



YJL2301C

P-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	-20V
I_D	-3.4A
$r_{DS(ON)}$ (at $V_{GS}=-4.5V$)	51mohm
$r_{DS(ON)}$ (at $V_{GS}=-2.5V$)	67mohm
$r_{DS(ON)}$ (at $V_{GS}=-1.8V$)	100mohm

General Description

High Power and Current handling capability
 Low Gate Charge
 Moisture Sensitivity Level 1
 Epoxy Meets UL 94 V-0 Flammability Rating
 Halogen Free

Applications

PWM applications
 Power management
 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	-3.4	A
	$T_A=70$		-2.7	
Pulsed Drain Current ^A		I_{DM}	-14	A
Total Power Dissipation	$T_A=25$	P_D	1	W
	$T_A=70$		0.64	W
Thermal Resistance Junction-to-Ambient ^B		R_{JA}	125	/W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 +150	



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
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Typical Performance Characteristics

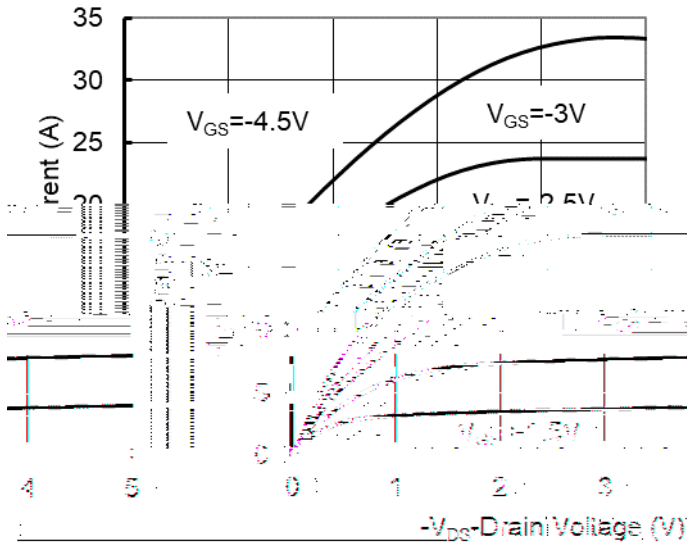


Figure1. Output Characteristics

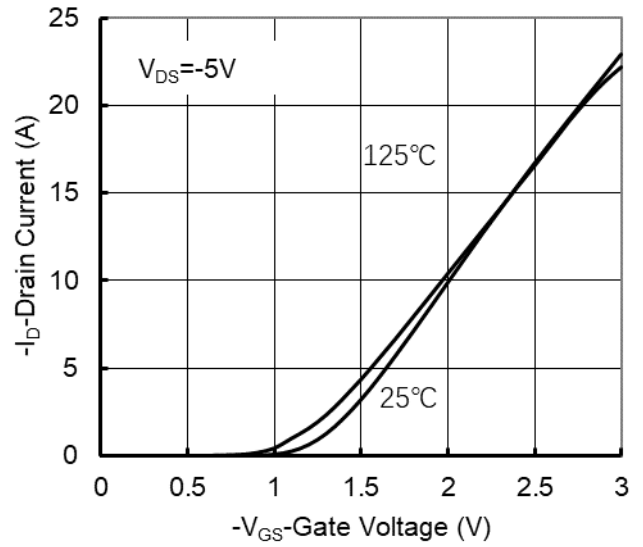


Figure2. Transfer Characteristics

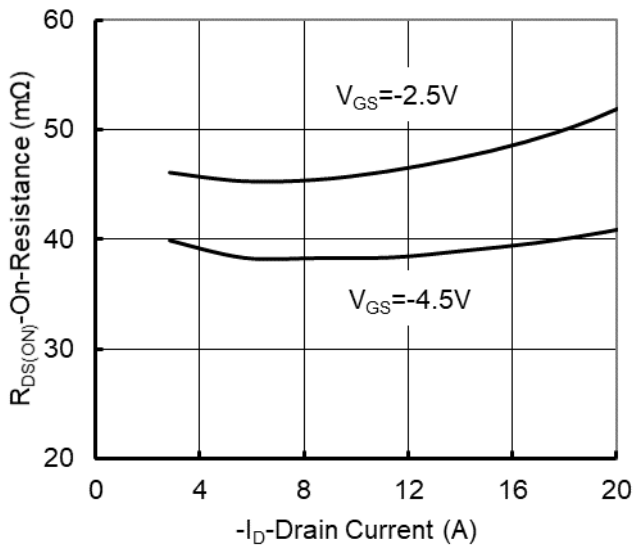


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

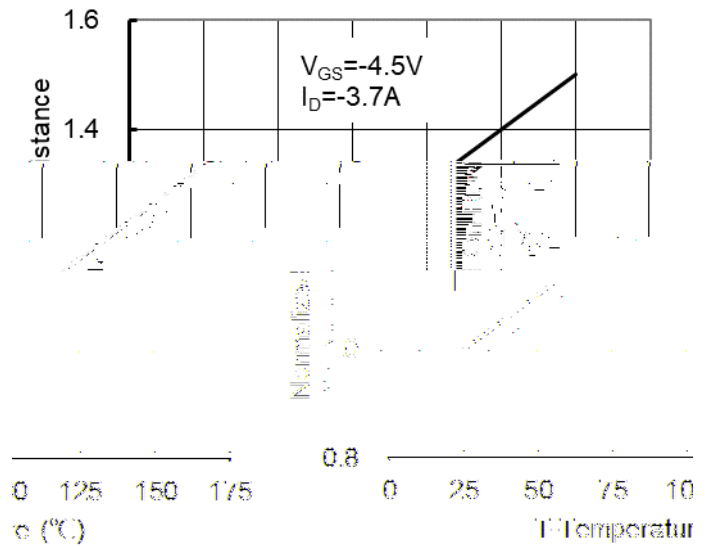


Figure 4: On-Resistance vs. Junction Temperature

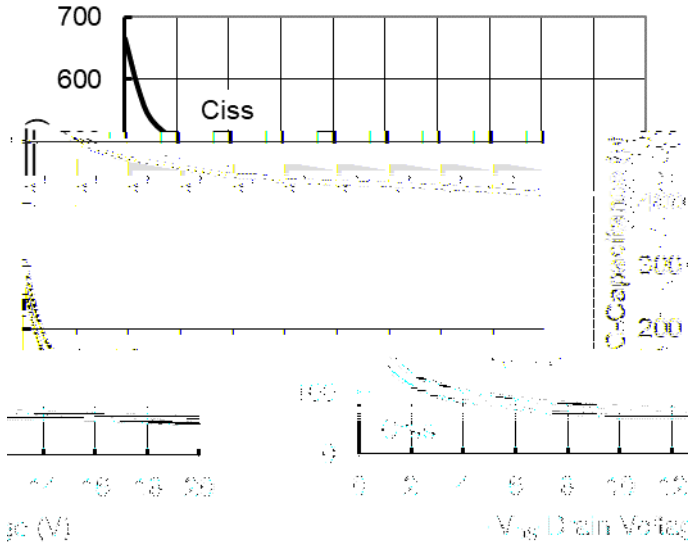


Figure 5. Capacitance Characteristics

