



# YJQT2304A

## N-Channel and N-Channel Complementary MOSFET

### Product Summary

$V_{DS}$	30V
$I_D$	10A
$R_{DS(ON)}$ ( at $V_{GS}=10V$ )	47m
$R_{DS(ON)}$ ( at $V_{GS}=4.5V$ )	78m

### General Description

Trench Power LV MOSFET technology  
 Excellent package for heat dissipation  
 High density cell design for low  $R_{DS(ON)}$   
 -0 Flammability Rating

### Applications

Power switching application  
 Uninterruptible power supply  
 DC-DC convertor

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		$V_{DS}$	30	V
Gate-source Voltage		$V_{GS}$	$\pm 20$	V
Drain Current	$T_A=25$	$I_D$	3.7	A
	$T_A=100$		2.3	
	$T_C=25$		10	
	$T_C=100$		6	
Pulsed Drain Current <sup>A</sup>		$I_{DM}$	30	A
Total Power Dissipation <sup>B</sup>	$T_A=25$	$P_D$	1.2	W
	$T_A=100$		0.5	
	$T_C=25$		8.9	
	$T_C=100$		3.5	
Junction and Storage Temperature Range		$T_J, T_{STG}$	-55 +150	

### Thermal resistance

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}$				



## Typical Electrical and Thermal Characteristics Diagrams

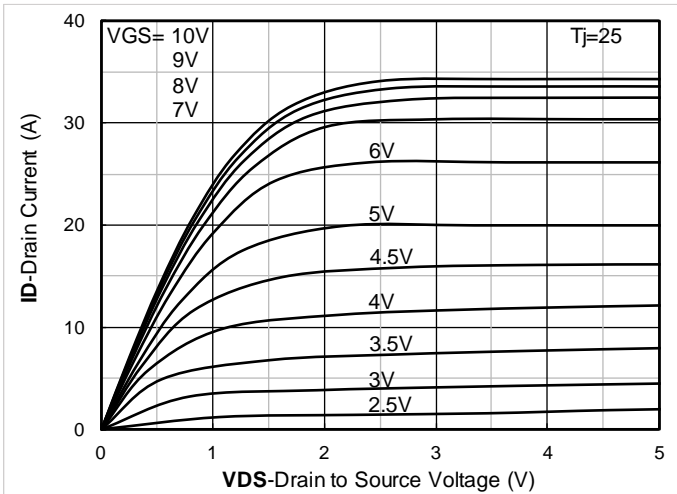


Figure 1. Output Characteristics

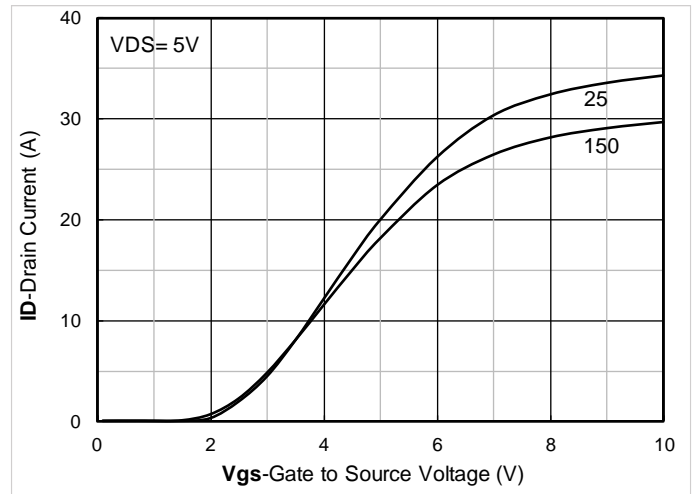


Figure 2. Transfer Characteristics

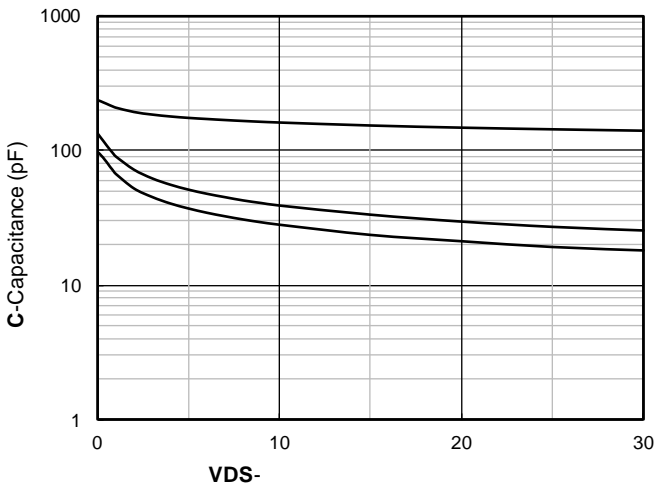


Figure 3. Capacitance Characteristics

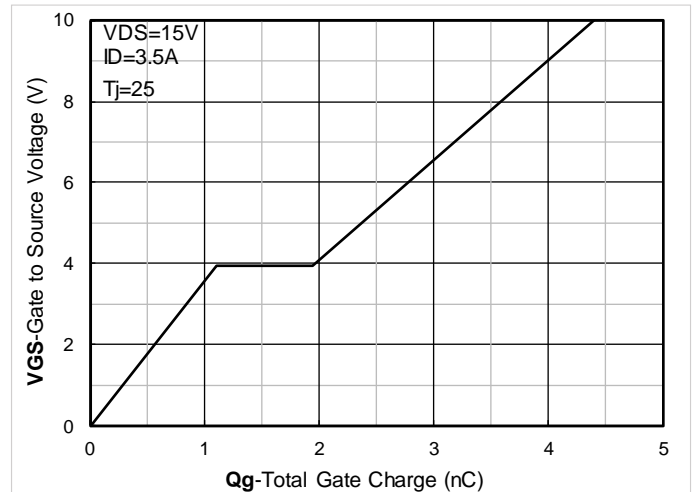


Figure 4. Gate Charge

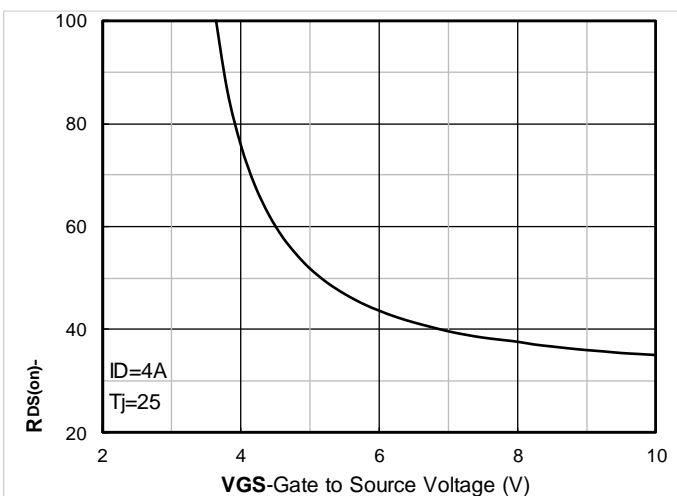


Figure 5. On-Resistance vs Gate to Source Voltage

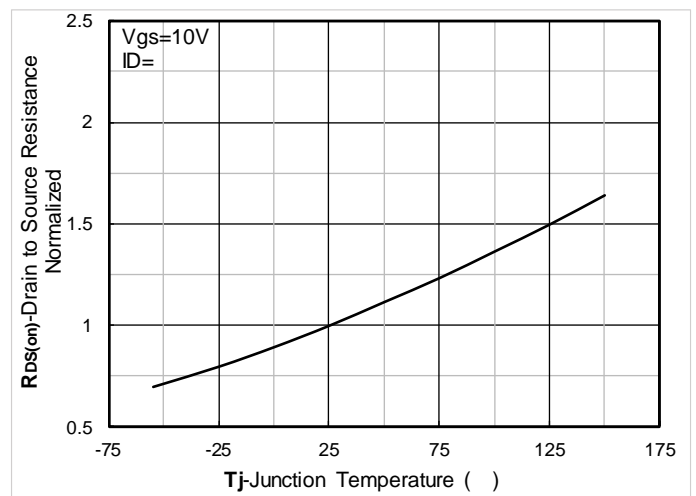


Figure 6. Normalized On-Resistance



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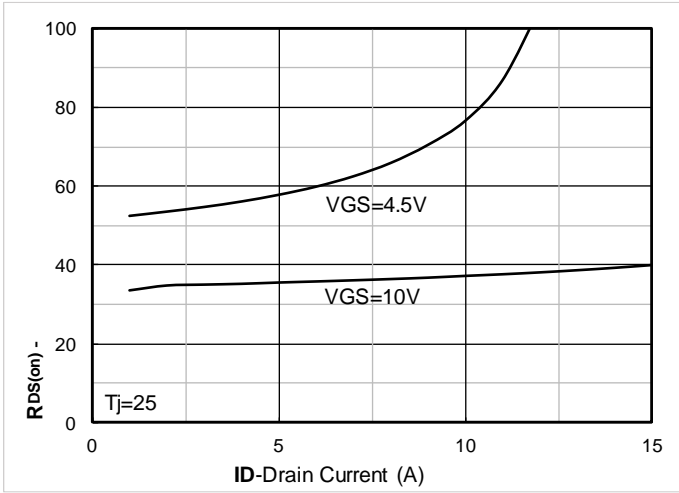


