RECOMMEND
YJL3404B
FOR NEW DESIGN

N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 30V
- I_D 5.6A
- $R_{DS(ON)}$(at V_{GS}=10V) 24mohm
- $R_{DS(ON)}$(at V_{GS}=4.5V) 38mohm

General Description

- Trench Power LV MOSFET technology
- High density cell design for low $R_{DS(ON)}$
- High Speed switching
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Battery protection
- Load switch
- Power management

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	30	V
Gate-source Voltage		V_{GS}	± 20	V
Drain Current	T_A=25	I_D	5.6	A
	T_A=70		4.5	
Pulsed Drain Current [A]		I_{DM}	30	A
Total Power Dissipation	T_A=25	P_D	1.2	W
	T_A=70		0.8	W

■ 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			1	μA
Gate-Body Leakage Current	I_{GSS1}	V_{GS}= ± 20V, V_{DS}=0V			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	1	1.5	2.2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=5.6A		17	24	mΩ
		V_{GS}=4.5V, I_D=5A		26	38	
Diode Forward Voltage	V_{SD}	I_S=5.6A,V_{GS}=0V			1.2	V
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=15V,V_{GS}=0V,f=1MHZ		526		pF
Output Capacitance	C_{oss}			78		
Reverse Transfer Capacitance	C_{rss}			69		
Switching Parameters						
Total Gate Charge	Q_g					
		V_{GS}=10				

