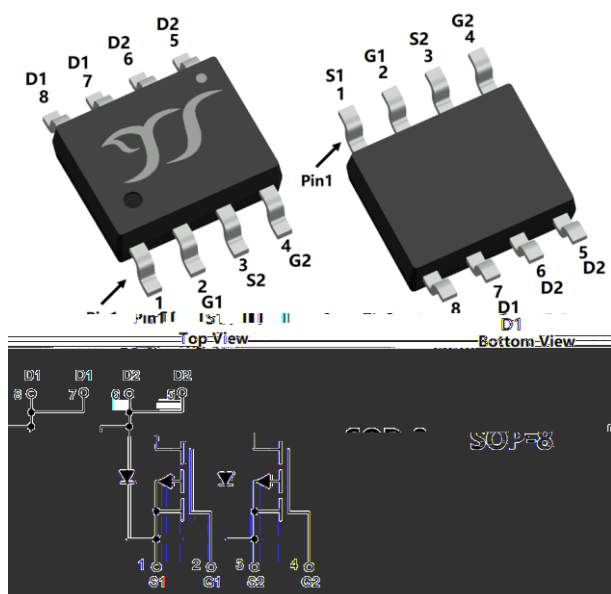


P-Channel and P-Channel Complementary MOSFET



Product Summary

- V_{DS} -30 V
- I_D -5.1 A
- $R_{DS(ON)}$ (at $V_{GS}=-10V$) <43 m Ω
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) <59 m Ω

General Description

- Trench Power LV MOSFET technology
- High density cell design for low RDS(ON)
- High Speed switching
- Moisture Sensitivity Level 3
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Wireless charger
- Load switch
- Power management

■ Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	-30	V
Gate-source Voltage	V_{GS}	± 20	V
Drain Current	I_D	$T_A=25$	-5.1
		$T_A=100$	-3
Pulsed Drain Current ^A	I_{DM}	-40	A
Total Power Dissipation ^B	P_D	$T_A=25$	2
		$T_A=100$	0.8
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	

■ Thermal resistance

Parameter	Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient ^C	$R_{\theta JA}$	50	60	$^{\circ}W$

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJS4953B	F2	Q4953B	4000	8000	64000	13" reel



YJS4953B

■ Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	μA
		$V_{DS}=-30V, V_{GS}=0V, T_J=150$	-	-	-100	
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	V					