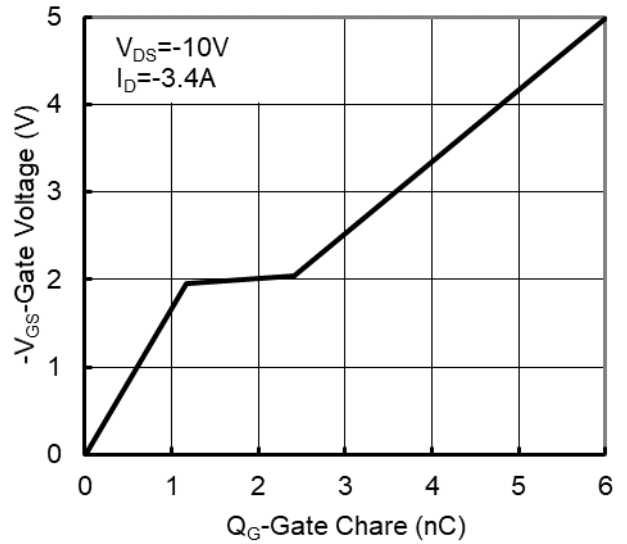


Figure 6. Gate Charge

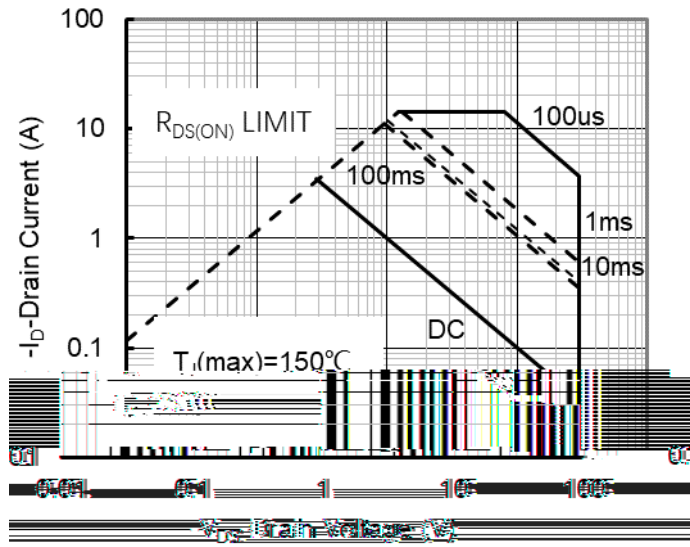


Figure 7. Safe Operation Area

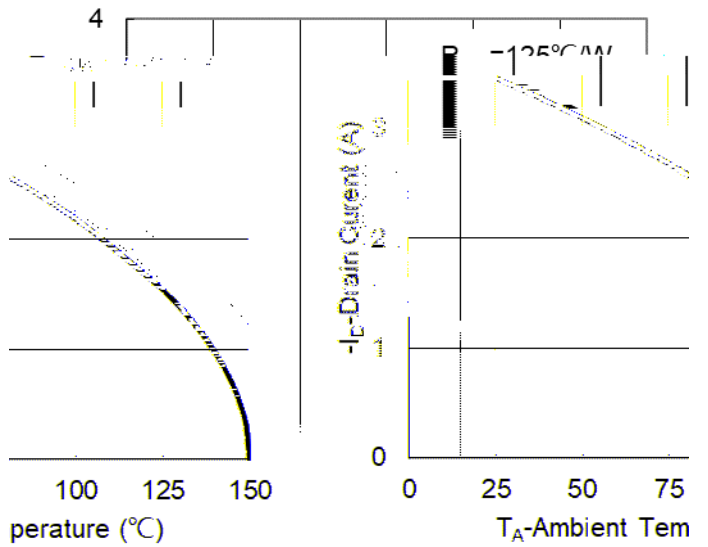


Figure 8. Maximum Continuous Drain Current vs Ambient Temperature

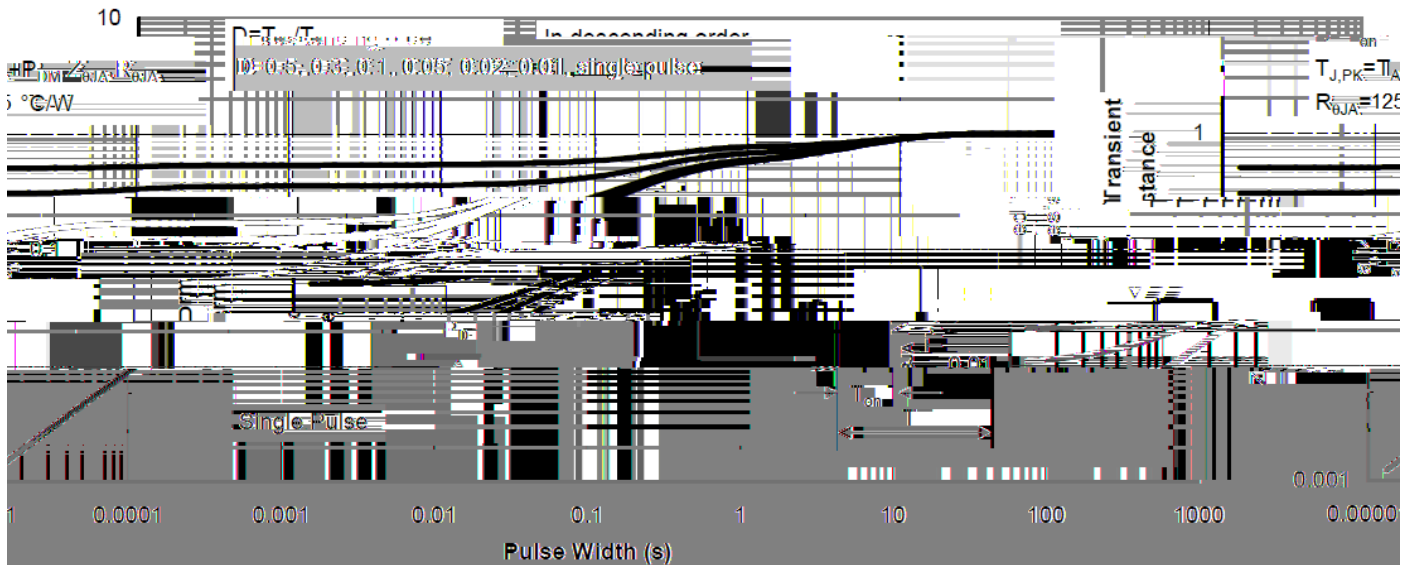
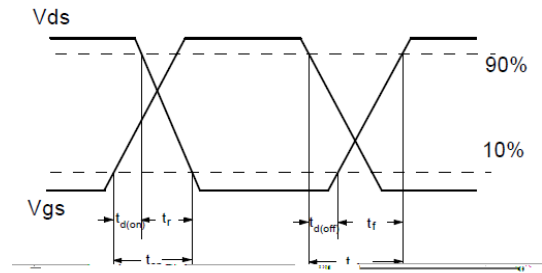
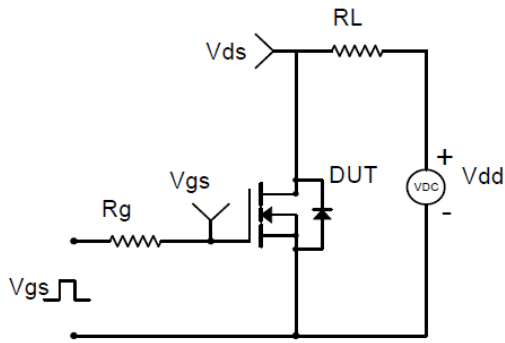
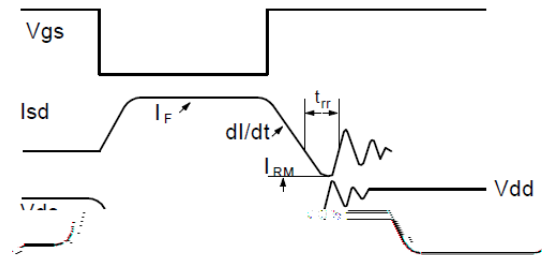
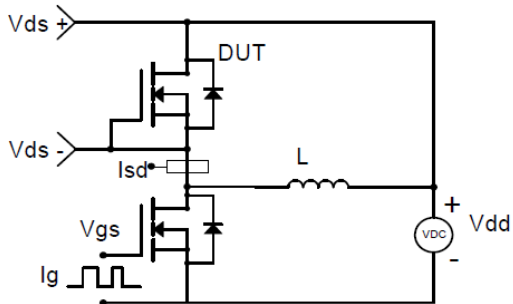


