- V_{DS} 30 V
- I_D 60 A
- $R_{DS(ON)}$(at V_{GS}=10V) 3.2 mohm
- $R_{DS(ON)}$(at V_{GS}=4.5V) 4.0 mohm
- 100% UIS Tested
- 100% VDS Tested

- Trench Power LV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

- DC-DC Converters
- Power management functions
- Backlighting

■ (T_A=25 unless otherwise noted)

Drain-source Voltage		V_{DS}	30	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_C=25	I_D	60	A
	T_C=100		38	
Pulsed Drain Current [A]		I_{DM}	240	A
Total Power Dissipation @ T_C=25 [B]		P_D	75	W
Total Power Dissipation @ T_C=100 [B]		P_D	30	W
Total Power Dissipation @ T_A=25 [C]		P_D	6.2	W
Single Pulse Avalanche Energy [D]		E_{AS}	400	mJ
Thermal Resistance Junction-to-Case		$R_{\theta JC}$	1.67	/ W
Thermal Resistance Junction-to-Ambient		$R_{\theta JA}$	20	/ W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

■ (Example)

■ (T_J=25 unless otherwise noted)

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_{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	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}= 10V, I_D=20A		2.6	3.2	mΩ
		V_{GS}= 4.5V, I_D=20A		3.4	4.0	
Diode Forward Voltage	V_{SD}	I_S=20A,V_{GS}=0V		0.85	1.2	V
Gate resistance	Rg	F=1 MHz, Open drain		2.9		Ω
Input Capacitance	C_{iss}	V_{DS}=15V,V_{GS}=0V,f=1MHZ		4498		pF
Output Capacitance	C_{oss}			800		
Reverse Transfer Capacitance	C_{rss}			643		
Total Gate Charge	Q_g(10V)	V_{GS}=10V,V_{DS}=15V,I_D=20A		92.7		nC
Total Gate Charge	Q_g(4.5V)			46		
Gate-Source Charge	Q_{gs}			13.5		
Gate-Drain Charge	Q_{gd}			22.8		
Reverse Recovery Charge	Q_{rr}	I_F=20A, di/dt=500A/us		3.0		
Reverse Recovery Time	t_{rr}			15		ns
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=10V, V_{DD}=20V, I_D=4A,R_L=0.75Ω R_{GEN}=3Ω		11		
Turn-on Rise Time	t_r			80		
Turn-off Delay Time	$t_{D(off)}$			39		
Turn-off fall Time	t_f			92		

