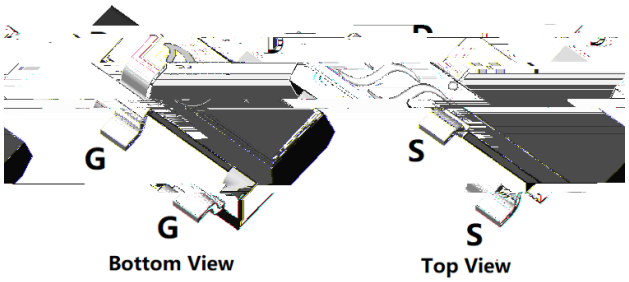
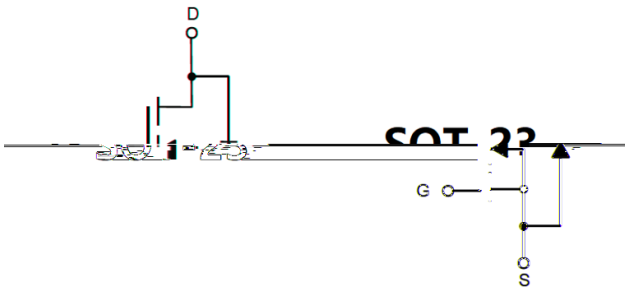
RECOMMEND
YJL2302A
FOR NEW DESIGN

N-Channel Enhancement Mode Field Effect Transistor





Product Summary

- V_{DS} 20V
- I_D 4.5A
- $R_{DS(ON)}$(at V_{GS}=4.5V) 27mΩ
- $R_{DS(ON)}$(at V_{GS}=2.5V) 35mΩ

General Description

- Trench Power MV MOSFET technology
- High Speed switching
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- PWM application
- Load switch

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	20	V
Gate-source Voltage		V_{GS}	±10	V
Drain Current	T_A=25	I_D	4.5	A
	T_A=100		2.8	
Pulsed Drain Current [A]		I_{DM}	30	A
Total Power Dissipation [C]	T_A=25	P_D	1	W
	T_A=100		0.4	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

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■Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient [D]	Steady-State	$R_{\theta JA}$	100	125	/W

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL2302C	F2	2302C.	3000	30000	120000	7“ 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	20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V	-	-	1	μA
		V_{DS}=20V, V_{GS}=0V, Tj=150	-	-	100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±10V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	0.6	0.8	1.2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=4.5A	-	21	27	mΩ
		V_{GS}=2.5V, I_D=3.0A	-	27	35	
Diode Forward Voltage	V_{SD}	I_S=4.5A, V_{GS}=0V	-	0.9	1.2	V
Gate resistance	R_G	f=1MHz, Open drain	-	3.3	-	Ω
Maximum Body-Diode Continuous Current	I_S		-	-	4.5	A

Dynami/P [illegible]



