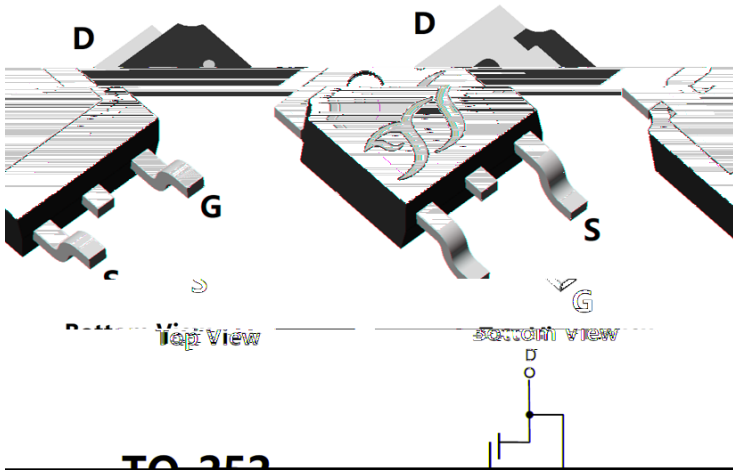




# YJD80N03B

## N-Channel Enhancement Mode Field Effect Transistor



### Product Summary

$V_{DS}$	30V
$I_D$	80A
$R_{DS(ON)}$ (at $V_{GS}=10V$ )	4.9mohm
$R_{DS(ON)}$ (at $V_{GS}=4.5V$ )	7.0mohm
100% EAS Tested	
100% $V_{DS}$ Tested	

### General Description

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 Free

### Applications

High current load applications  
 Load switch  
 Hard switched and high frequency circuits  
 Uninterruptible power supply

### 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	$I_D$	$T_C=25$	80	A
		$T_C=100$	50	
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	190	A	
Single Pulse Avalanche Energy <sup>B</sup>	$E_{AS}$	100	mJ	
Total Power Dissipation <sup>C</sup>	$P_D$	$T_C=25$	38	W
		$T_C=100$	15	W
Thermal Resistance Junction-to-Ambient <sup>D</sup>	$R_{JA}$	60	/ W	
Thermal Resistance Junction-to-Case	$R_{JC}$	3.3		
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
YJD80N03B	F1/F2	YJD80N03B	2500	/	25000	13 reel



# YJD80N03B

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250$	30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0V$			1	
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250$ $V_{GS}=10V, I_D=20$	1	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$					



