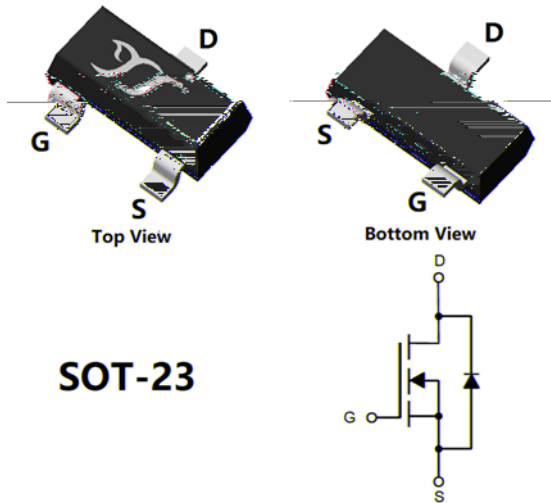




## N-Channel Enhancement Mode Field Effect Transistor



### Product Summary

$V_{DS}$	60V
$I_D$	3.0A
$R_{DS(ON)}$ (at $V_{GS}=10V$ )	100mohm
$R_{DS(ON)}$ (at $V_{GS}=4.5V$ )	120mohm
$\nabla V_{DS}$ Tested	

### General Description

Trench Power MV MOSFET technology  
 Excellent package for heat dissipation  
 High density cell design for low  $R_{DS(ON)}$   
 Moisture Sensitivity Level 1  
 Epoxy Meets UL 94 V-0 Flammability Rating  
 Halogen Fre

### Applications

DC-DC Converters  
 Power management functions

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

Parameter	Symbol	Limit	Unit
Drain-source Voltage	$V_{DS}$	60	V
Gate-source Voltage	$V_{GS}$	20	V
Drain Current	$I_D$	$T_A=25$	3
		$T_A=70$	2.4
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	12	A
Total Power Dissipation	$P_D$	$T_A=25$	1.2
		$T_A=70$	0.8
Thermal Resistance Junction-to-Ambient <sup>B</sup>	$R_{JA}$	104	/W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 +150	

### Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL03N06A	F2	S10	3000	30000	120000	7 reel



# YJL03N06A

RECOMMEND  
YJL03N06C  
FOR NEW DESIGN

## Electrical Characteristics ( $T_J=25$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250$	60			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$			1	
Gate-Body Leakage Current	$I_{GSS1}$	$V_{GS}= 20V, V_{DS}=0V$			100	nA
	$I_{GSS2}$	$V_{GS}= 10V, V_{DS}=0V$			50	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}= V_{GS}, I_D=250$	0.9	1.3	2.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=3A$		86	100	m
		$V_{GS}=4.5V, I_D=2A$		92	120	
Diode Forward Voltage	$V_{SD}$	$I_S=3A, V_{GS}=0V$			1.2	V
<b>Dynamic Parameters</b>						
Input Capacitance	$C_{iss}$			409		
Output Capacitance	$C_{oss}$	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		50		pF