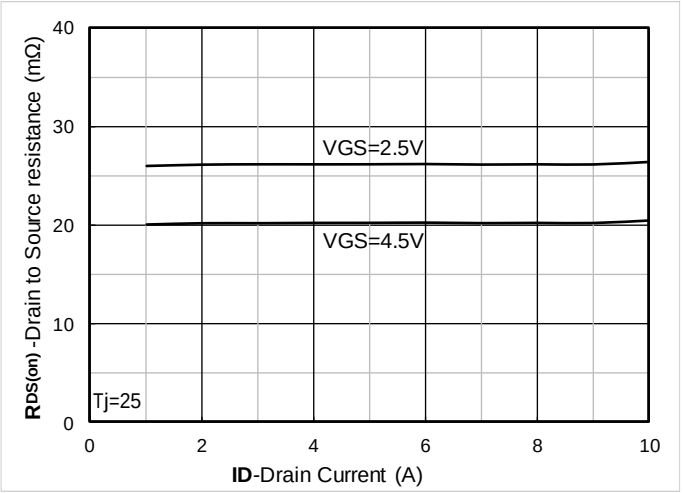


Figure 7. RDS(on) VS Drain Current

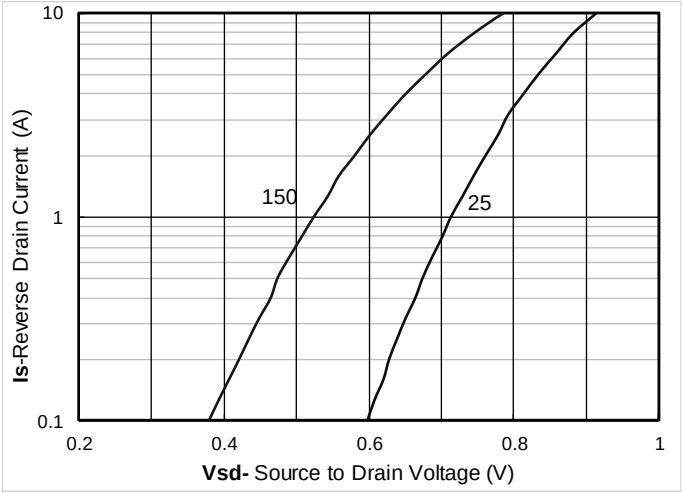


Figure 8. Forward characteristics of reverse diode

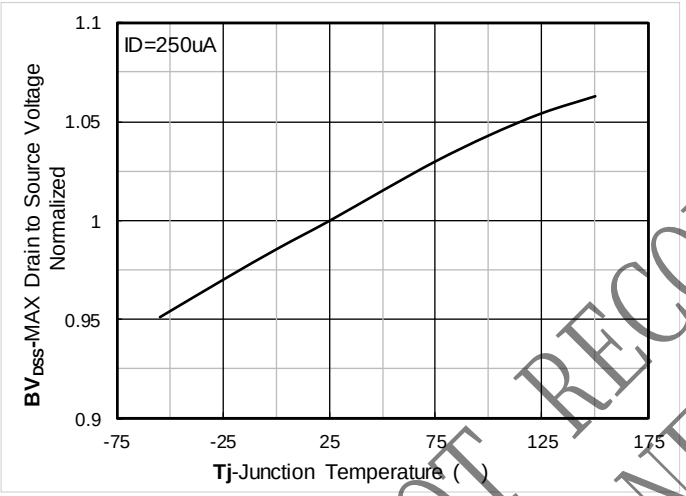


Figure 9. Normalized breakdown voltage

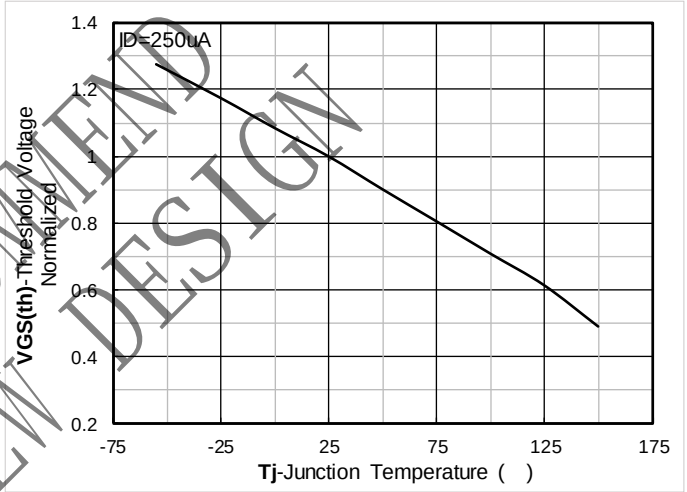


Figure 10. Normalized Threshold voltage

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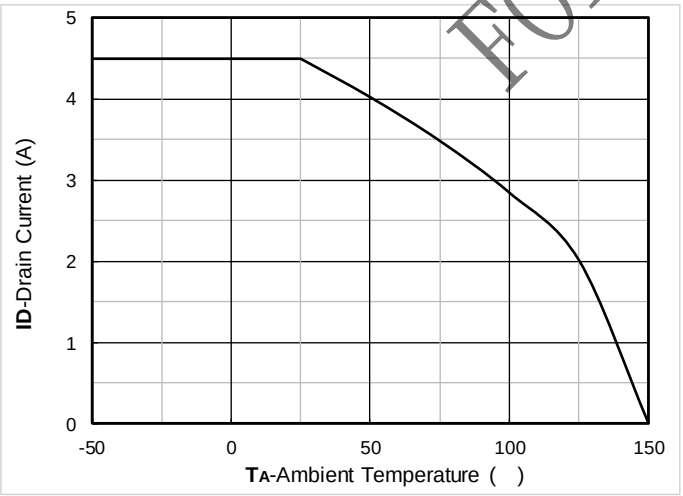


