



YJD65G10B

N-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	100V
I_D	65A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	9.5mohm
100% EAS Tested	
100% V_{DS} Tested	

General Description

Low $R_{DS(on)}$ & FOM
 Extremely low switching loss
 Excellent stability and uniformity
 Fast switching and soft recovery

-0 Flammability Rating

alogen Free

Applications

Consumer electronic power supply
 Motor control
 Synchronous-rectification
 Isolated DC/DC convertor
 Invertors

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

Parameter	Symbol	Limit	Unit	
Drain-source Voltage	V_{DS}	100	V	
Gate-source Voltage	V_{GS}	20	V	
Drain Current	I_D	$T_A=25$	11	A
		$T_A=100$	7	
		$T_C=25$	65	
		$T_C=100$	41	
Pulsed Drain Current ^A	I_{DM}	260	A	
Avalanche energy ^B	EAS	182	mJ	
Total Power Dissipation ^C	P_D	$T_A=25$	2.2	W
		$T_A=100$	0.9	
		$T_C=25$	96	
		$T_C=100$	38.4	
Junction and Storage Temperature Range	T_J, T_{STG}	-55 +150		

Thermal resistance

Parameter	Symbol	Typ	Max	Units
-----------	--------	-----	-----	-------



YJD65G10B

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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100, V_{GS}=0V$			1	
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=20V, V_{DS}=0V$			100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250$	2.0	2.8	4.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=20A$		8.0	9.5	m
Diode Forward Voltage	V_{SD}	$I_S=20A, V_{GS}=0V$			1.3	V
Maximum Body-Diode Continuous Current	I_S				65	A
Gate resistance	R_G	$f=1\text{ MHz}$		0.68		
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1\text{ MHz}$		2431		pF
Output Capacitance	C_{oss}			715		
Reverse Transfer Capacitance	C_{rss}			32		
Switching Parameters						
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=50V, I_D=25A$		32		nC
Gate-Source Charge	Q_{gs}			11.1		
Gate-Drain Charge	Q_{gd}			4.78		