Typical Performance Characteristics

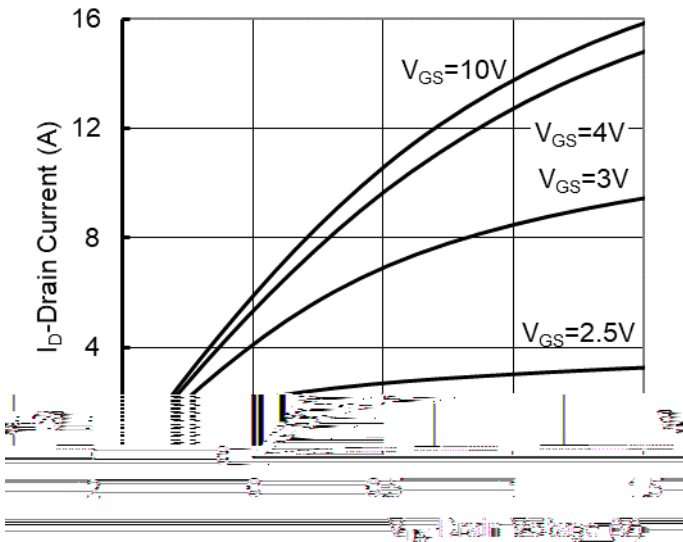


Figure1. Output Characteristics

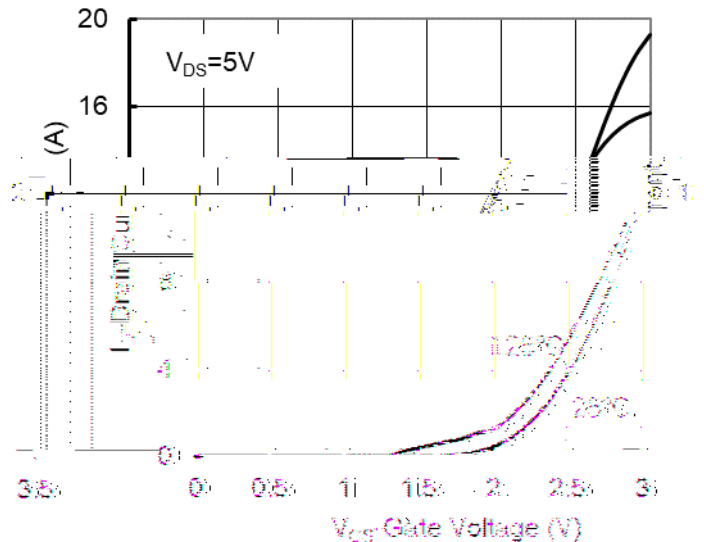


Figure2. Transfer Characteristics

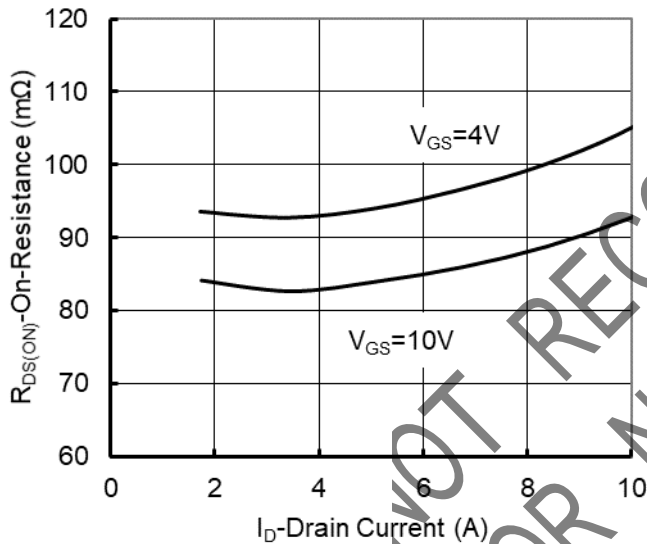


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

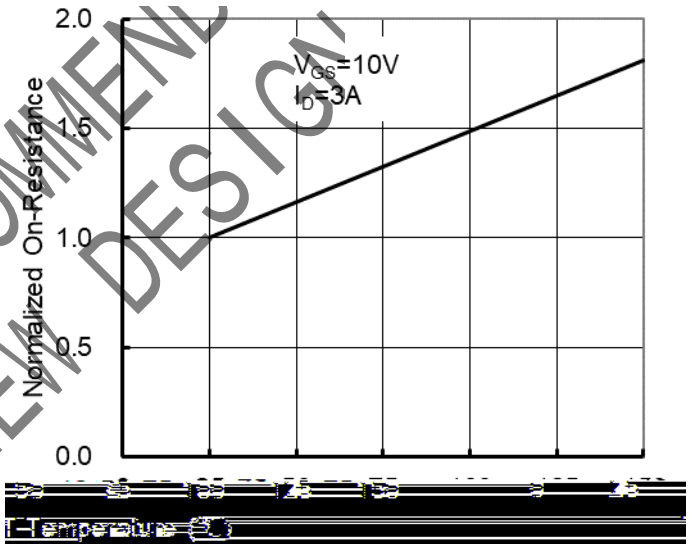


