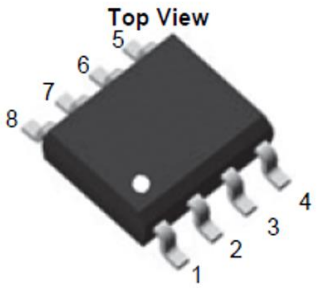
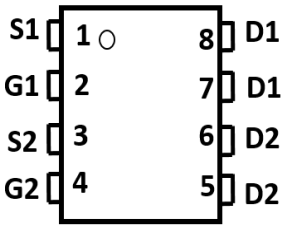
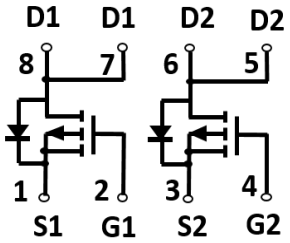
P-Channel Enhancement Mode Field Effect Transistor





SOP-8



Product Summary

- V_{DS} -30V
- I_D -5.1A
- $R_{DS(ON)}$(at V_{GS}=-10V) ＜59 mohm
- $R_{DS(ON)}$(at V_{GS}=-4.5V) ＜75 mohm

General Description

- Trench Power LV MOSFET technology
- High density cell design for Low $R_{DS(ON)}$
- High Speed switching

Applications

- Battery protection
- Load switch
- Power management

■ Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Parameter		Symbol	Maximum	Unit
Drain-source Voltage		V_{DS}	-30	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_A=25℃ @ Steady State	I_D	-5.1	A
	T_A=70℃ @ Steady State		-4.1	
Pulsed Drain Current [A]		I_{DM}	-20	A
Single Pulse Avalanche Energy		E_{AS}	20	mJ
Total Power Dissipation @ T_A=25℃		P_D	2.5	W
Thermal Resistance Junction-to-Ambient @ Steady State		$R_{\theta JA}$	50	℃/ W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55～+150	℃

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJS4953A	F2	Q4953	4000	8000	64000	13“ reel

■ Electrical Characteristics (T_J=25℃ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
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,T_C=25℃			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250μA	-1.0	-1.5	-2.4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}= -10V, I_D=-4.0A		40	59	mΩ
		V_{GS}= -4.5V, I_D=-3.5A		53	75	
Diode Forward Voltage	V_{SD}	I_S=-5.1A,V_{GS}=0V		-0.8	-1.2	V
Maximum Body-Diode Continuous Current	I_S				-5.1	A
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=-15V,V_{GS}=0V,f=1MHZ		580		pF
Output Capacitance	C_{oss}			98		
Reverse Transfer Capacitance	C_{rss}			74		
Switching Parameters						
Total Gate Charge	Q_g	V_{GS}=-10V,V_{DS}=-15V,I_D=-5.1A		6.8		nC
Gate Source Charge	Q_{gs}			1.0		
Gate Drain Charge	Q_{gd}			1.4		
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=-10V,V_{DS}=-15V, I_D=-1A, R_{GEN}=2.5Ω		14		ns
Turn-on Rise Time	t_r			61		
Turn-off Delay Time	$t_{D(off)}$			19		
Turn-off Fall Time	t_f			10		

A.Pulse Test: Pulse Width≤300us,Duty cycle ≤2%.