Typical Electrical and Thermal Characteristics Diagrams

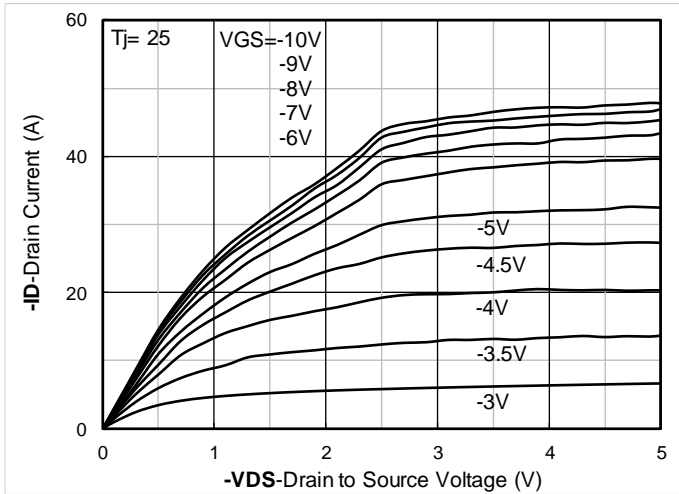


Figure 1. Output Characteristics

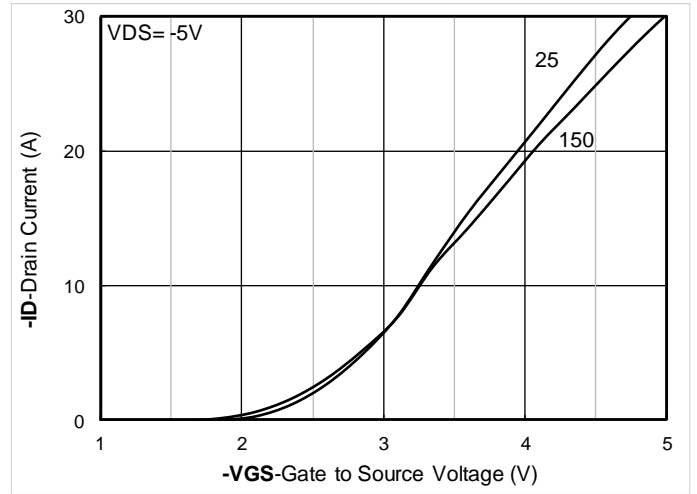


Figure 2. Transfer Characteristics

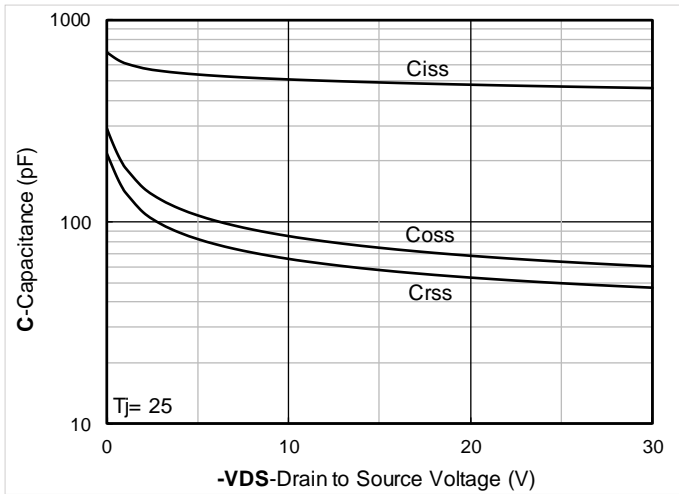


Figure 3. Capacitance Characteristics

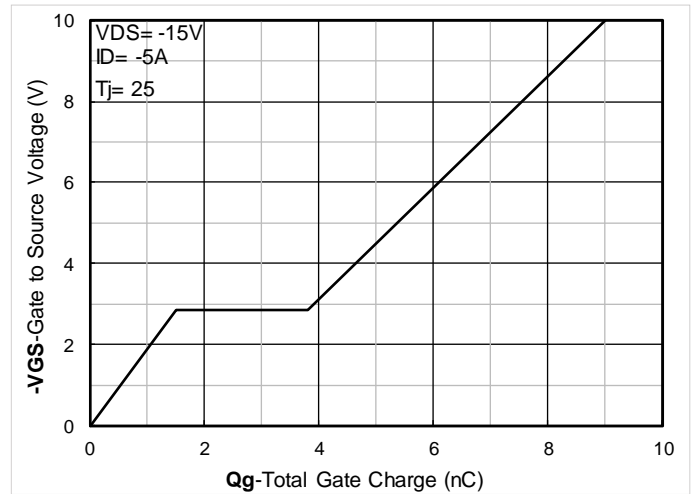


Figure 4. Gate Charge

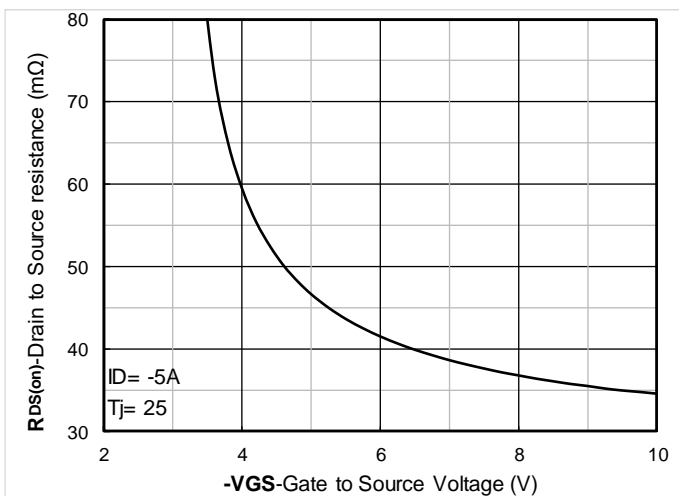