### Typical Performance Characteristics

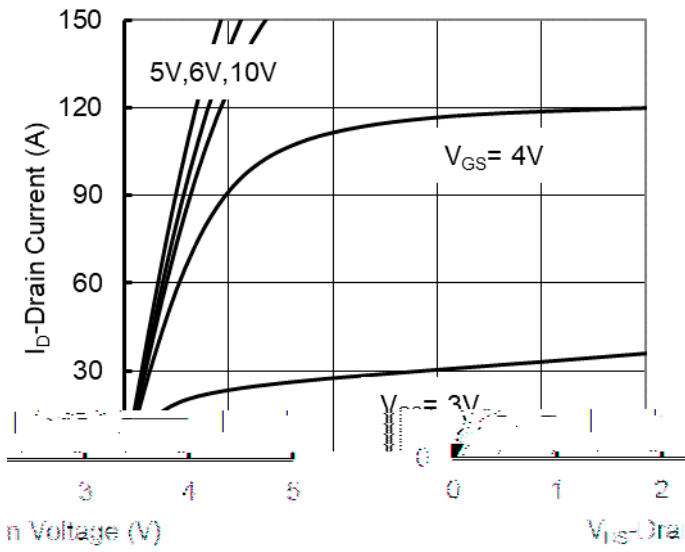


Figure 1. Output Characteristics

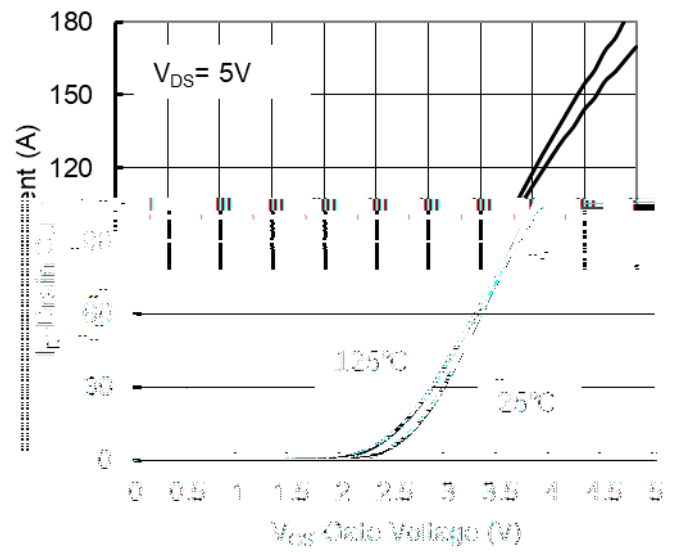


Figure 2. Transfer Characteristics

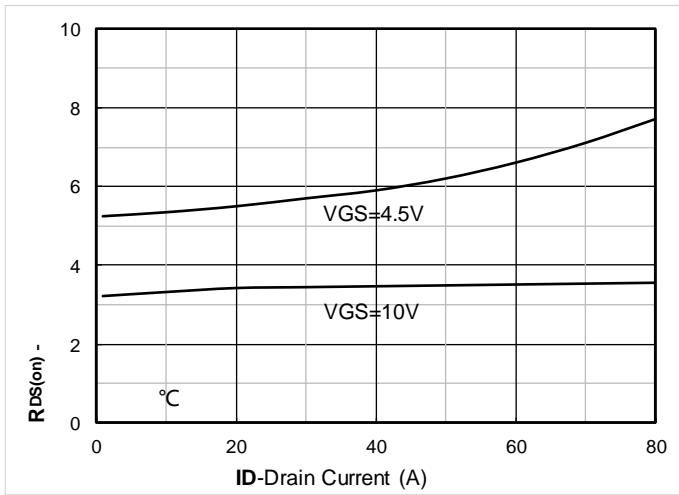


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

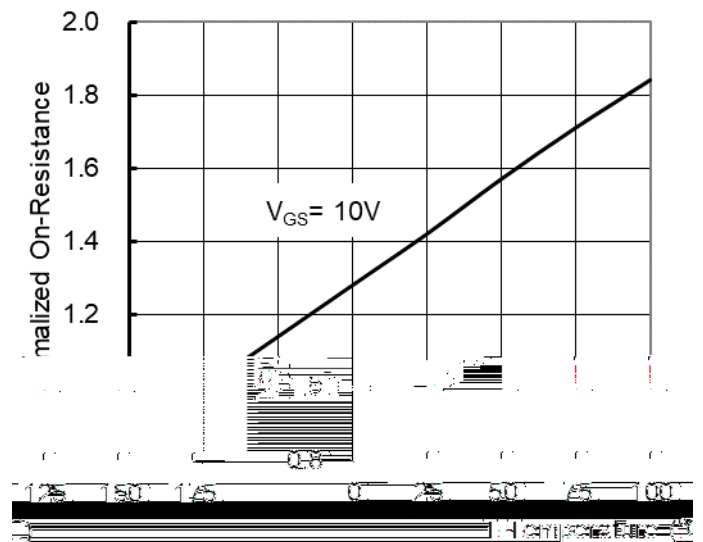


Figure 4. On-Resistance vs. Junction Temperature

