t \leq 10s$ )	$P_D$	1.5	A
Thermal Resistance from Junction to Ambient( $t \leq 10s$ )	$R_{\theta JA}$	85	W
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}\text{C}$

## Electrical characteristics

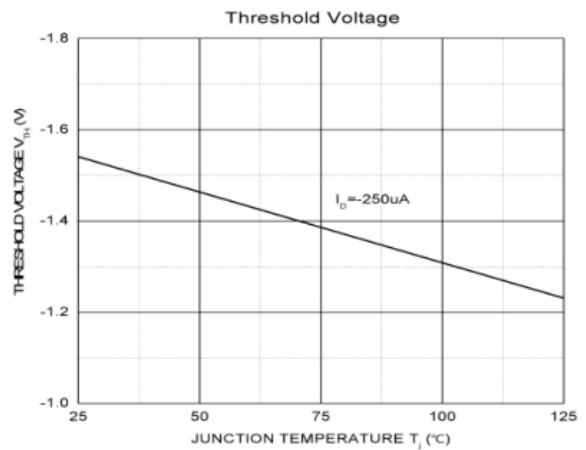
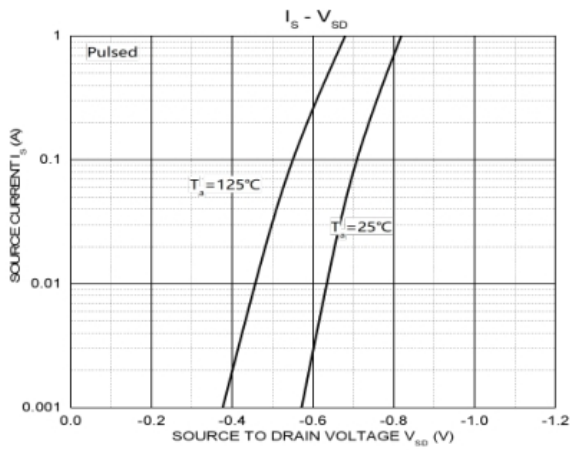
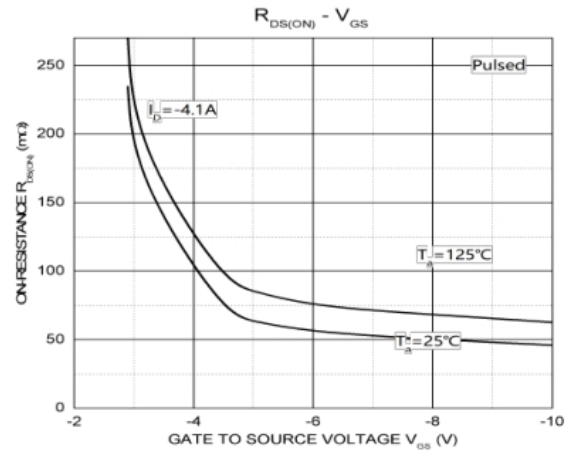
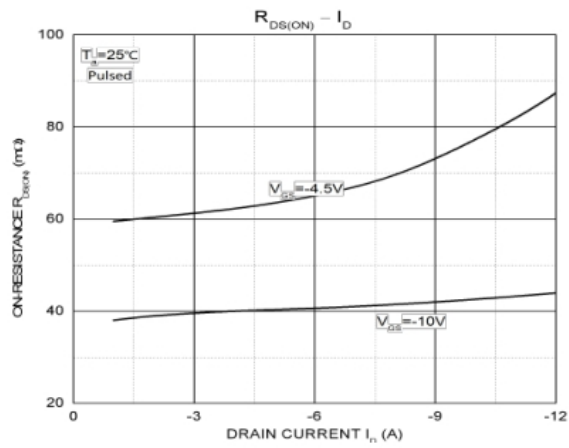
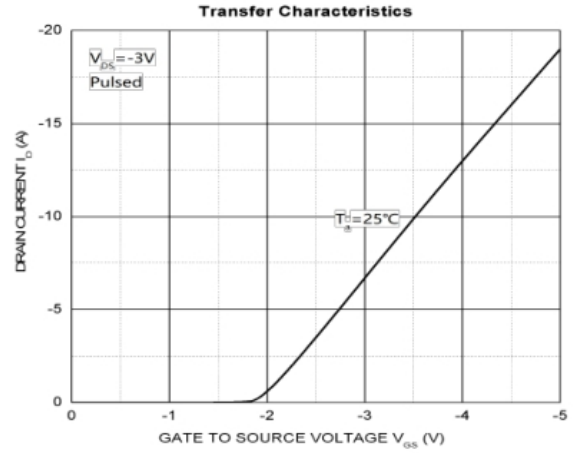
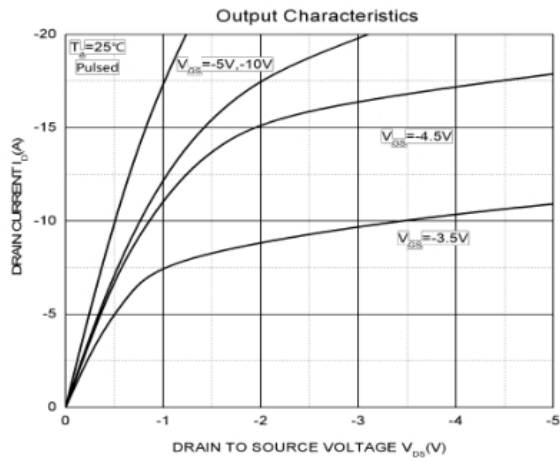
( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30.5			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -30V, V <sub>GS</sub> = 0V			-1	uA
Gate-Source Leakage	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> =0V			±0.1	uA
Gate-Source Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> = -250μA	-1.0	-1.5	-2.5	V
Drain-Source On-Resistance <sup>1</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -4.1A		38	50	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -3A		58	80	
Forward transconductance	g <sub>FS</sub>	V <sub>DS</sub> = -10V, I <sub>D</sub> = -4.9A	6			S
Dynamic characteristics <sup>2)</sup>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15V,V <sub>GS</sub> =0V, Frequency=1.0MHz		520		pF
Output Capacitance	C <sub>oss</sub>			130		
Reverse Transfer Capacitance	C <sub>rss</sub>			70		
Switching Characteristics						
Turn-on Delay Time	T <sub>d(on)</sub>	V <sub>DD</sub> = -15V, R <sub>L</sub> =15Ω, I <sub>D</sub> = -1A, V <sub>GEN</sub> = -10V, R <sub>G</sub> =6Ω			15	nS
Turn-on Rise Time	T <sub>r</sub>				20	
Turn-off Delay Time	T <sub>d(off)</sub>				80	
Turn-off Fall Time	T <sub>f</sub>				40	
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -15V , I <sub>D</sub> = -4.9A, V <sub>GS</sub> = -10V,			25	nC
Gate-Source Charge	Q <sub>gs</sub>			4		
Gate-Drain Charge	Q <sub>gd</sub>			2		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V <sub>SD</sub>	I <sub>SD</sub> = -1.7A,V <sub>GS</sub> =0V			-1.2	V

