



N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	85V
I_D	118A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	6 mohm
$R_{DS(ON)}$ (at $V_{GS}=6V$)	9 mohm
100% UIS Tested	
100% V_{DS} Tested	

General Description

Split gate trench MOSFET technology
Excellent package for heat dissipation
High density cell design for low $R_{DS(ON)}$

Applications

Battery management
AC/DC control and drive
UPS (Uninterruptible Power Supplies)

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	85	V
Gate-source Voltage		V_{GS}	± 20	V
Drain Current	$T_C=25$	I_D	118	A
	$T_C=100$		74.6	
Pulsed Drain Current ^A		I_{DM}	472	



YJB118G08H

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 =250 μA	85	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =85V, V _{GS} =0V	-	-	1	μA
		V _{DS} =85V, V _{GS} =0V, T _J =150	-	-	100	
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 =250 μA	2	3	4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =59A	-	4.5	6	mΩ
		V _{GS} =10V, I _D =20A	-	4.5	6	
		V _{GS} =6V, I _D =20A	-	7	9	
Diode Forward Voltage	V _{SD}	I _S =59A, V _{GS} =0V	-	0.9	1.2	V
Gate resistance	R _G	f=1MHz, Open drain	-	1.8	-	
Maximum Body-Diode Continuous Current	I _S		-	-	118	A
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	-	4400	-	pF
Output Capacitance	C _{oss}		-	1650	-	
Reverse Transfer Capacitance	C _{rss}		-	150	-	
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =40V, I _D =59A	-	63	-	nC
Gate-Source Charge	Q _{gs}		-	20	-	
Gate-Drain Charge	Q _{gd}		-	22	-	
Reverse Recovery Charge	Q _{rr}	I _F =59A, di/dt=300A/μs	-	85	-	nC
Reverse Recovery Time	t _{rr}		-	33	-	ns
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DD} =40V, I _D =59A R _{GEN} =2.2	-	20	-	ns
Turn-on Rise Time	t _r		-	100	-	
Turn-off Delay Time	t _{D(off)}		-	24	-	
Turn-off fall Time	t _f		-	7	-	

A. Repetitive rating; pulse width limited by max. junction temperature.

B. T_J=25, V_{DD}=50V, V_G=10V, R_G=50mΩ, L_G=0.5mH, I_{AS}=39A.

C. P_d is based on max. junction temperature, using junction-case thermal resistance.

D. The value of R_{θJC} is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with T_A=25. The maximum allowed junction temperature of 150. The value in any given application depends on the user's specific board design.