Typical Performance Characteristics

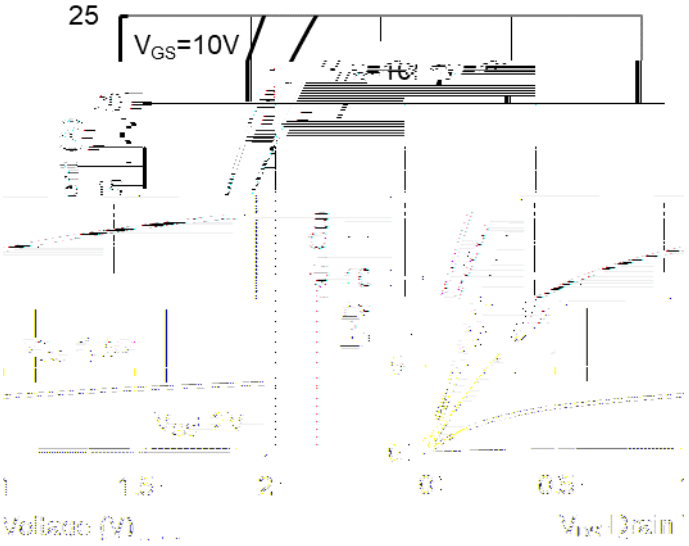


Figure1. Output Characteristics

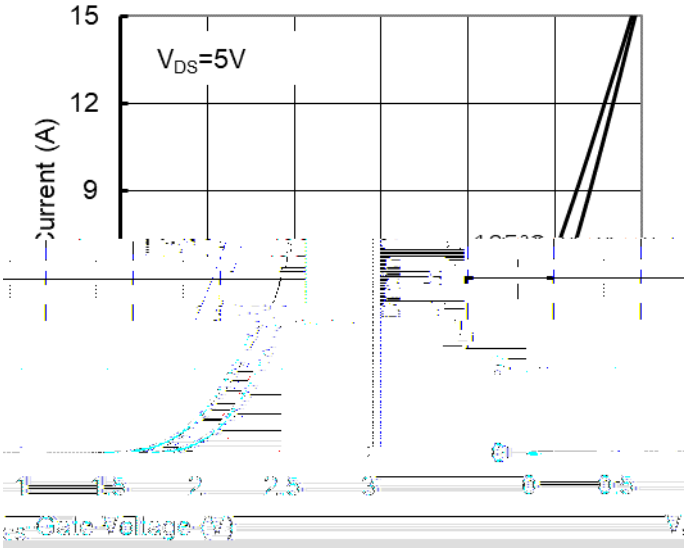


Figure2. Transfer Characteristics

Figure 3: On-Resistance vs. Drain Current and Gate Voltage

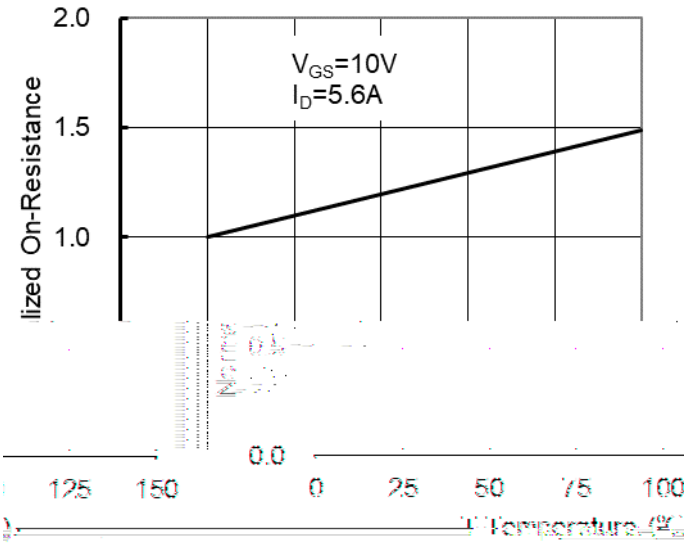
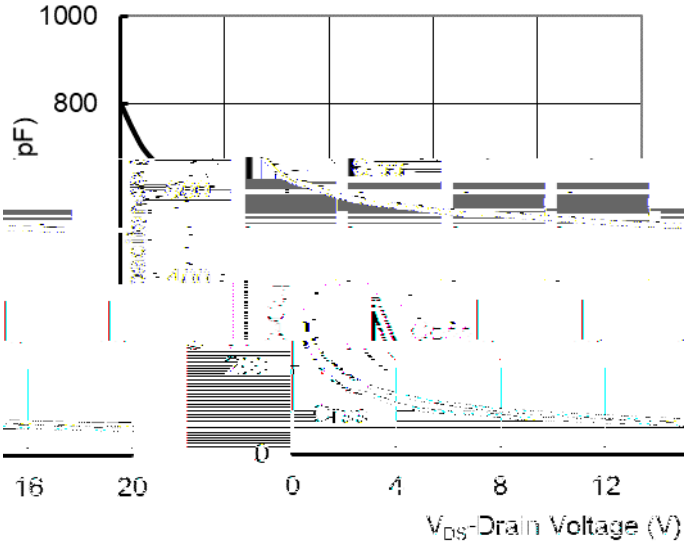