Figure 4: On-Resistance vs. Junction Temperature

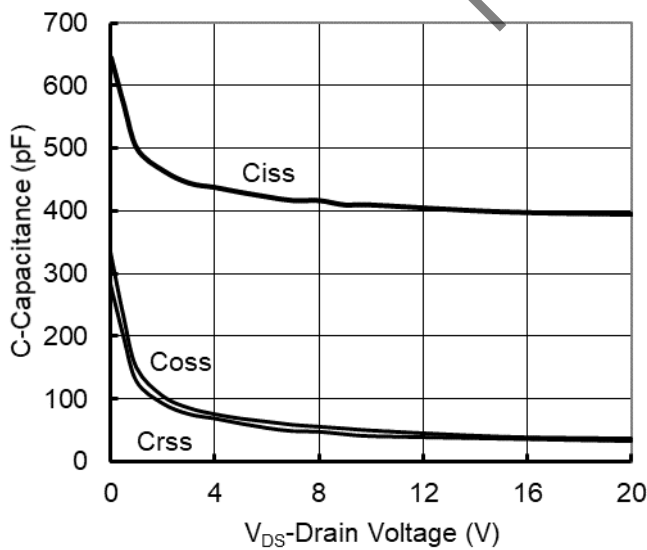


Figure5. Capacitance Characteristics

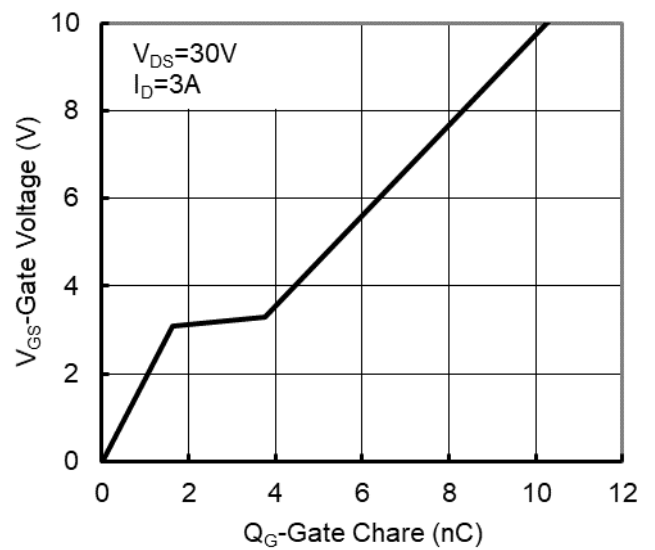


Figure6. Gate Charge

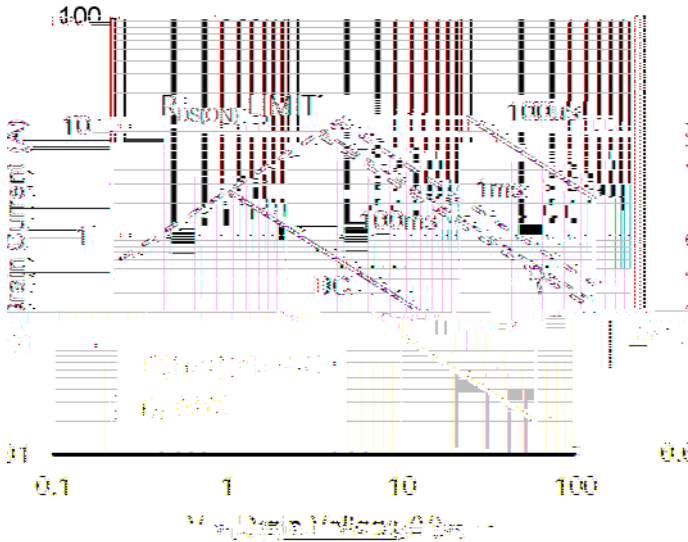


Figure7. Safe Operation Area

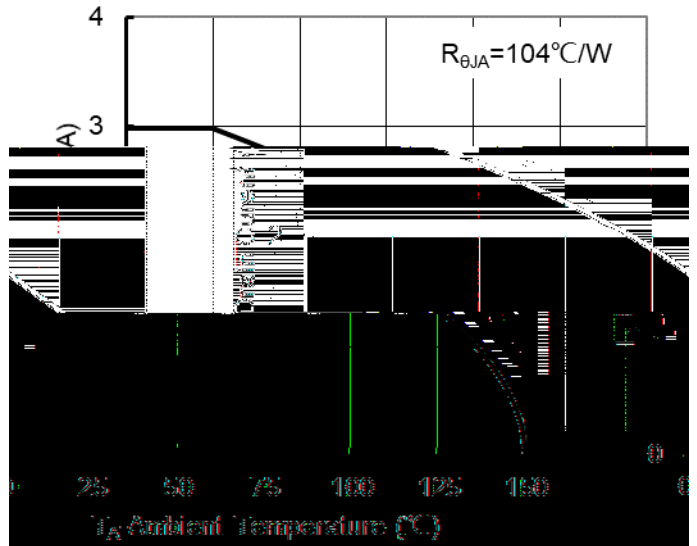


Figure8. Maximum Continuous Drain Current vs Ambient Temperature

