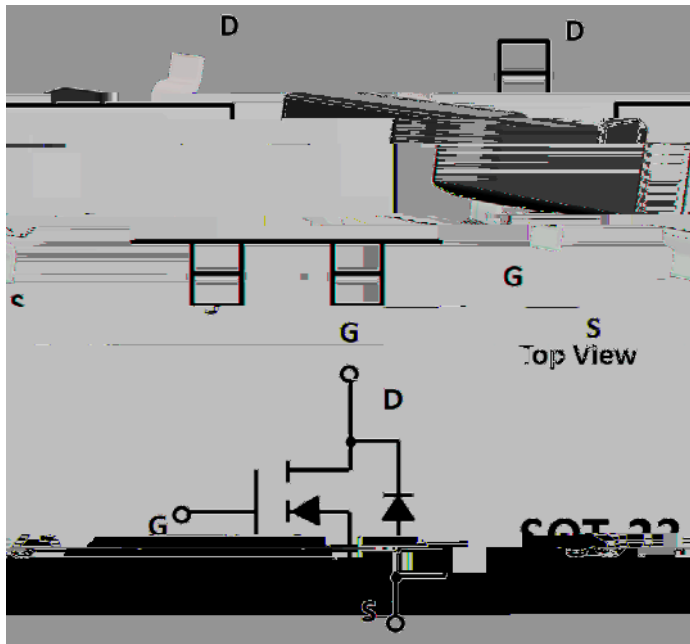


## N-Channel Enhancement Mode Field Effect Transistor



### Product Summary

$V_{DS}$	20V
$I_D$	4.3A
$R_{DS(ON)}$ ( at $V_{GS}= 4.5V$ )	27mohm
$R_{DS(ON)}$ ( at $V_{GS}= 2.5V$ )	37mohm

### General Description

Trench Power LV MOSFET technology  
 High Density Cell Design for Low  $R_{DS(ON)}$   
 High Speed switching  
 Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

Battery protection  
 Load switch  
 Power management

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

Parameter	Symbol	Limit	Unit
Drain-source Voltage	$V_{DS}$	20	V
Gate-source Voltage	$V_{GS}$	$\pm 10$	V
Drain Current	$I_D$	$T_A=25$	4.3
		$T_A=70$	3.4
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	17.2	A
Total Power Dissipation @ $T_A=25$ Steady State	$P_D$	1	W
Thermal Resistance Junction-to-Ambient <sup>B</sup>	$R_{JA}$	125	/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
YJL2302AQ	F2	.2302.	3000	30000	120000	7" reel



## YJL2302AQ

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
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Typical Performance Characteristics