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

B. The power dissipation P_D is based on $T_{J(MAX)}$=150 , using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.

C. The value of $R_{\theta JA}$ is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with TA =25 .

D. T_j=25 , V_{DD}=20V, V_G=10V, L=2.0mH,I_{AS}=20A.

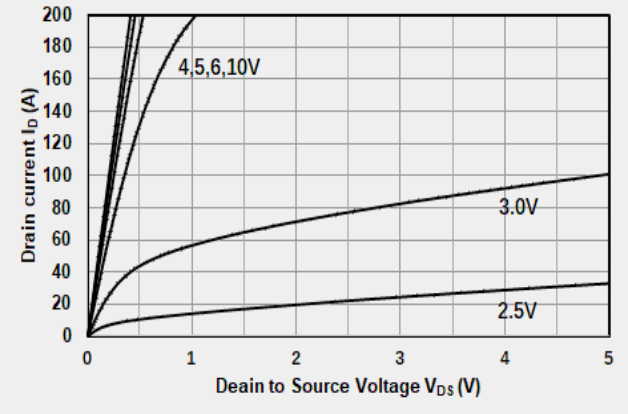

Figure1. Output Characteristics

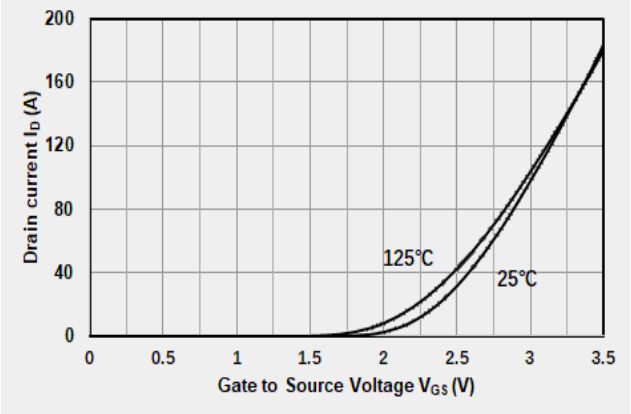

Figure2. Transfer Characteristics

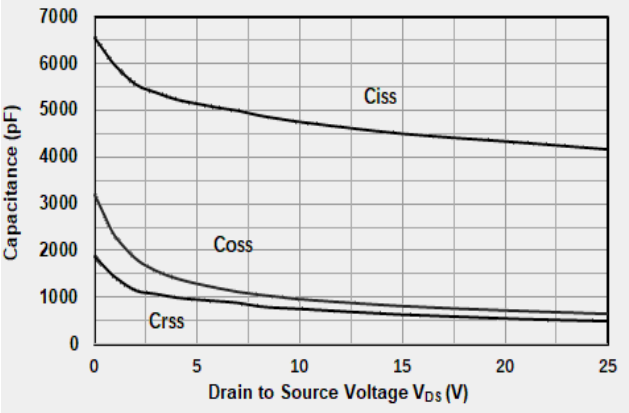

Figure3. Capacitance Characteristics

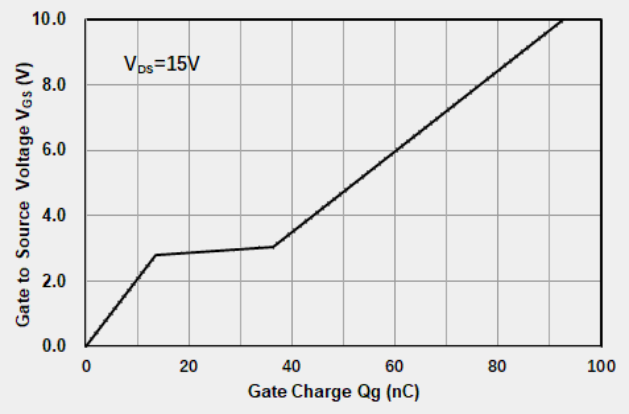