Typical Electrical and Thermal Characteristics Diagrams

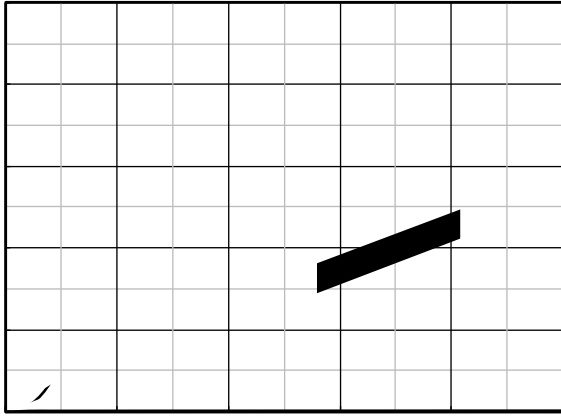


Figure1. Output Characteristics

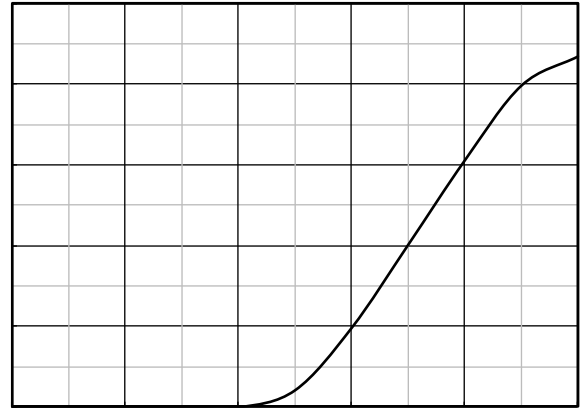


Figure2. Transfer Characteristics

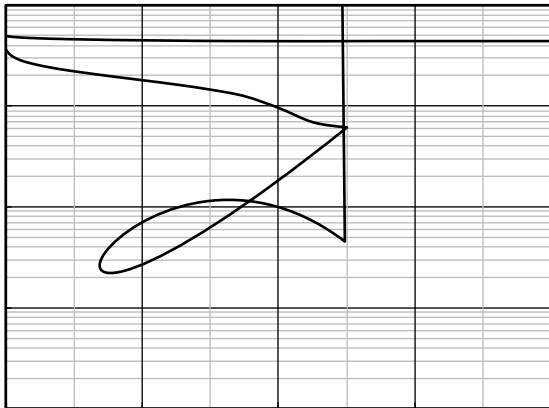


Figure3. Capacitance Characteristics

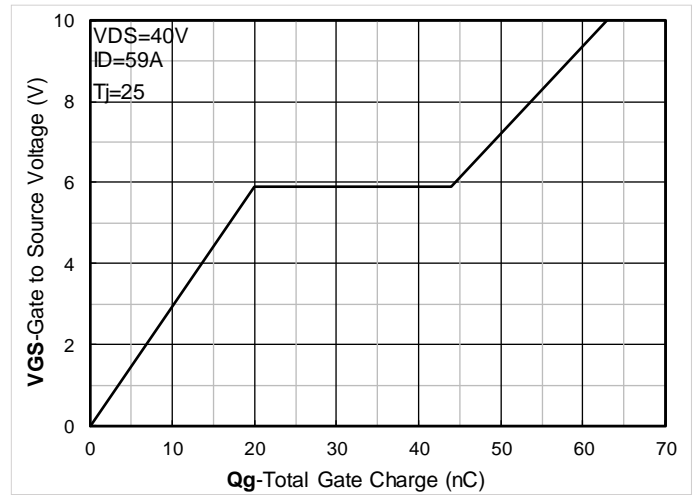


Figure4. Gate Charge

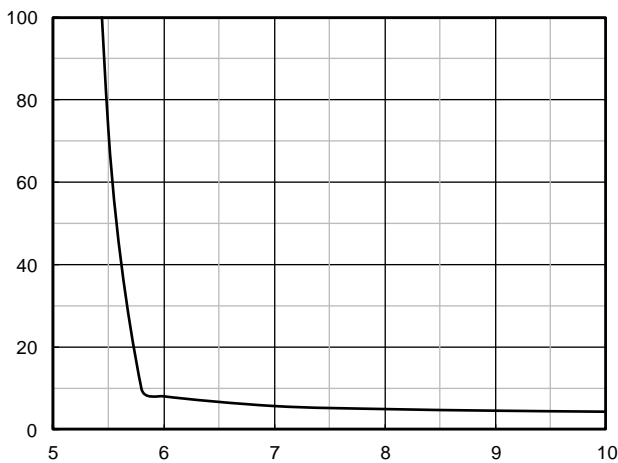


Figure5. On-Resistance vs Gate to Source Voltage

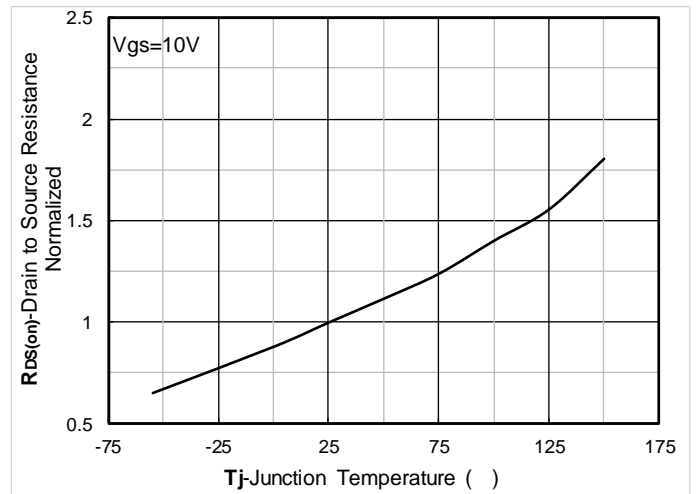


Figure6. Normalized On-Resistance



YJB118G08H

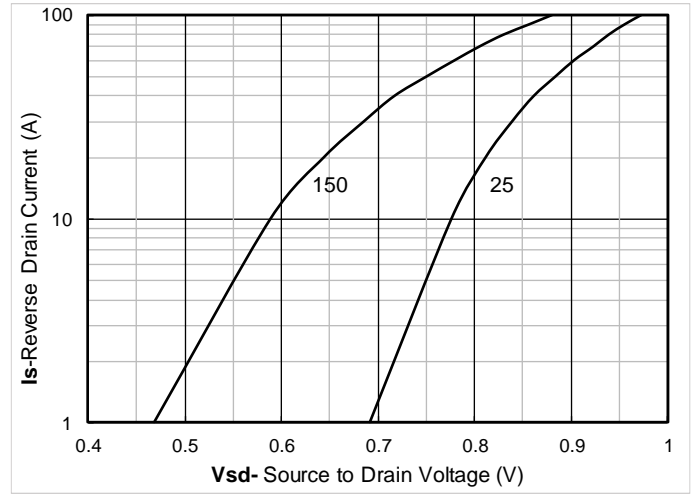
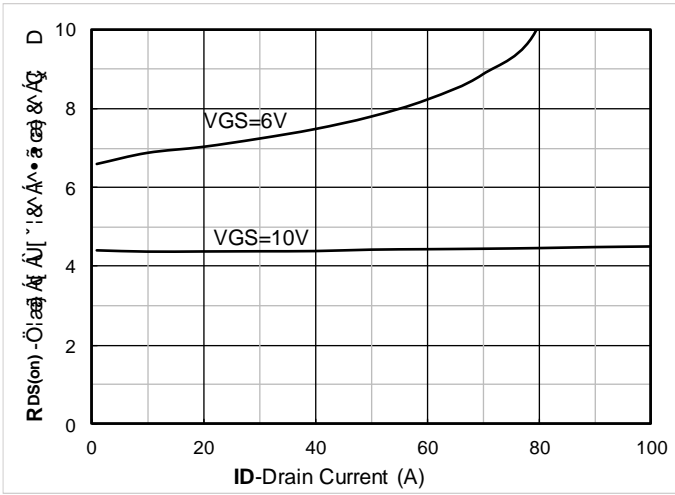


Figure7. $R_{DS(on)}$ vs. I_D .



TO-263-HY Package information

SYM.	MIN.	
A2		
b2		0.050
c		
c2		
D2		
E		
E1		



YJB118G08H

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.21yangjie.com>