■ Typical Performance Characteristics

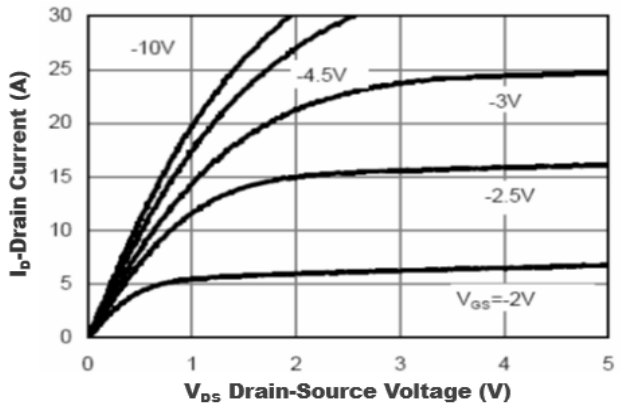


Figure1. Output Characteristics

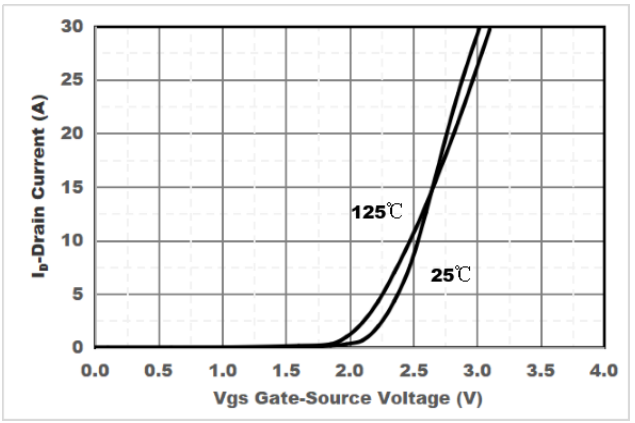


Figure2. Transfer Characteristics

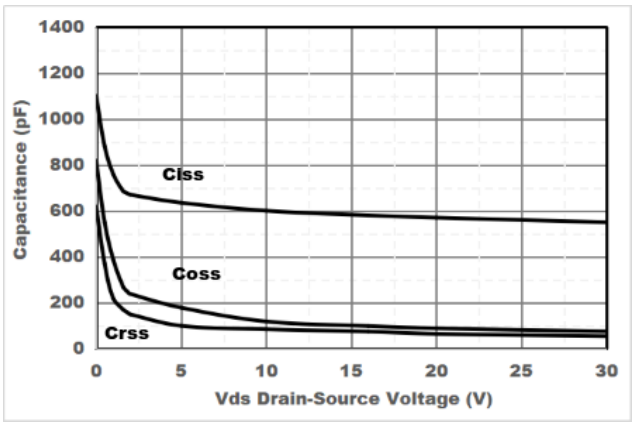


Figure3. Capacitance Characteristics

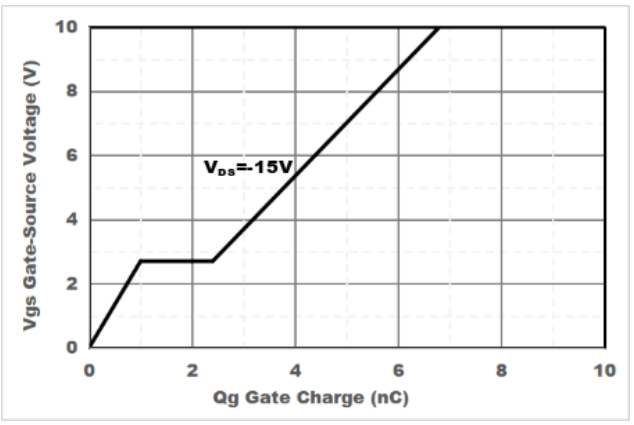


Figure4. Gate Charge

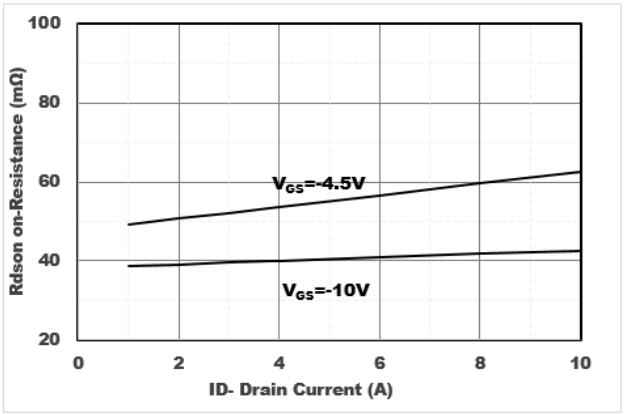


Figure5. Drain-Source on Resistance

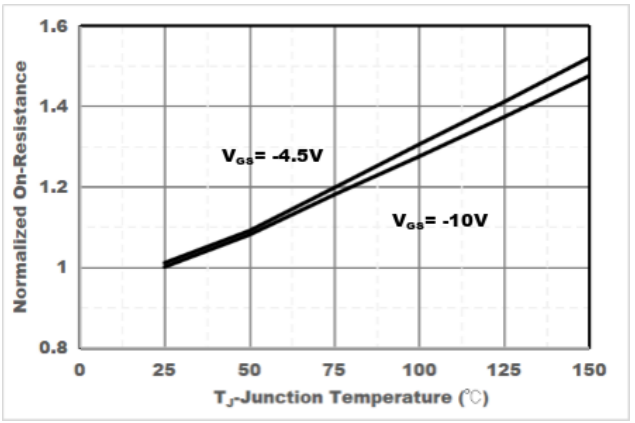


Figure6. Drain-Source on Resistance

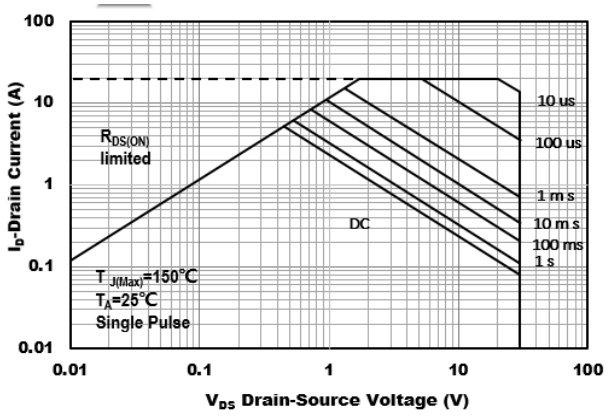