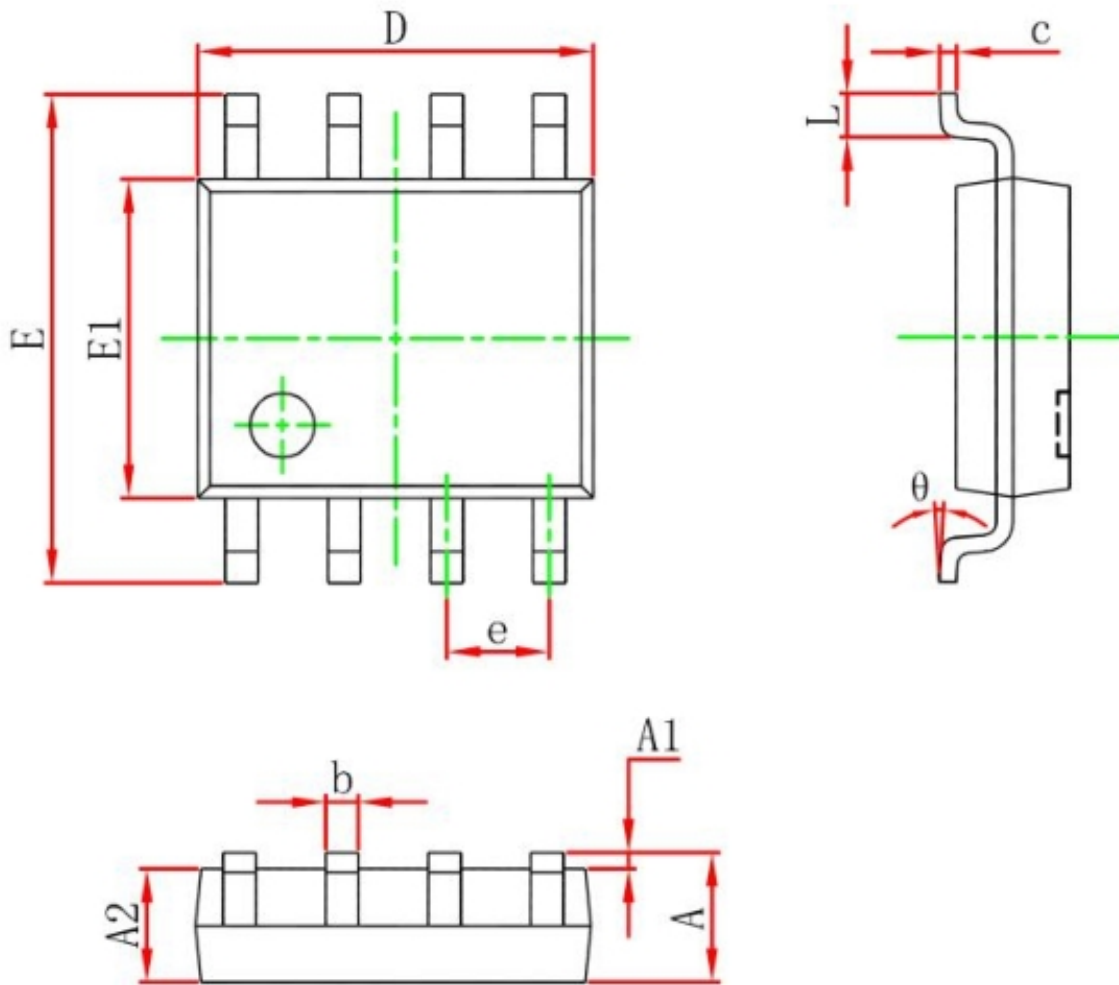
### Notes:

1. Pulse Test: Pulse Width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$ .
2. Guaranteed by design, not subject to production testing.

## Typical Characteristics



## 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
$\theta$	0°	8°