Product Summary

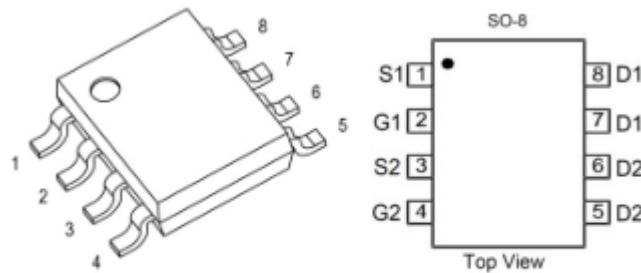| $V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	40mΩ@-10V	-5.3A
	60mΩ@-4.5V	

Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge
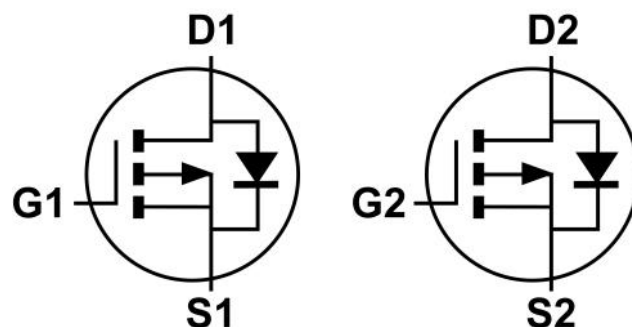
Application
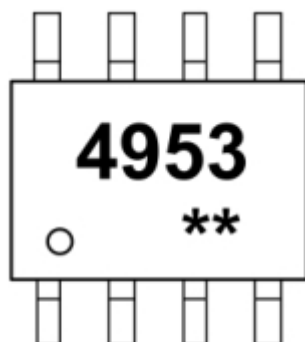
- Load Switch for Portable Devices
- Battery Switch

Package

SOP-8

Circuit diagram

Marking

4953 = Device code

** = Week Code

Absolute maximum ratings

(T$_a$=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V$_{DS}$	-30	V
Gate-Source Voltage	V$_{GS}$	±20	V
Continuous Drain Current(t≤10s)	I$_D$	-5.3	A
Power Dissipation(t≤10s)	P$_D$	1.25	W
Thermal Resistance from Junction to Ambient(t≤10s)	R$_{θJA}$	49	℃/W
Junction Temperature	T$_J$	150	℃
Storage Temperature	T$_{STG}$	-55~ +150	℃

Electrical characteristics

(T$_A$=25℃, unless otherwise noted)