Figure7. Safe Operation Area

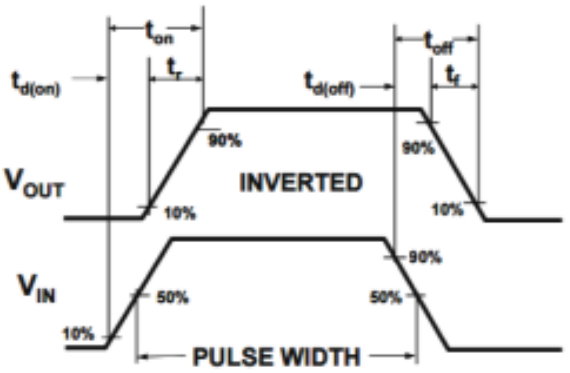
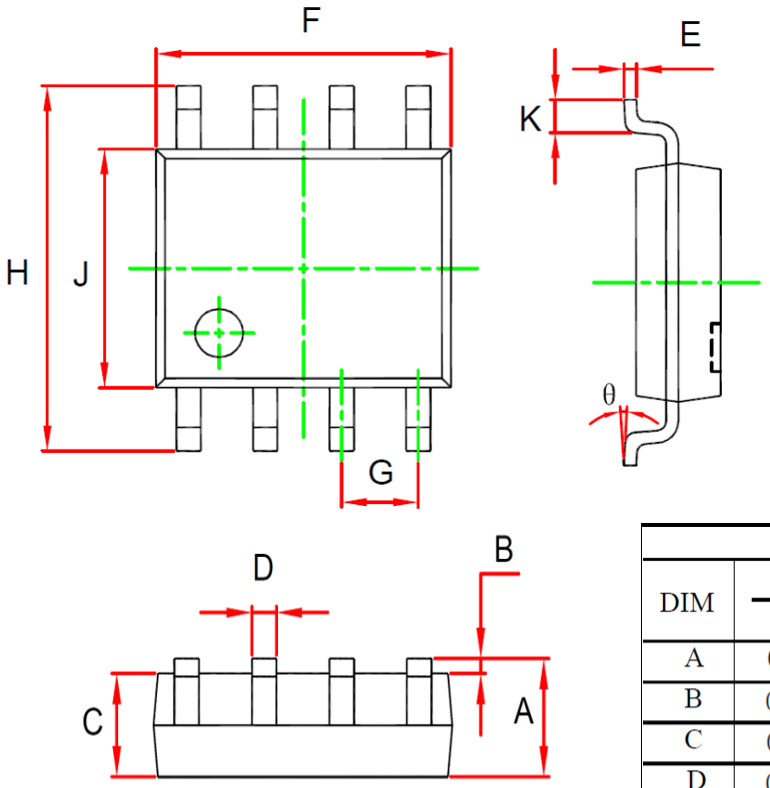


Figure8. Switching wave

■ SOP-8 Package information



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.350	1.750	
B	0.004	0.010	0.100	0.250	
C	0.053	0.061	1.350	1.550	
D	0.013	0.020	0.330	0.510	
E	0.007	0.010	0.170	0.250	
F	0.189	0.197	4.800	5.000	
G	0.050 (BSC)		1.270 (BSC)		
H	0.228	0.244	5.800	6.200	
J	0.150	0.157	3.800	4.000	
K	0.016	0.050	0.400	1.270	
θ	0°	8°	0°	8°	

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