Figure4. Gate Charge

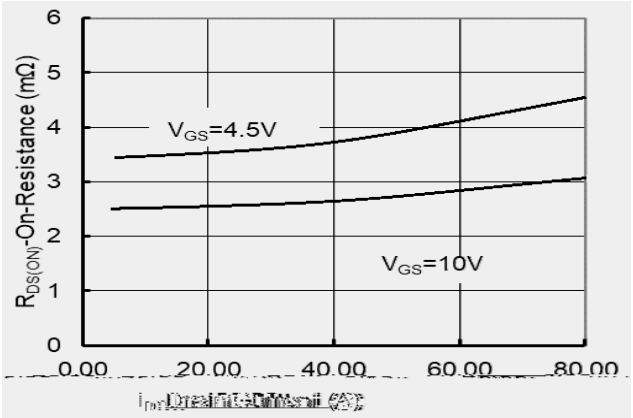

Figure5. Drain-Source on Resistance

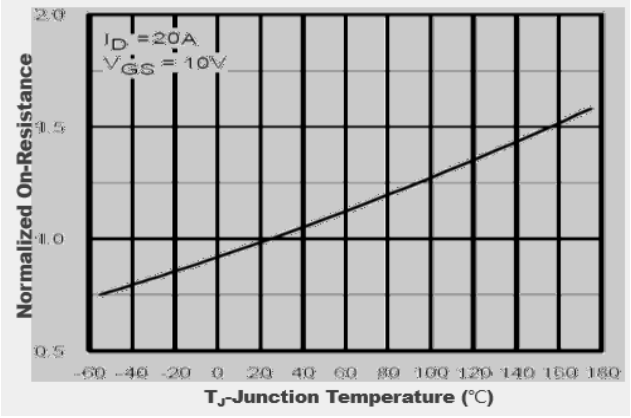

Figure6. Drain-Source on Resistance

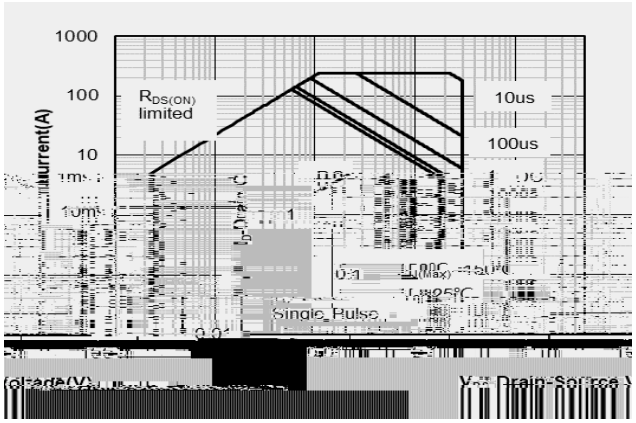

Figure7. Safe Operation Area

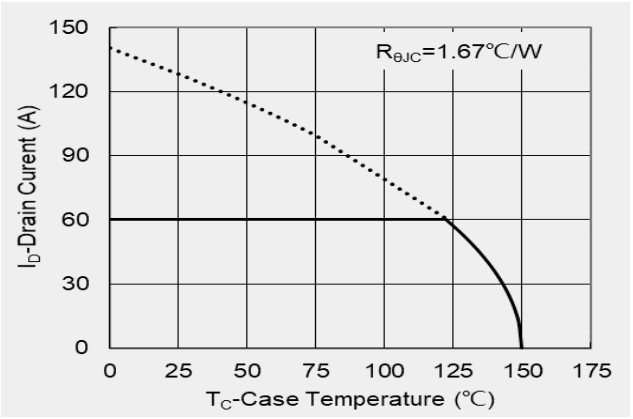

Figure8. Drain current vs. Case Temperature

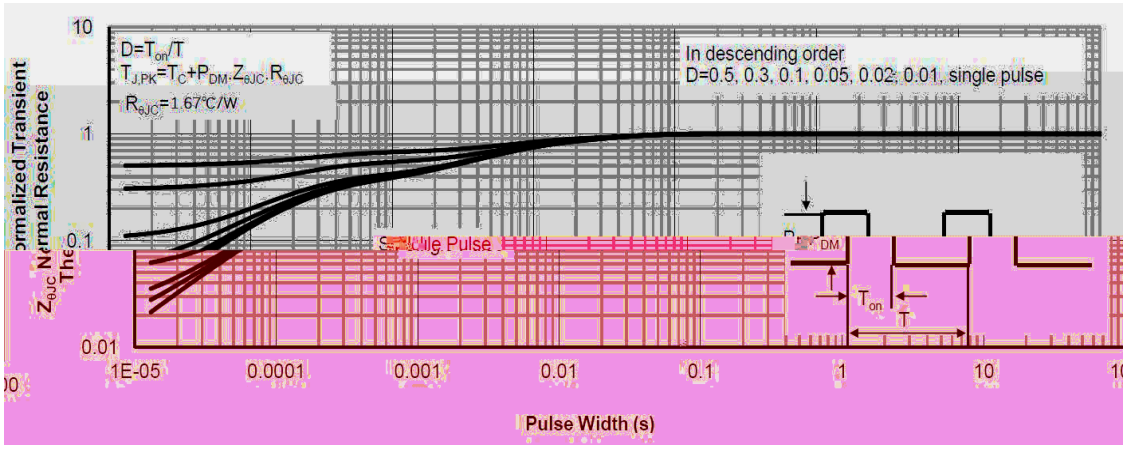

Figure9. Normalized Maximum Transient Thermal Impedance

■

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 with 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 , or consult your nearest Yangjie's sales office for further assistance.