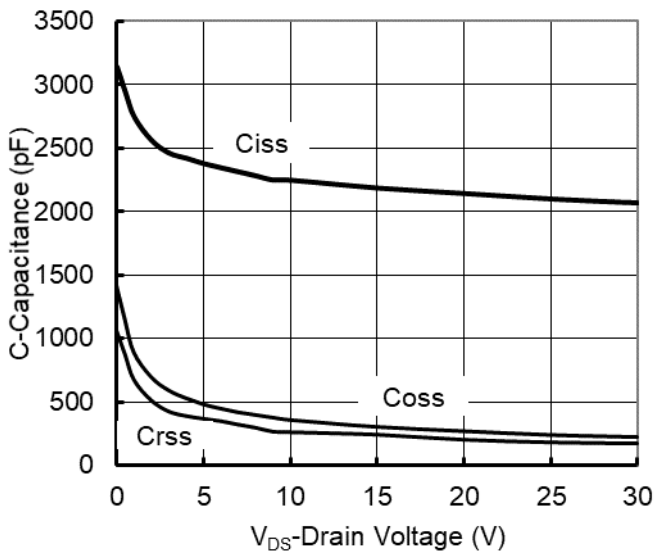


Figure 5. Capacitance Characteristics

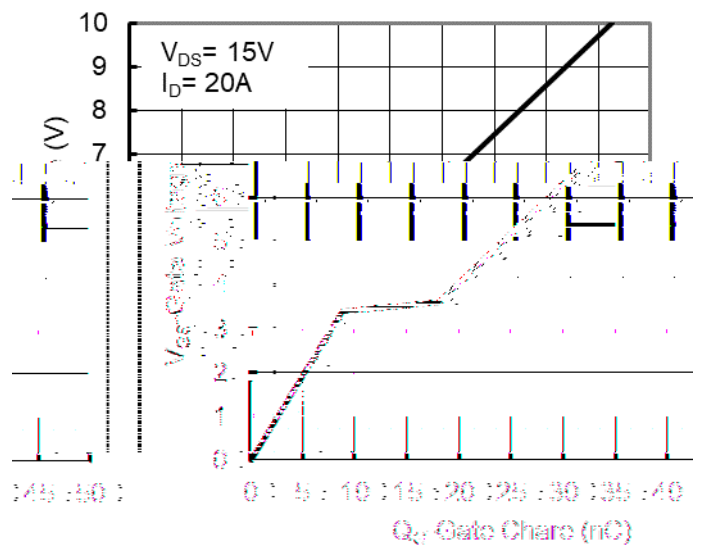


Figure 6. Gate Charge

**YJD80N03B**



# YJD80N03B

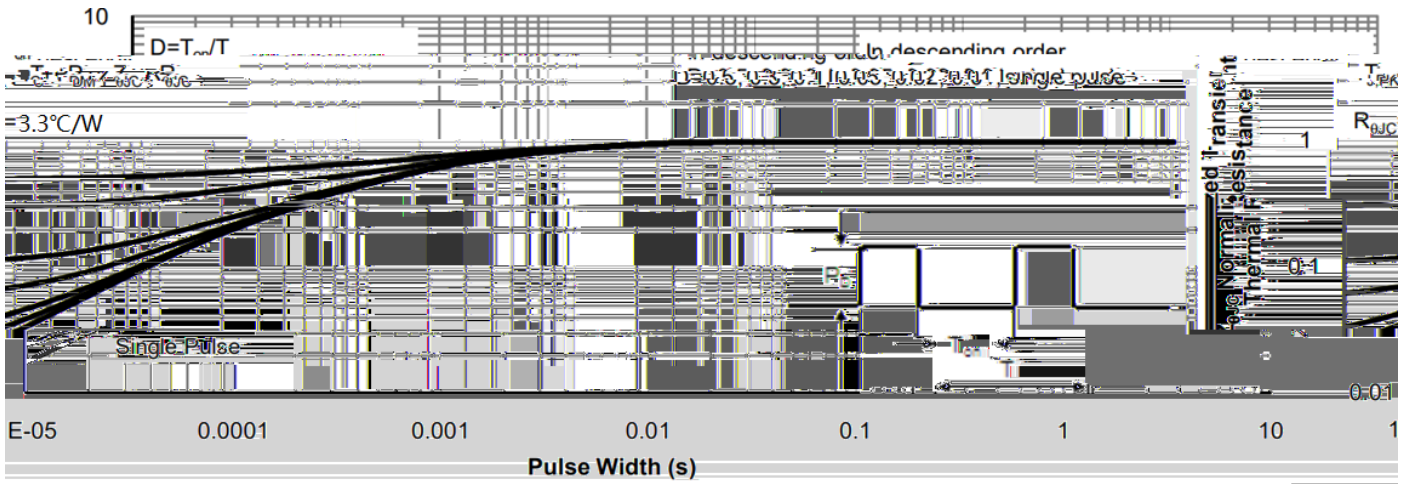
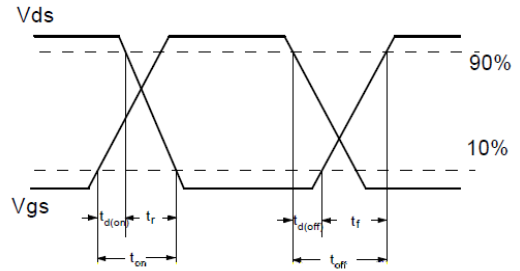
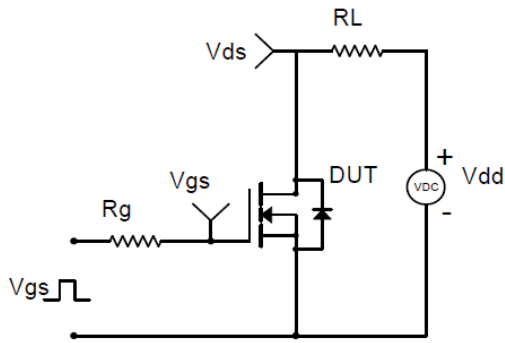
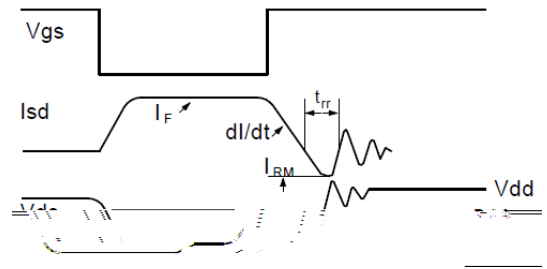
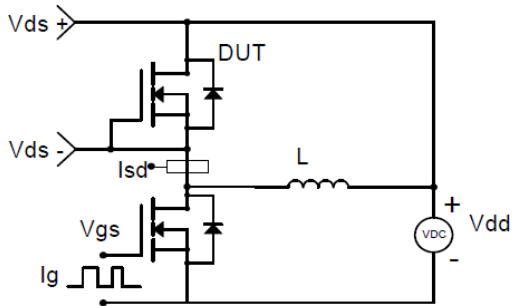