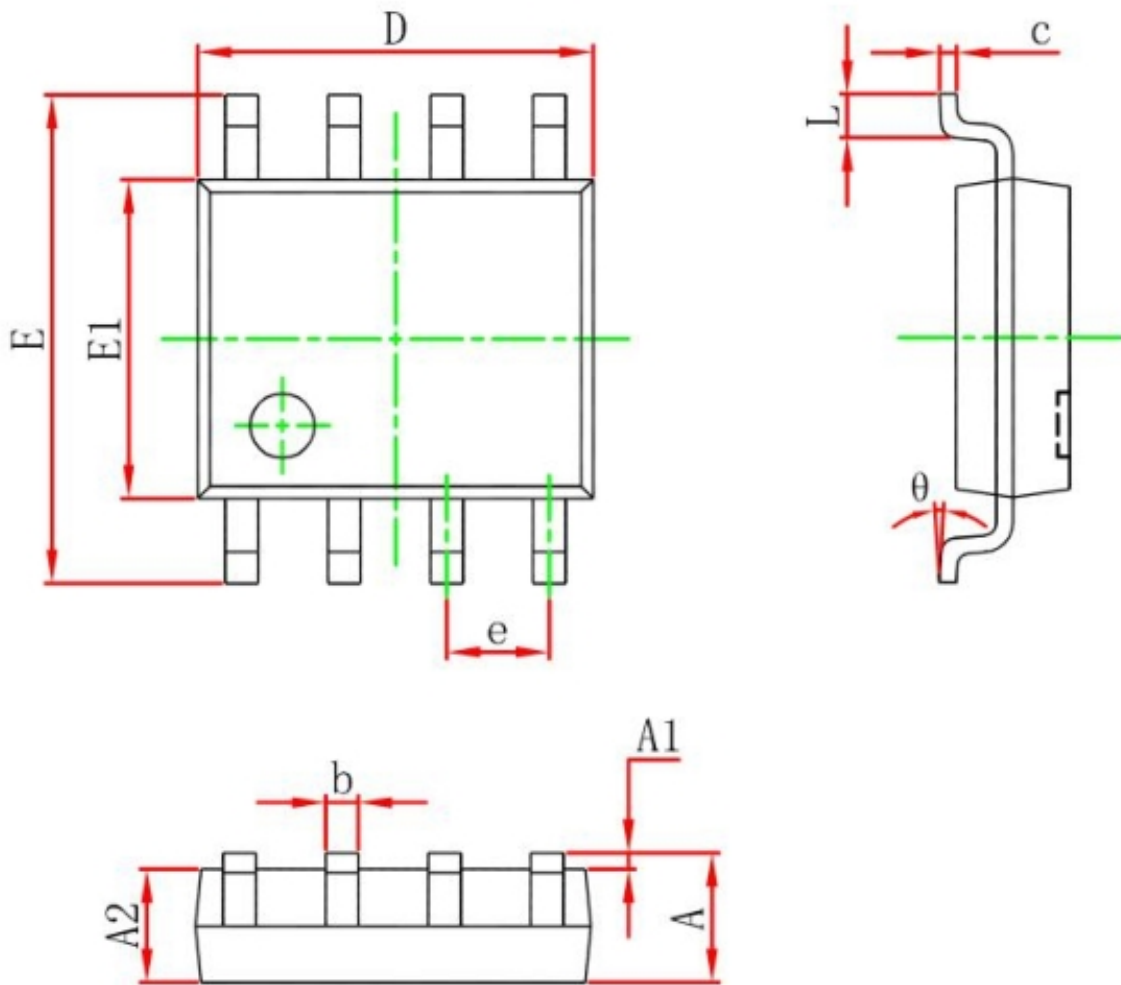| Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off characteristics						
Drain-source breakdown voltage	BV$_{(BR)DSS}$	V$_{GS}$ = 0V, I$_D$ =-250μA	-30.5			V
Zero gate voltage drain current	I$_{DSS}$	V$_{DS}$ =-30V, V$_{GS}$ = 0V			-1	uA
Gate-body leakage current	I$_{GSS}$	V$_{GS}$ =±20V, V$_{DS}$ = 0V			±0.1	uA
Gate threshold voltage[1]	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$_D$ =-4.1A		40	55	mΩ
		V$_{GS}$ =-4.5V, I$_D$ =-3A		60	85	
Forward transconductance[1]	g$_{FS}$	V$_{DS}$ =-10V, I$_D$ =4.9A	6			S
Dynamic characteristics[2]						
Input Capacitance	C$_{iss}$	V$_{DS}$ =-15V,V$_{GS}$ =0V, Frequency =1MHz		520		pF
Output Capacitance	C$_{oss}$			130		
Reverse Transfer Capacitance	C$_{rss}$			70		
Switching Characteristics						
Turn-on Delay Time	T$_{d(on)}$	V$_{DD}$=-15V, R$_L$ =15Ω, I$_D$ =-1A, V$_{GEN}$=-10V, R$_G$ =6Ω			15	nS
Turn-on Rise Time	T$_r$				20	
Turn-Off Delay Time	T$_{d(off)}$				80	
Turn-Off Fall Time	t$_f$				40	
Total gate charge	Q$_g$	V$_{DS}$ =-15V, V$_{GS}$ =-10V, I$_D$ =-4.9A			25	nC
Gate-source charge	Q$_{gs}$			4		
Gate-drain charge	Q$_{gd}$			2		
Source-Drain Diode Characteristics						
Diode forward voltage	V$_{SD}$	I$_S$=-1.7A, V$_{GS}$ = 0			-1.2	V

Notes:

1. Pulse test: pulse width≤300μs, duty cycle≤2%.

2. Guaranteed by design, not subject to production testing.

Typical Characteristics

Output Characteristics

Transfer Characteristics

$R_{DS(ON)} - I_D$

$R_{DS(ON)} - V_{GS}$

$I_S - V_{SD}$

Threshold Voltage
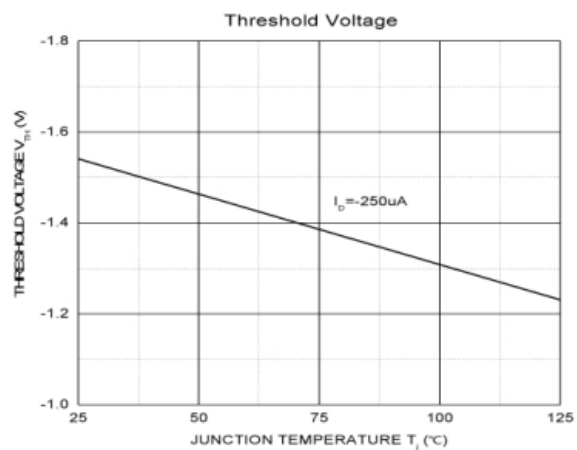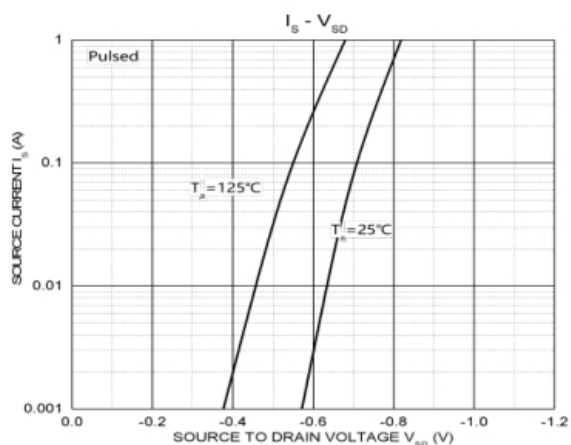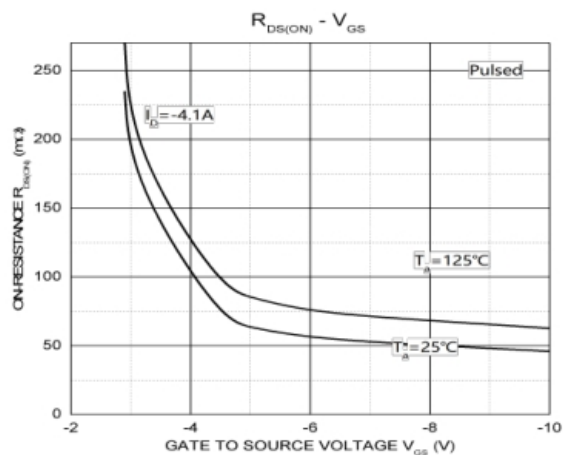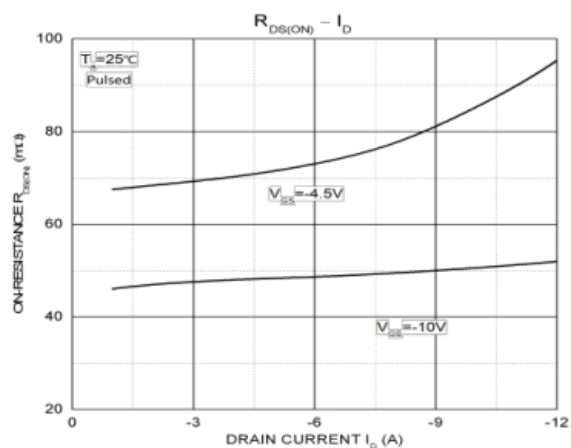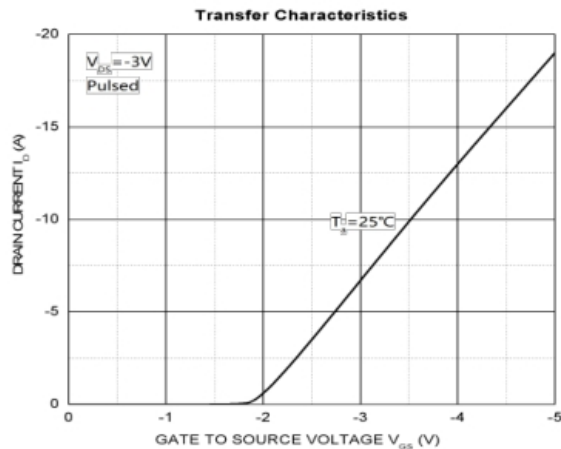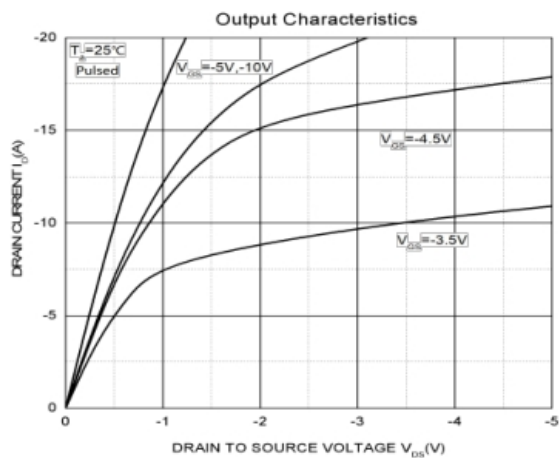
SOP-8 Package Information

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°