Figure 5. On-Resistance vs Gate to Source Voltage

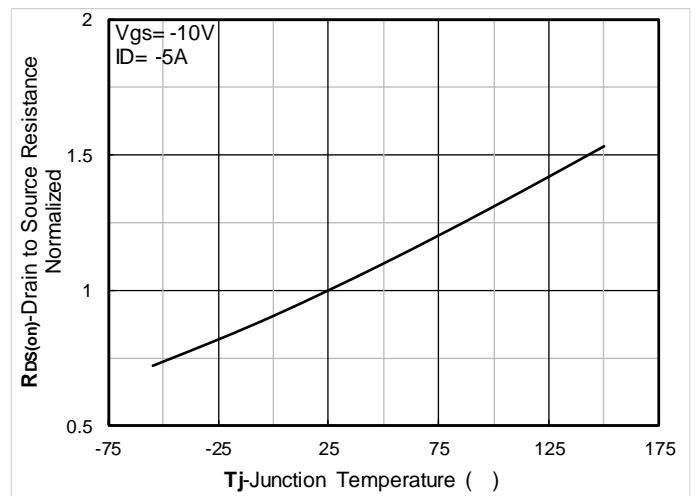


Figure 6. Normalized On-Resistance

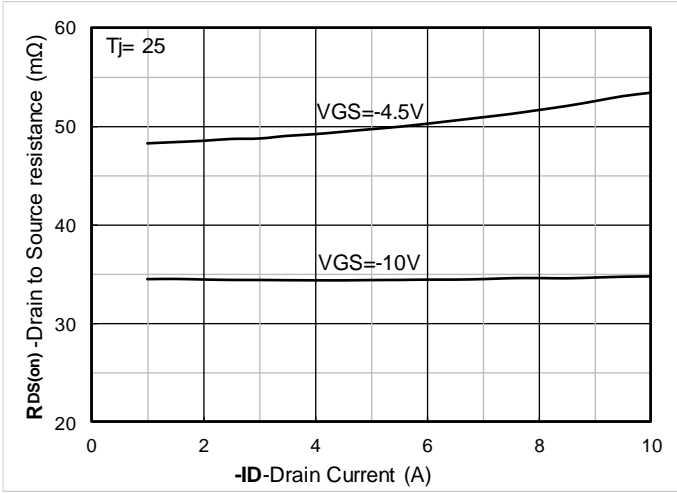


Figure 7. RDS(on) VS Drain Current

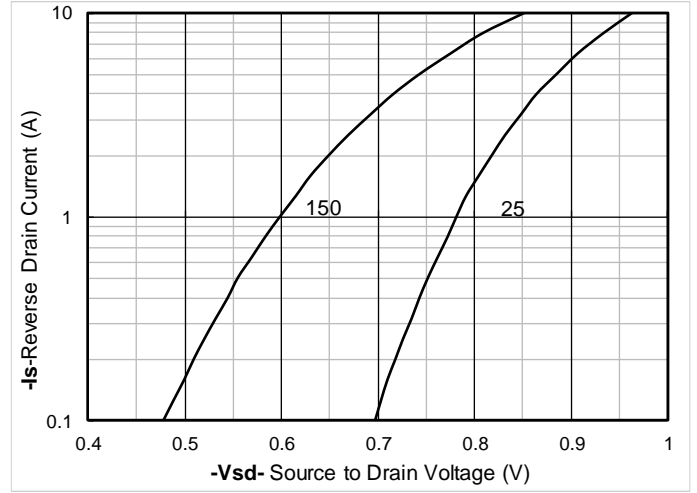


Figure 8. Forward characteristics of reverse diode

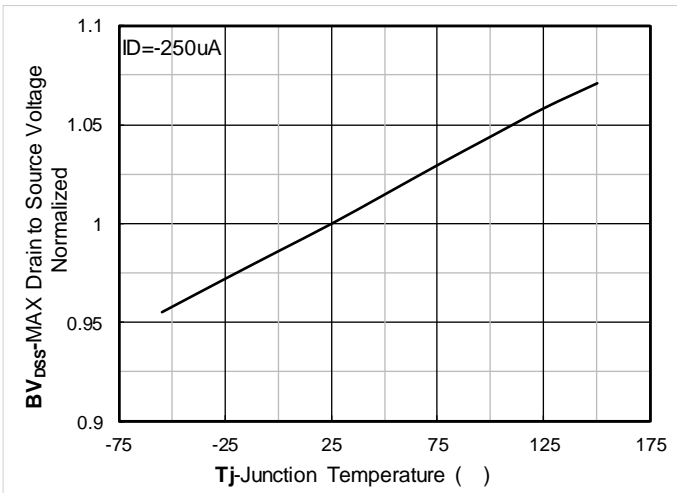


Figure 9. Normalized breakdown voltage