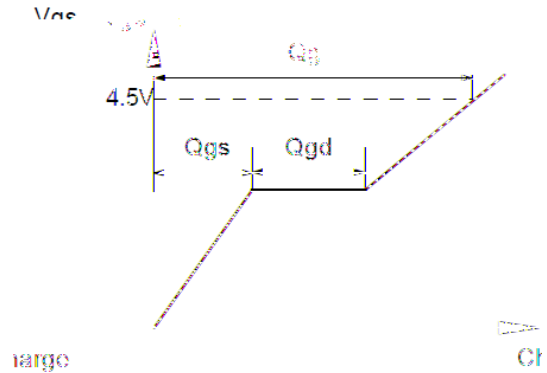
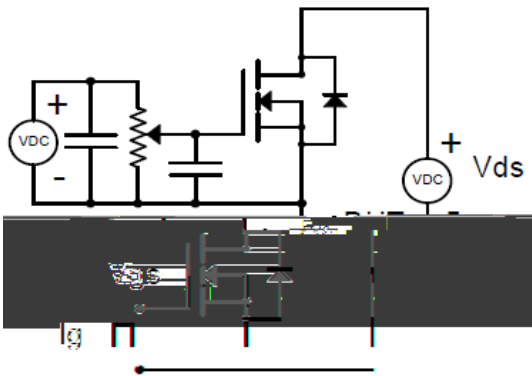
Figure 13. Normalized Maximum Transient Thermal Impedance



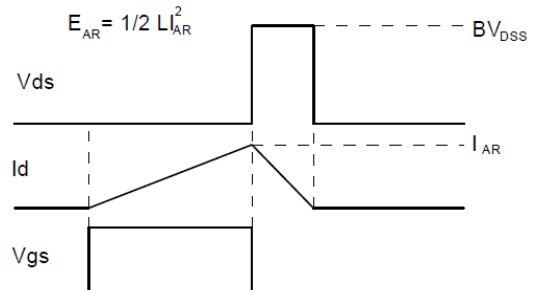
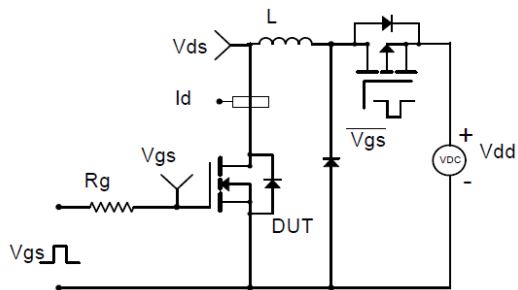
**Resistive Switching Test Circuit & Waveforms**



**Diode Recovery Test Circuit & Waveforms**



**Gate Charge Test Circuit & Waveform**



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



TO-252-B Package information

TOP VIEW

SIDE VIEW

BOTTOM VIEW

SYMBOL	DIMENSIONS				
	INCHES				
	MIN.	NDM.			
A1	0.000				
A2	0.087	0.091			
A3	0.	0.039			
b	0.026	0.030			
C					
D					
D1					
D2					
E					
E1					



## YJD80N03B

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