Figure 7. RDS(on) VS Drain Current

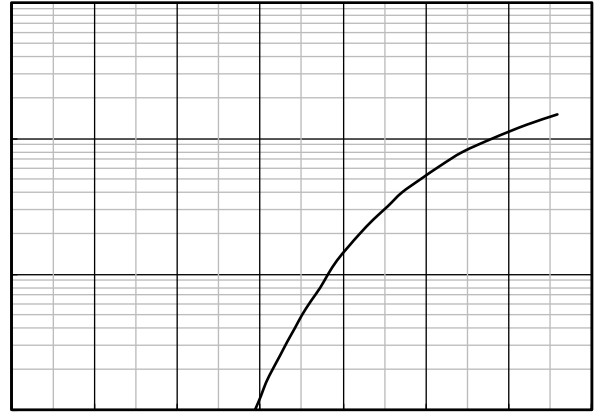


Figure 8. Forward characteristics of reverse diode

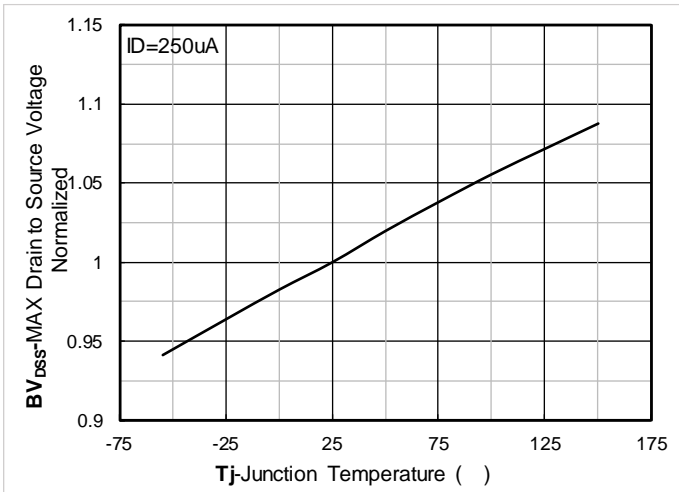


Figure 9. Normalized breakdown voltage

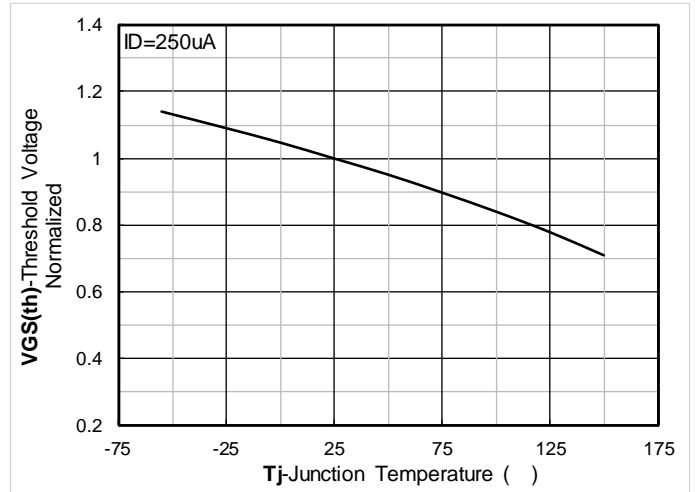


Figure 10. Normalized Threshold voltage

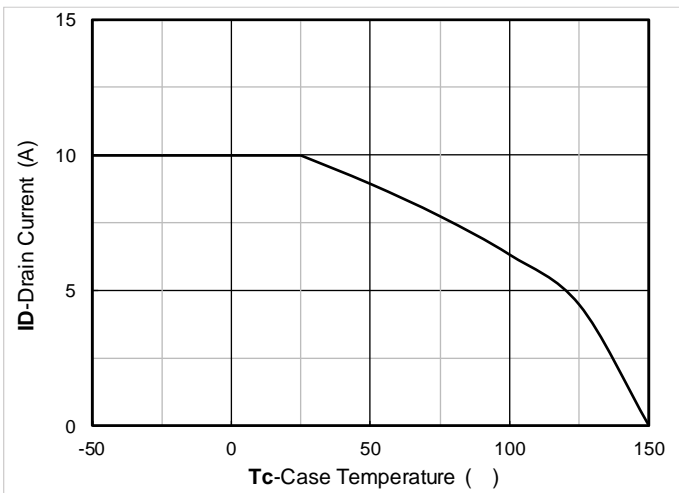


Figure 11. Current dissipation

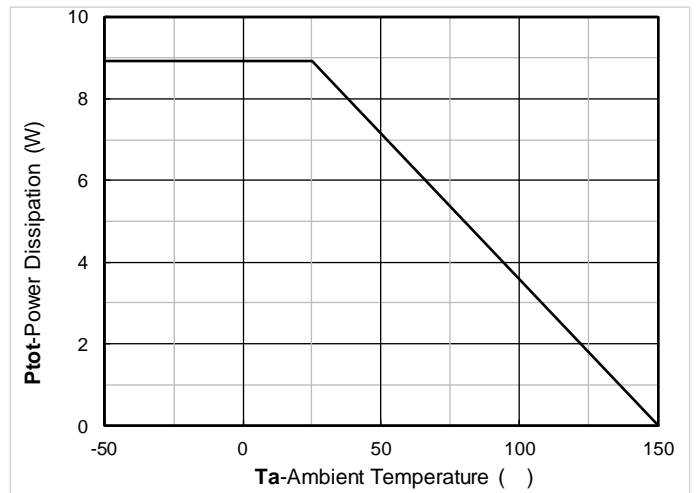