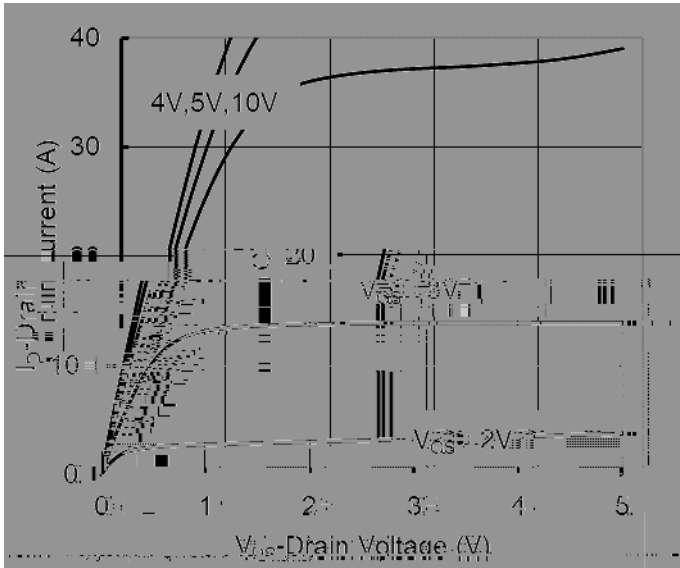


Figure1. Output Characteristics

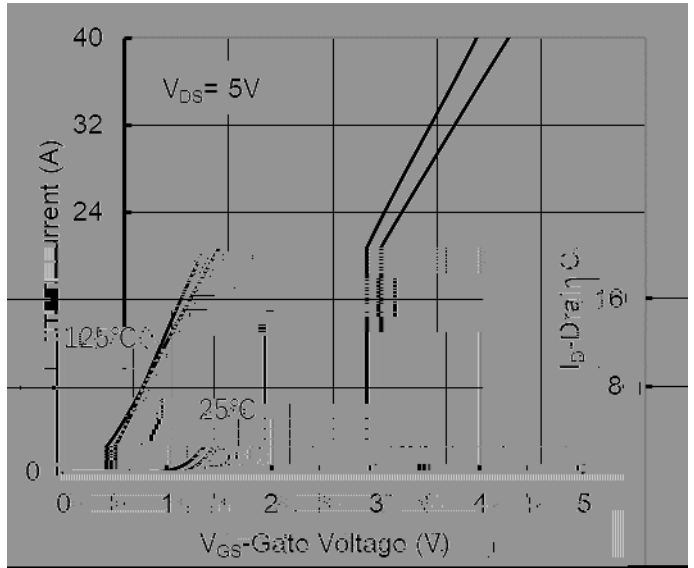


Figure2. Transfer Characteristics

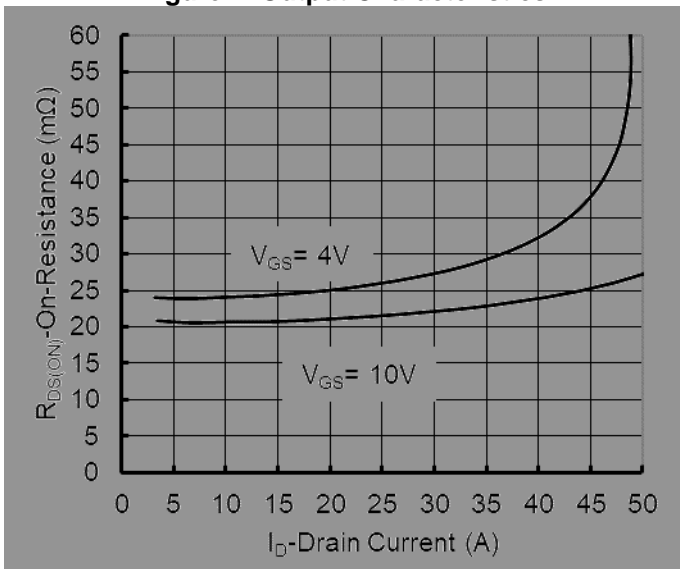


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

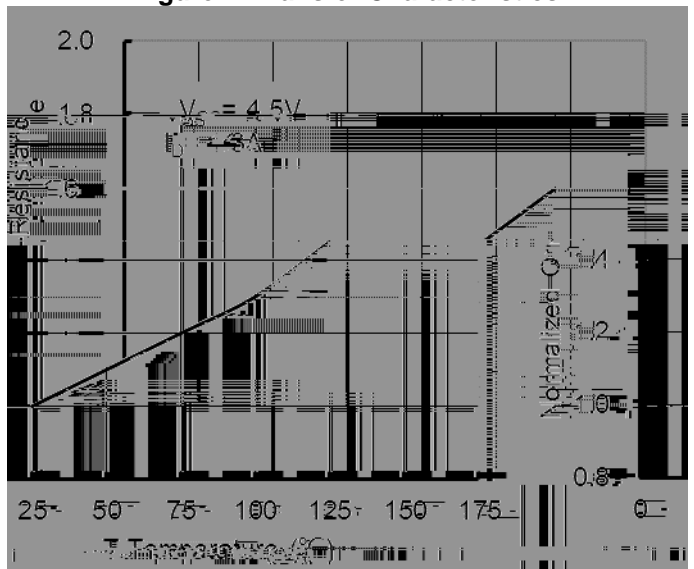


Figure 4: On-Resistance vs. Junction Temperature