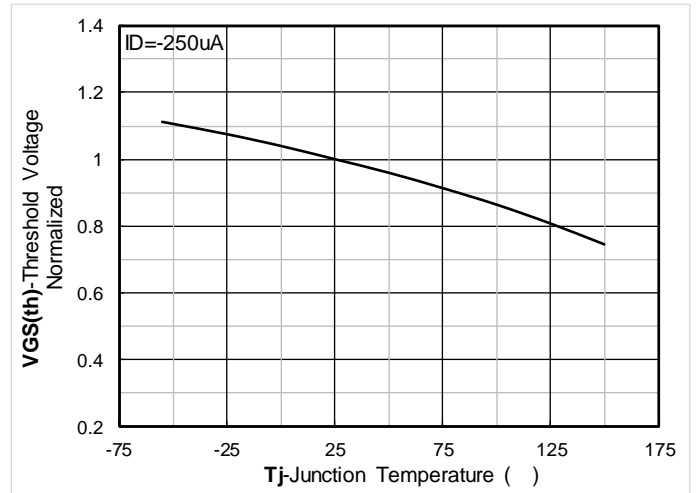


Figure 10. Normalized Threshold voltage

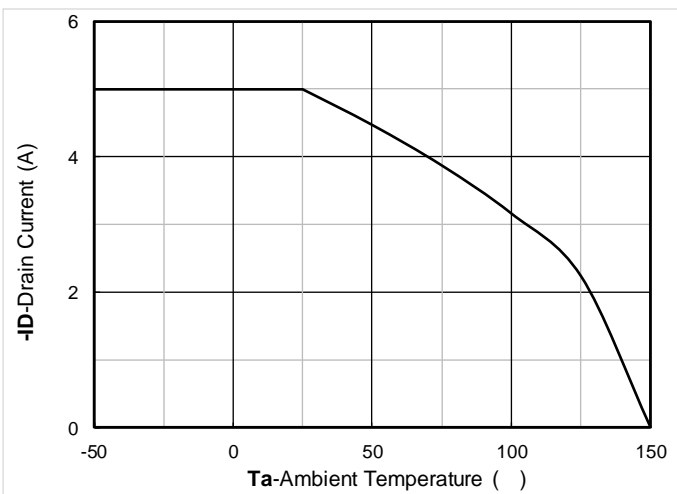


Figure 11. Current dissipation

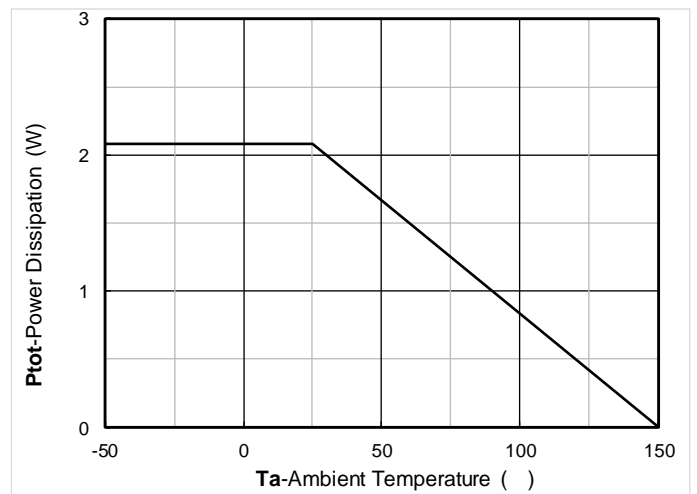


Figure 12. Power dissipation

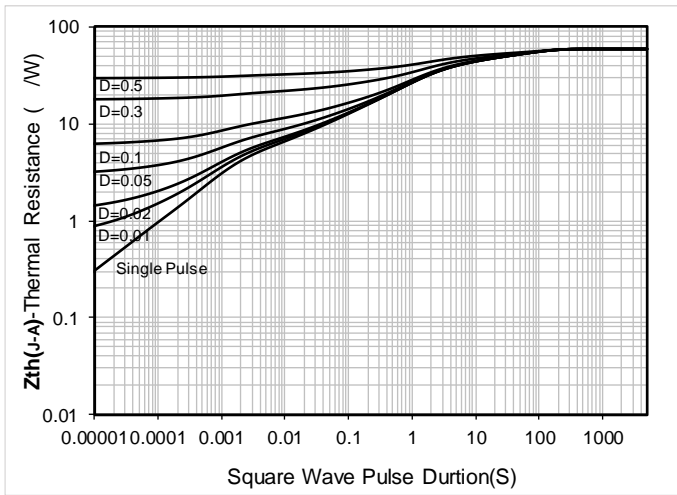


Figure 13. Maximum Transient Thermal Impedance

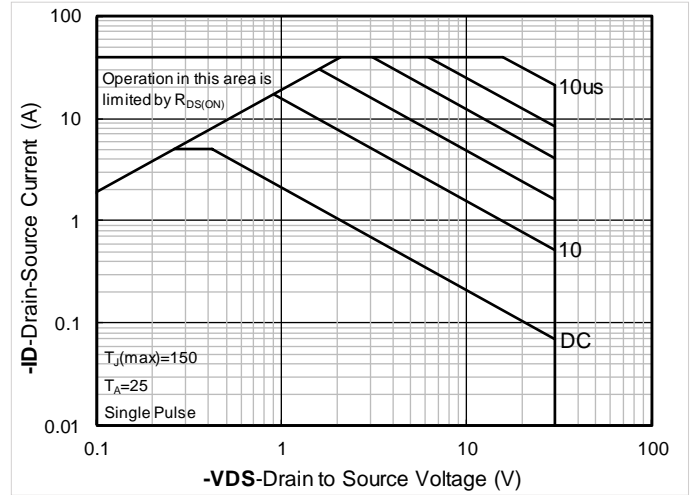