Figure 11. Current dissipation

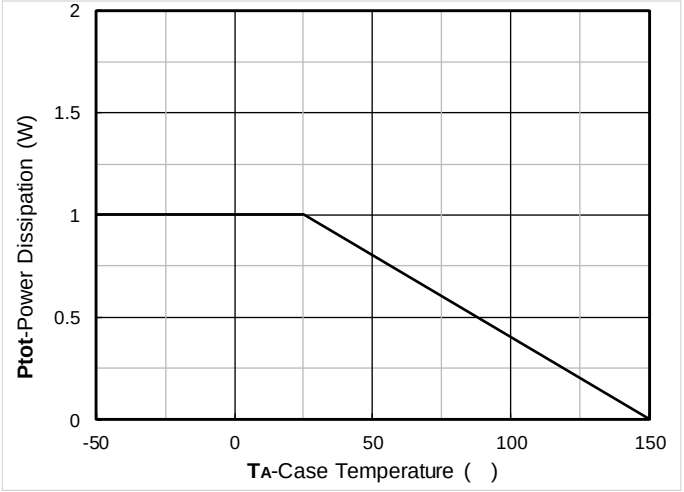


Figure 12. Power dissipation



Figure 13. Maximum Transient Thermal Impedance

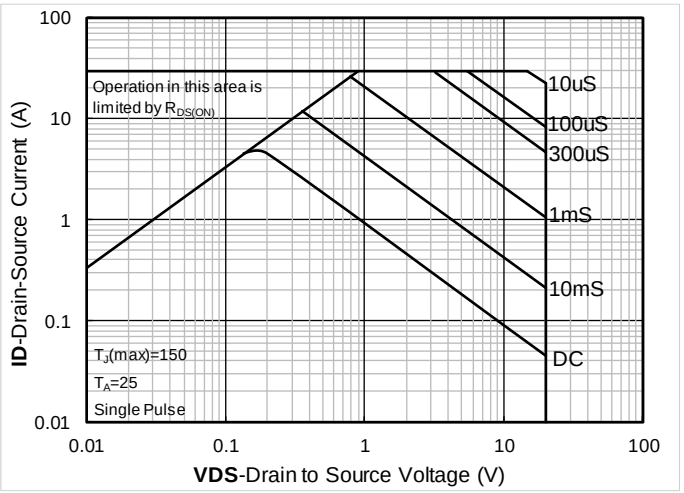
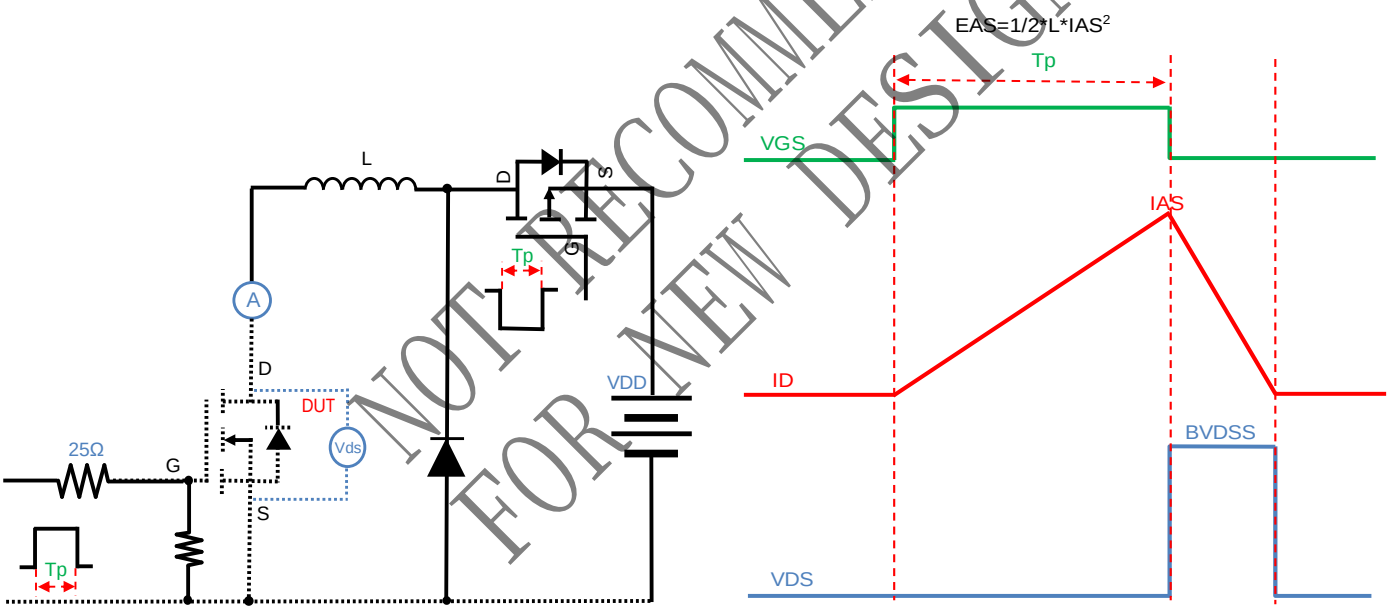


Figure 14. Safe Operation Area

■ Test Circuits & Waveforms



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Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