Figure 12. Power dissipation

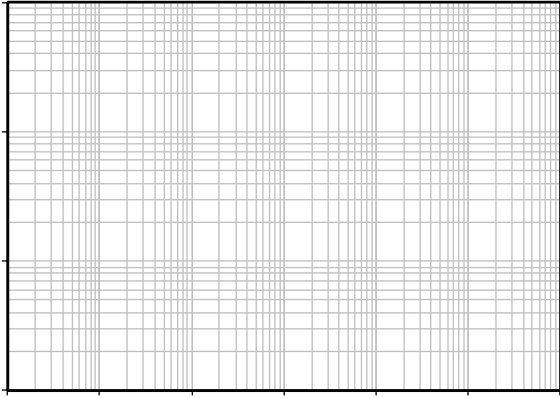


Figure 13. Maximum Transient Thermal Impedance

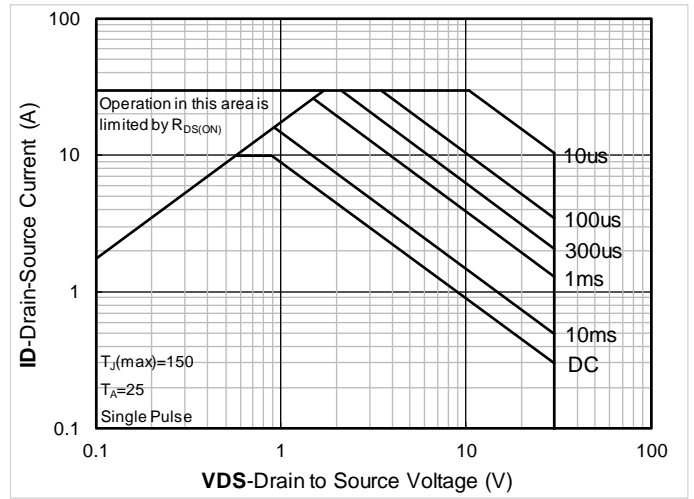


Figure 14. Safe Operation Area

## Test Circuits



Figure B. Gate Charge Test Circuit & Waveform



Figure C. Resistive Switching Test Circuit & Waveform



Figure D. Diode Recovery Test Circuit & Waveform



DFN2020-6L-J-0.65mm Package information