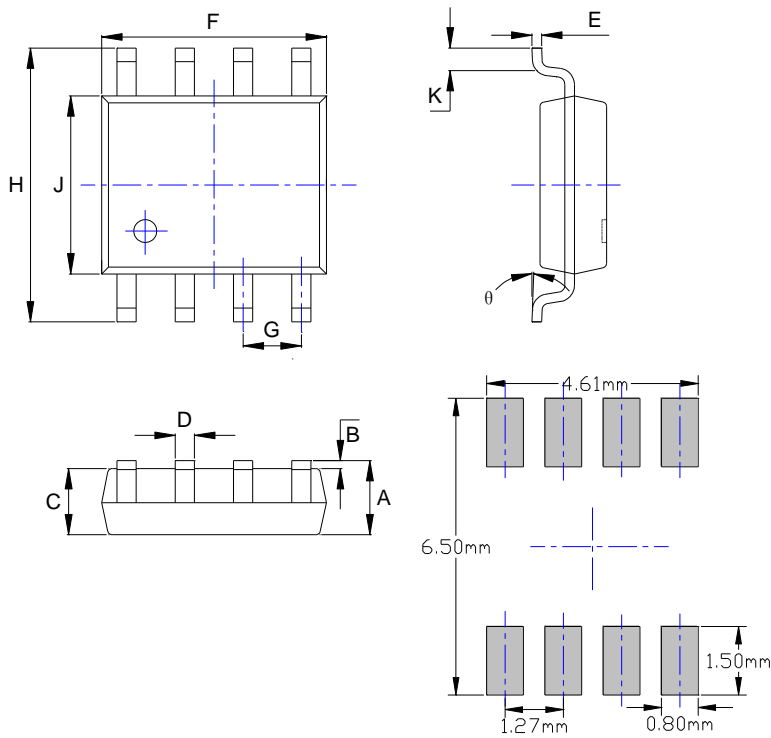


Figure 14. Safe Operation Area

■ SOP-8 Package information



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	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	0.050BSC		1.270BSC	
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°

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.



YJS4953B

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