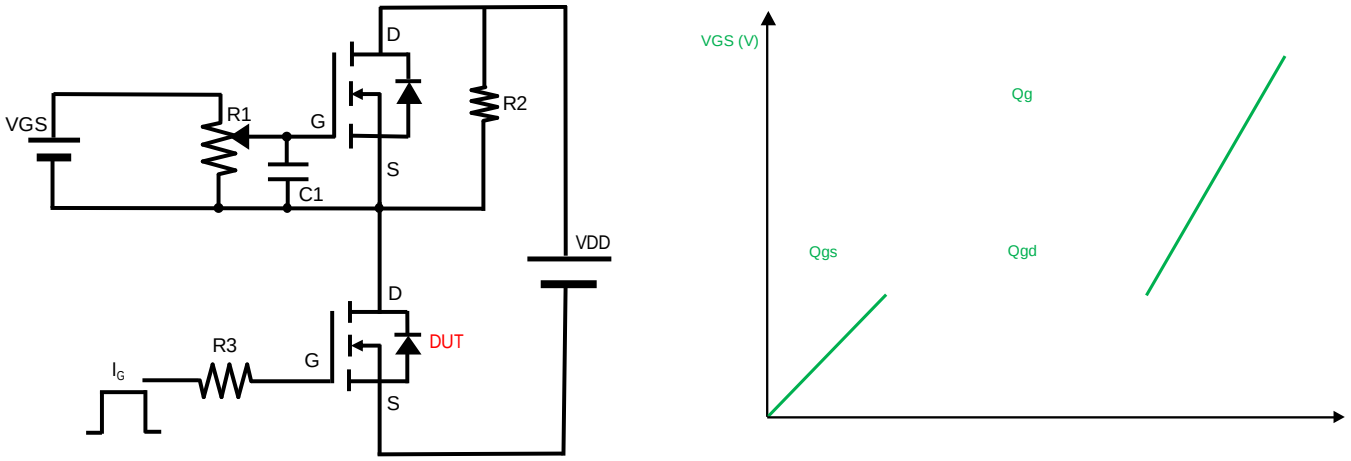


Figure B. Gate Charge Test Circuit & Waveform

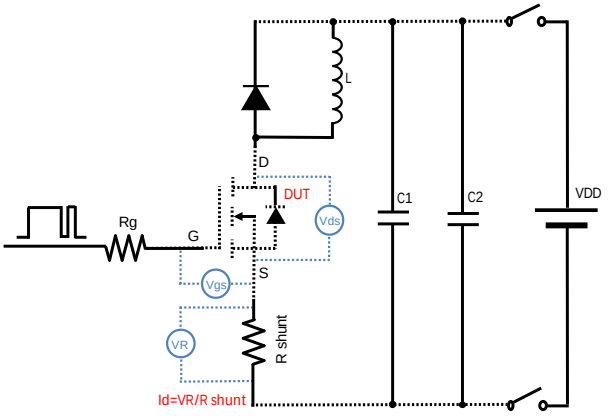


Figure C. Resistive Switching Test Circuit & Waveform

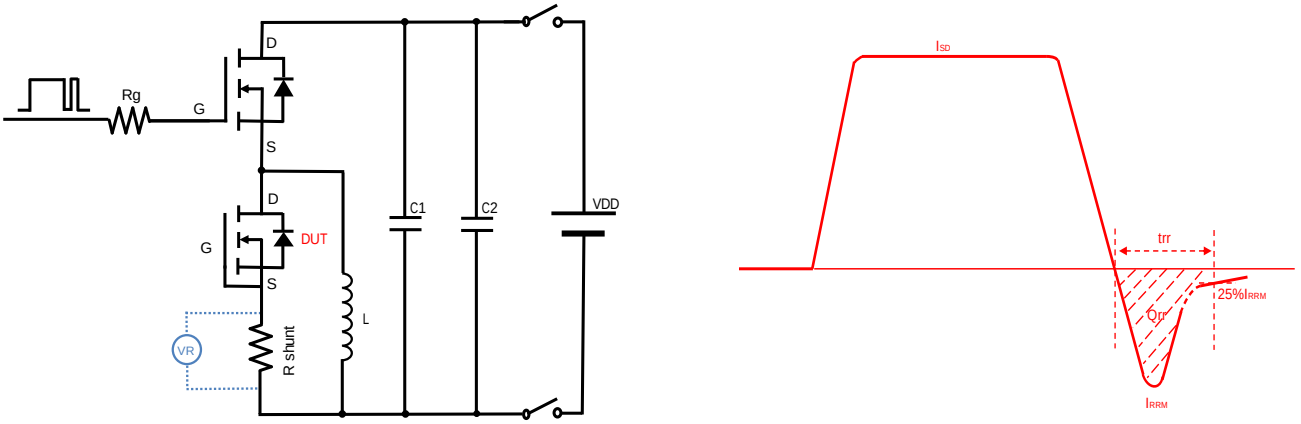


Figure D.

■ SOT-23 Package information



UNIT mm

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