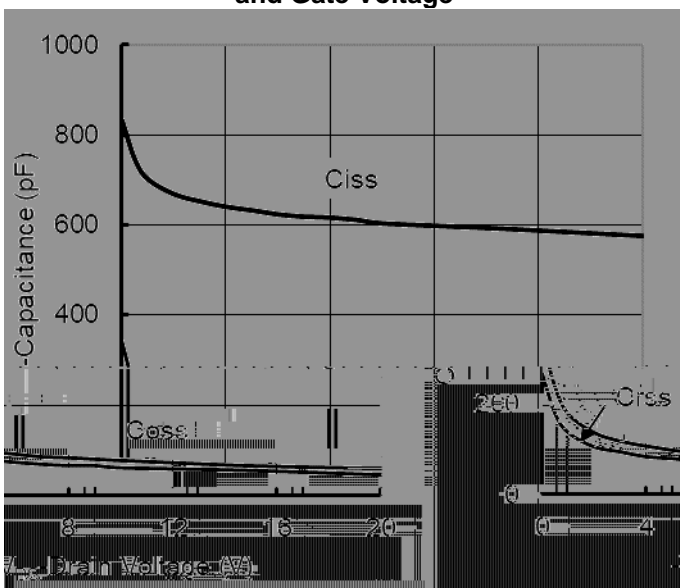


Figure5. Capacitance Characteristics

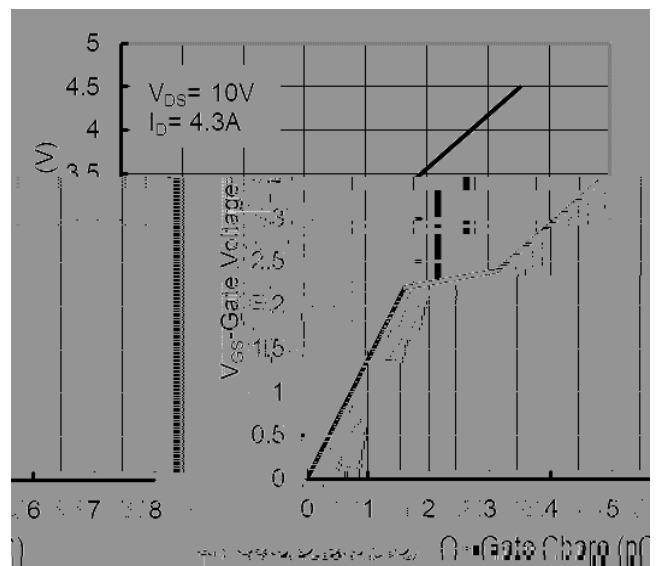


Figure6. Gate Charge

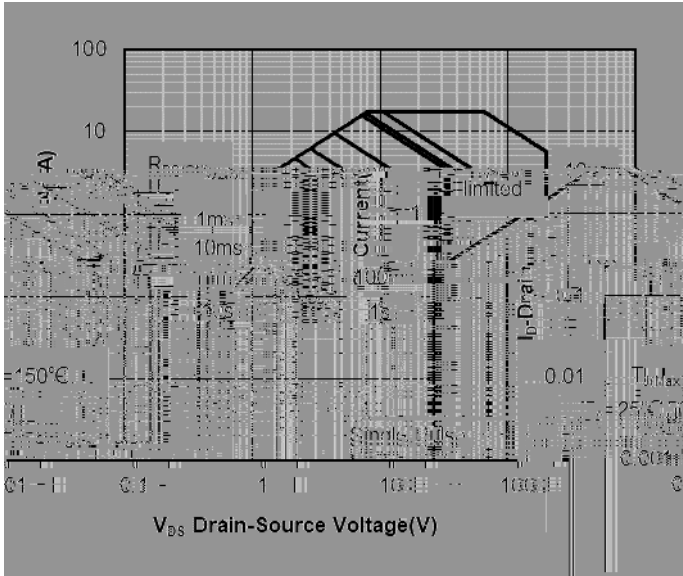
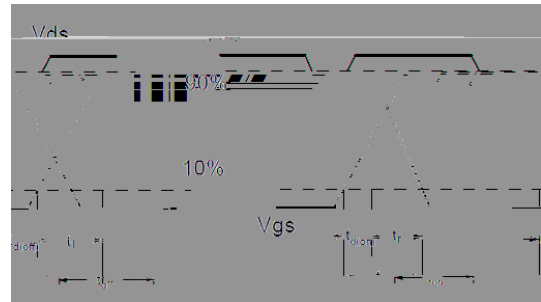
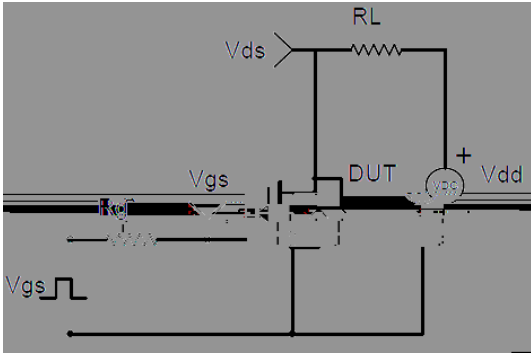
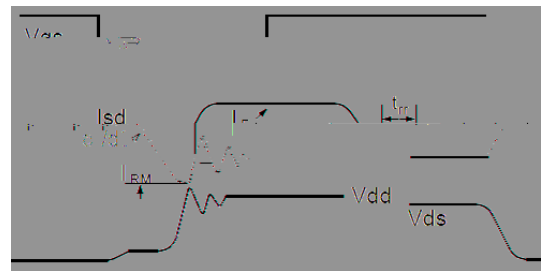
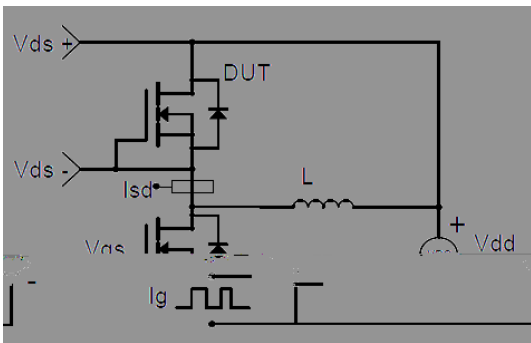