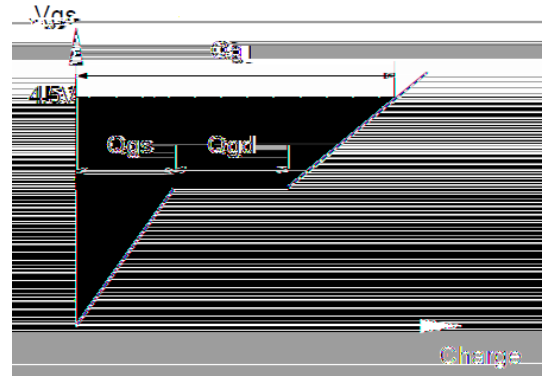
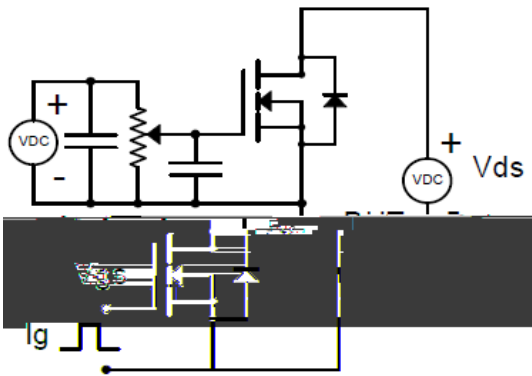
Figure 9. Normalized Maximum Transient Thermal Impedance



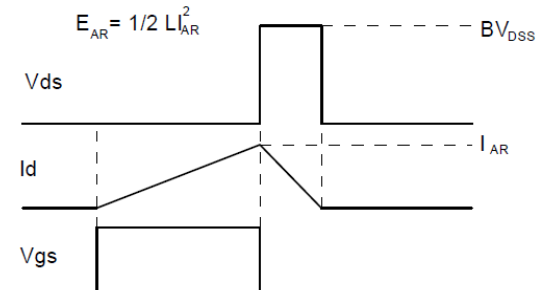
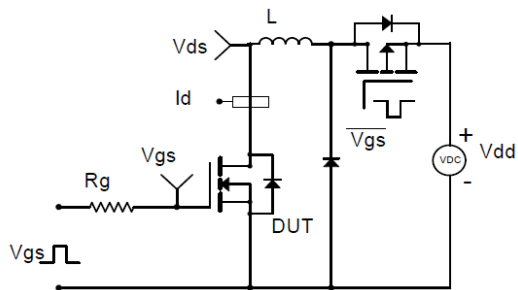
Resistive Switching Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms



Gate Charge Test Circuit & Waveform

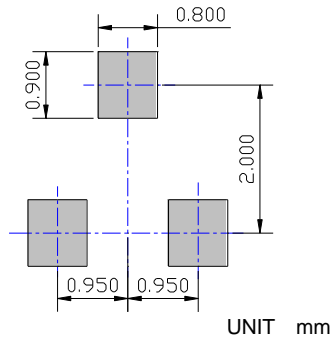
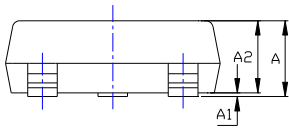
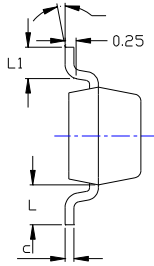
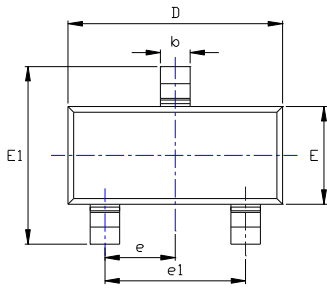


Unclamped Inductive Switching (UIS) Test Circuit & Waveforms



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SOT-23 Package information



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
	0°	8°	0°	8°

NOTE:
 1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
 2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
 3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



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