Figure 4: On-Resistance vs. Junction Temperature



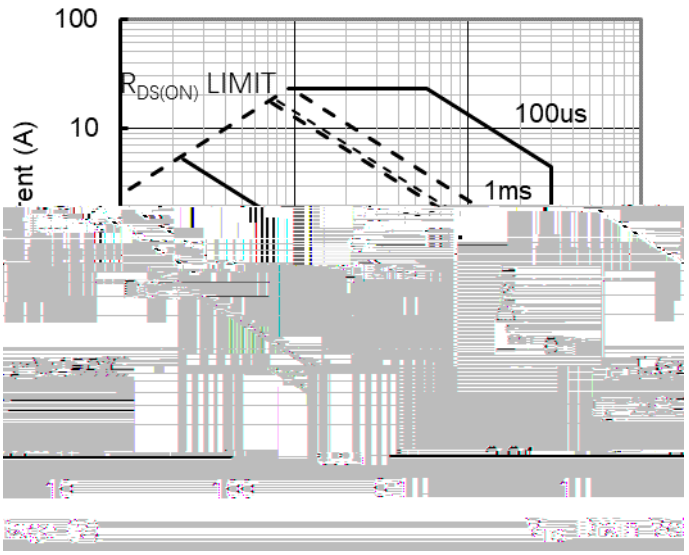


Figure7. Safe Operation Area

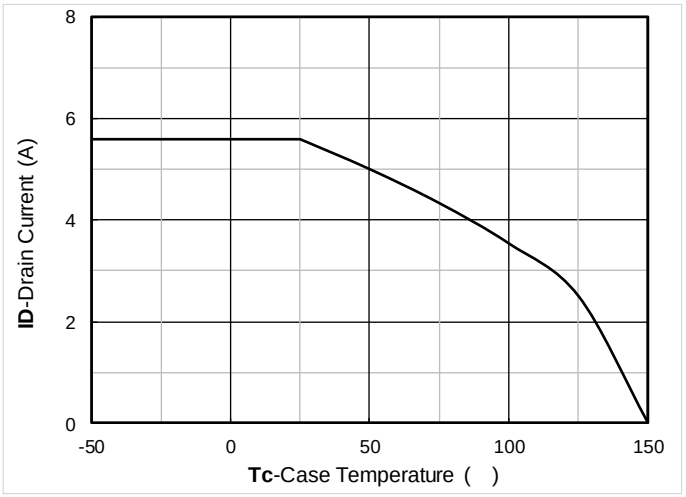


Figure8. Maximum Continuous Drain Current vs Ambient Temperature

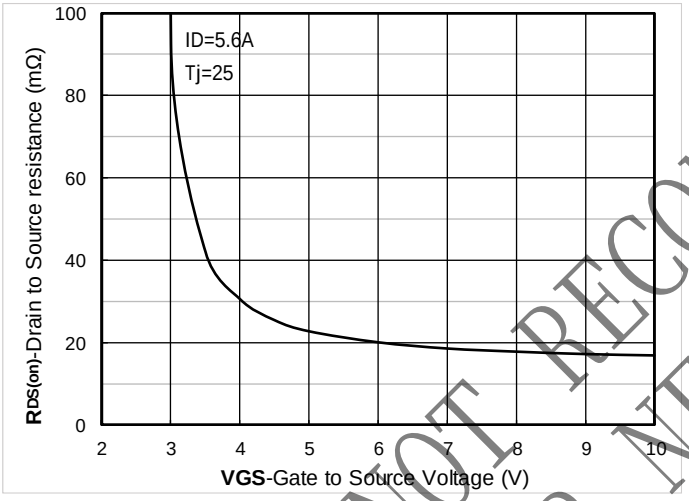


Figure 9. On-Resistance vs Gate to Source Voltage

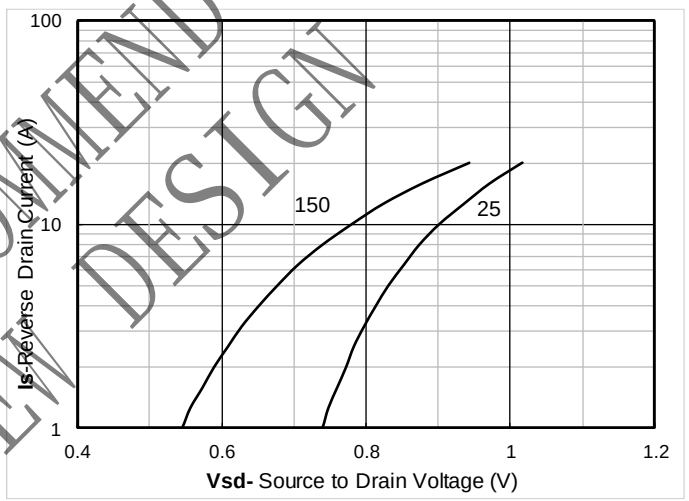