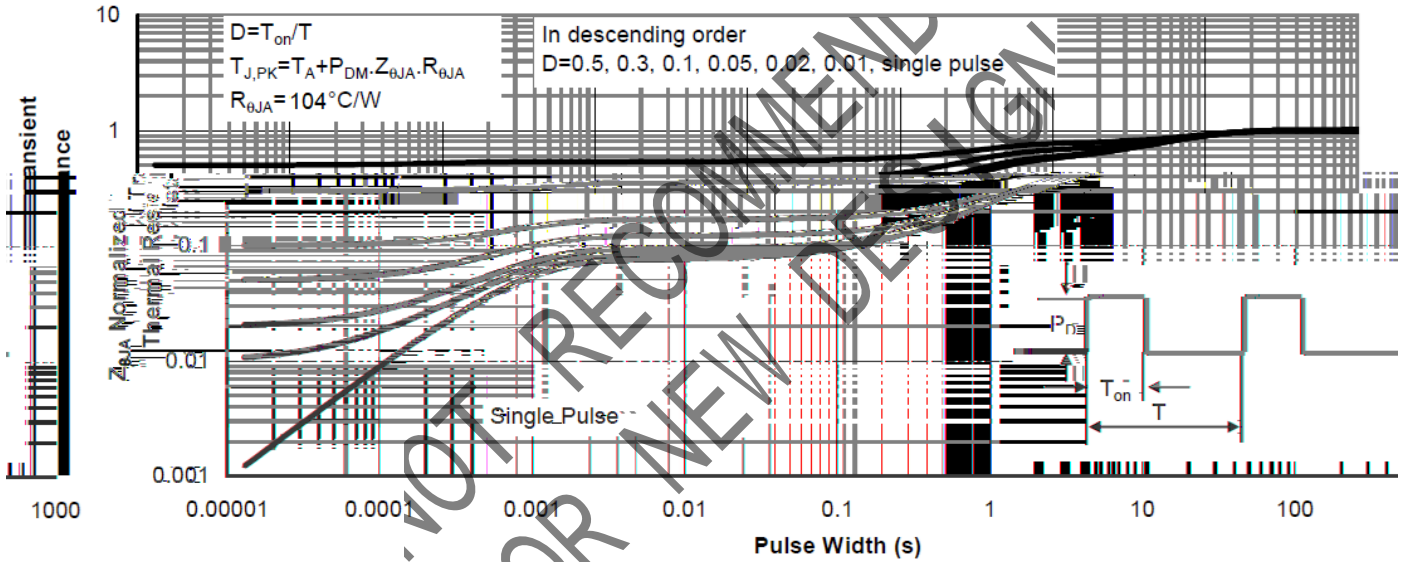


Figure9. Normalized Maximum Transient Thermal Impedance

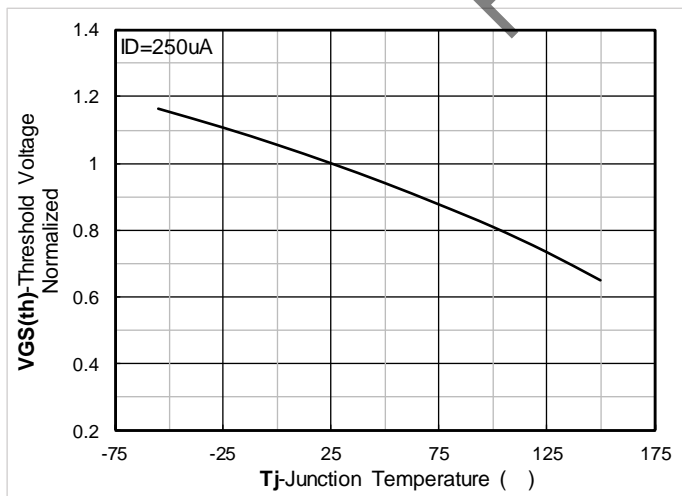
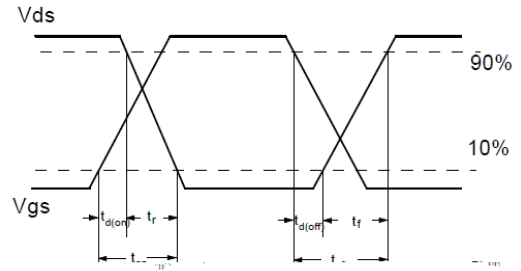
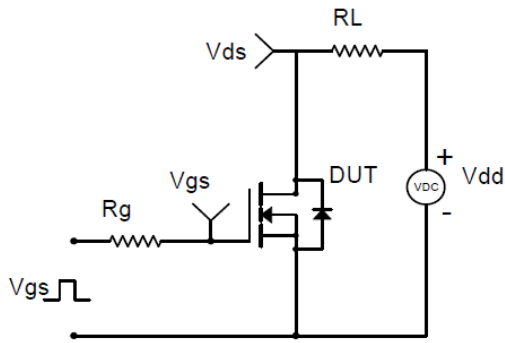
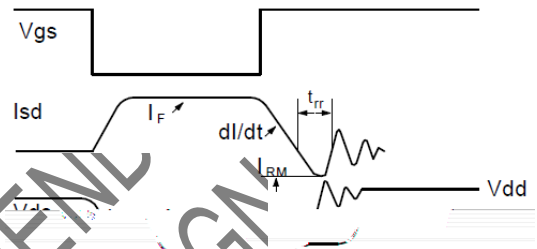
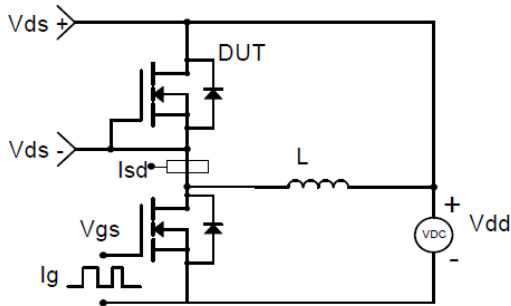