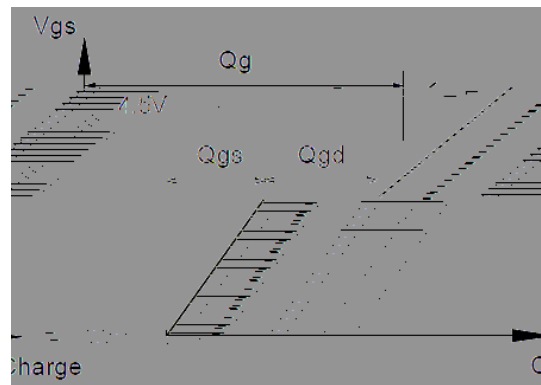
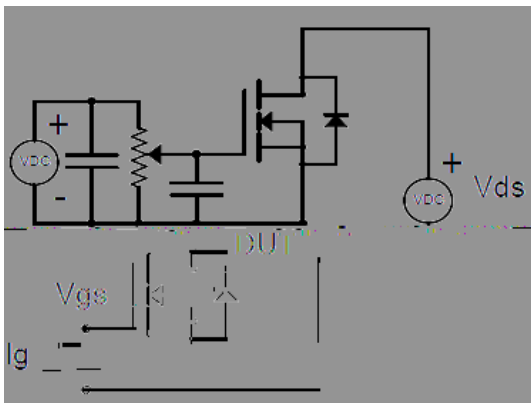
Fig. 10 Fig. 11



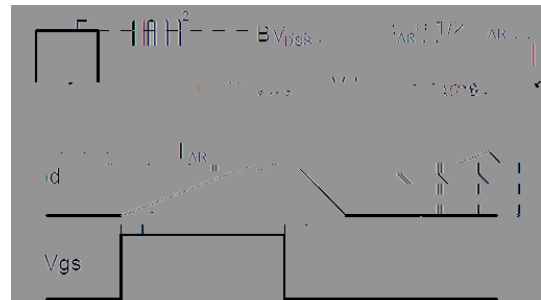
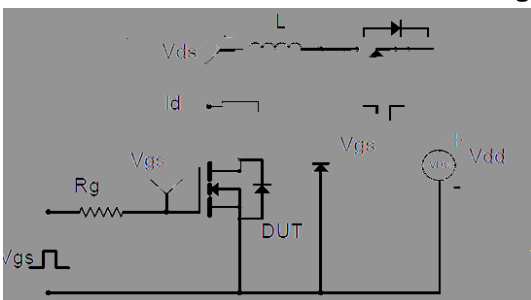
Resistive Switching Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms



Gate Charge Test Circuit & Waveform

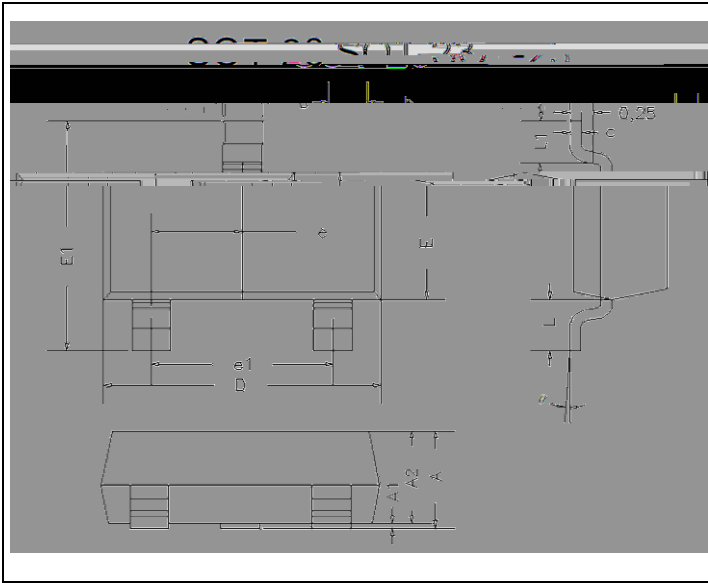


Unclamped Inductive Switching (UIS) Test Circuit & Waveforms



# YJL2302AQ

## SOT-23 Package information



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.045	0.90	1.15	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.041	0.90	1.05	
b	0.012	0.020	0.30	0.50	
c	0.004	0.008	0.10	0.20	
D	0.110	0.118	2.80	3.00	
E	0.047	0.055	1.20	1.40	
E1	0.089	0.100	2.25	2.55	
e	0.370TYP		0.95TYP		
e1	0.071	0.079	1.80	2.00	
L	0.220REF		0.55REF		
L1	0.012	0.020	0.30	0.50	
	0°	8°	0°	8°	