Figure 10. Forward characteristics of reverse diode

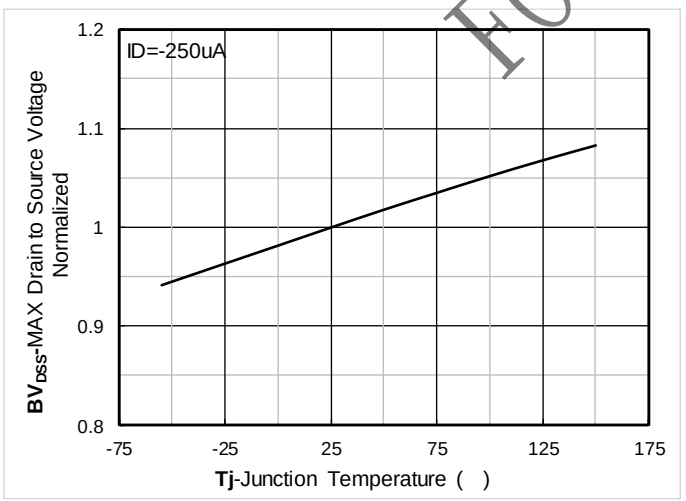


Figure 11. Normalized breakdown voltage

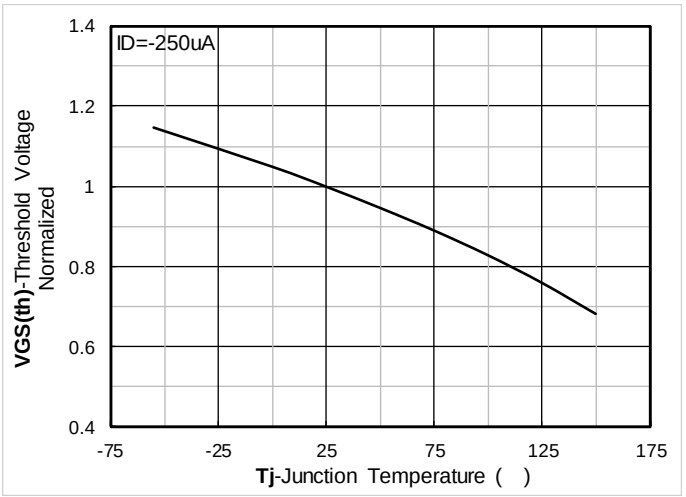


Figure 12. Normalized Threshold voltage

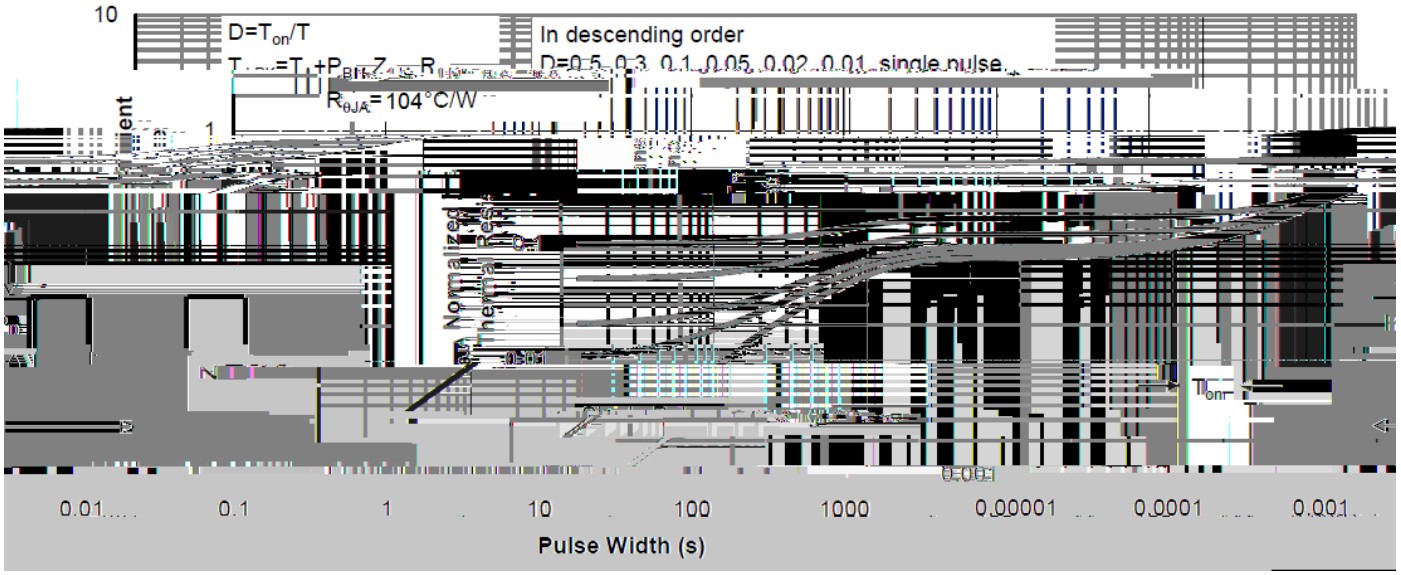


Figure13. Normalized Maximum Transient Thermal Impedance

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