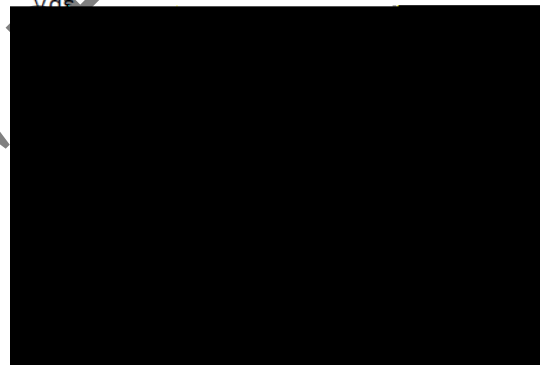
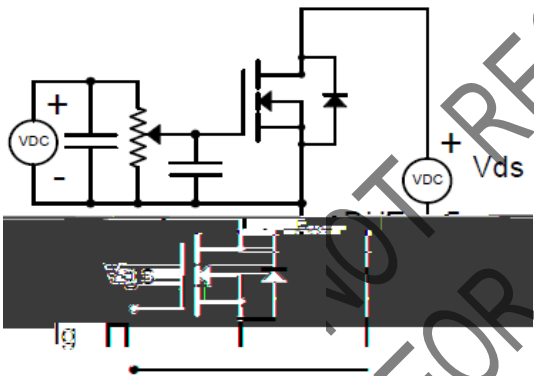
Figure 10. Normalized Threshold voltage



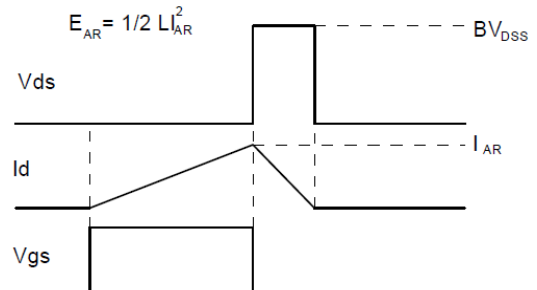
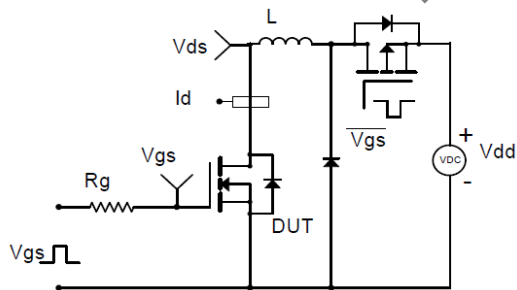
**Resistive Switching Test Circuit & Waveforms**



**Diode Recovery Test Circuit & Waveforms**



**Gate Charge Test Circuit & Waveform**



**Unclamped Inductive Switching (UIS) Test Circuit & Waveforms**





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NOT RECOMMEND  
FOR NEW DESIGN