Reverse Recovery Charge



YJD65G10B

Typical Performance Characteristics

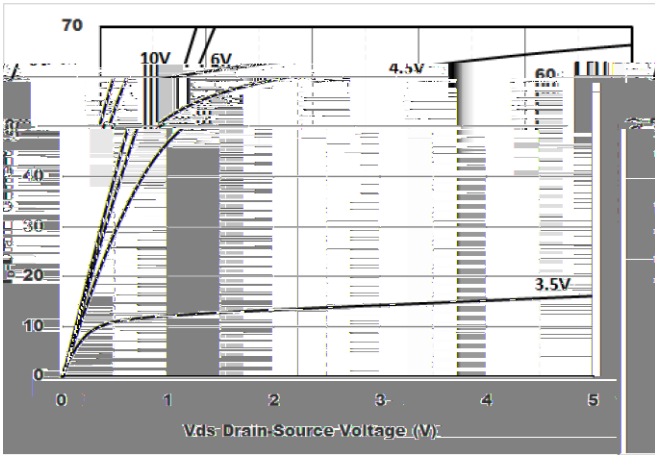


Figure1. Output Characteristics

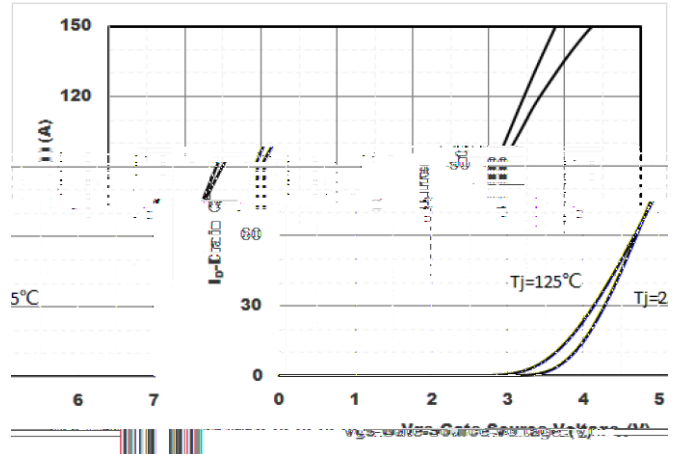


Figure2. Transfer Characteristics

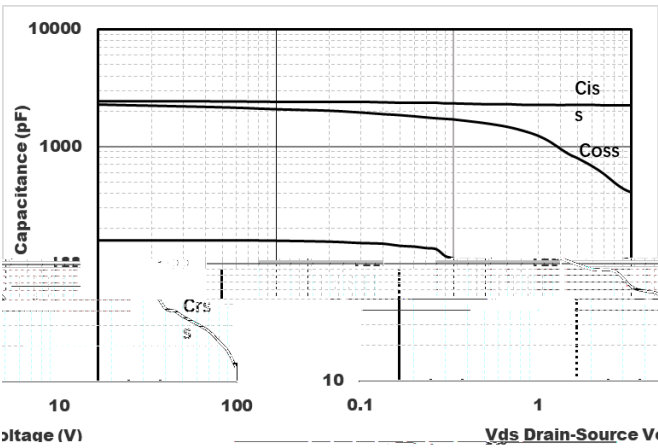


Figure3. Capacitance Characteristics

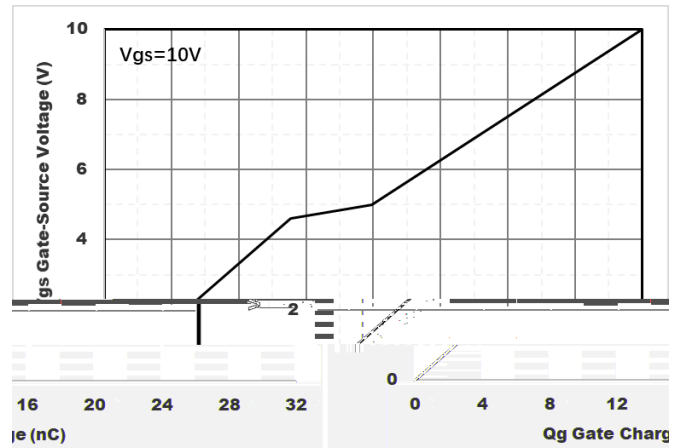


Figure4. Gate Charge

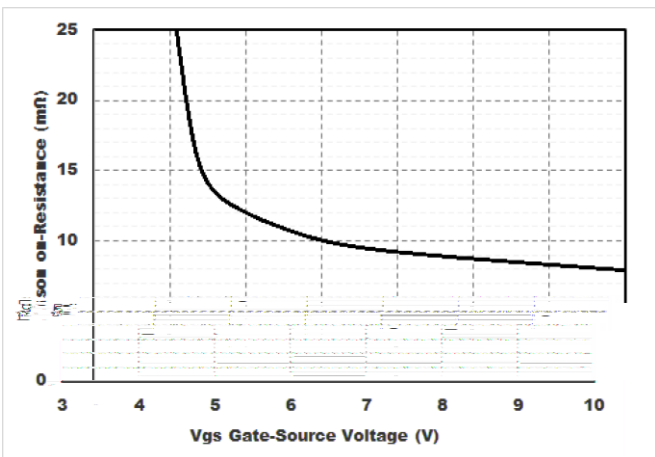


Figure5. : On-Resistance vs. Drain Current and Gate Voltage

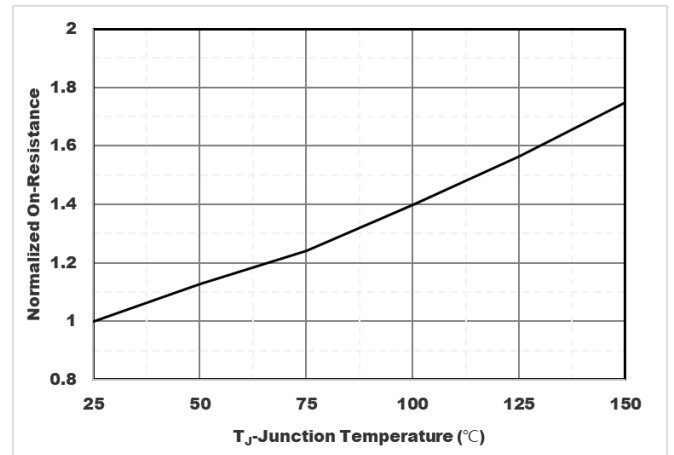


Figure6. Normalized On-Resistance



YJD65G10B

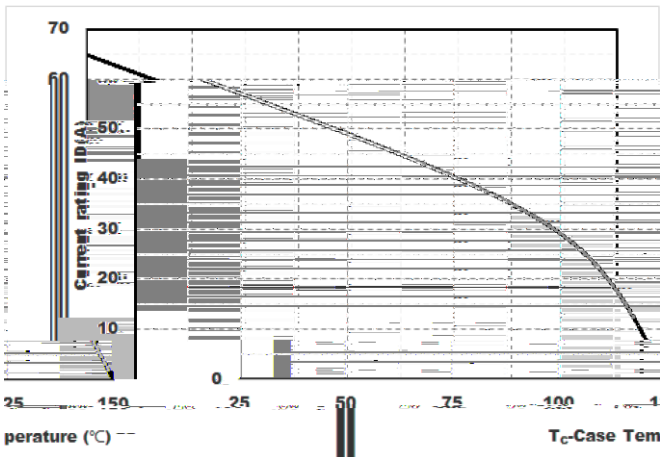


Figure7. Drain current

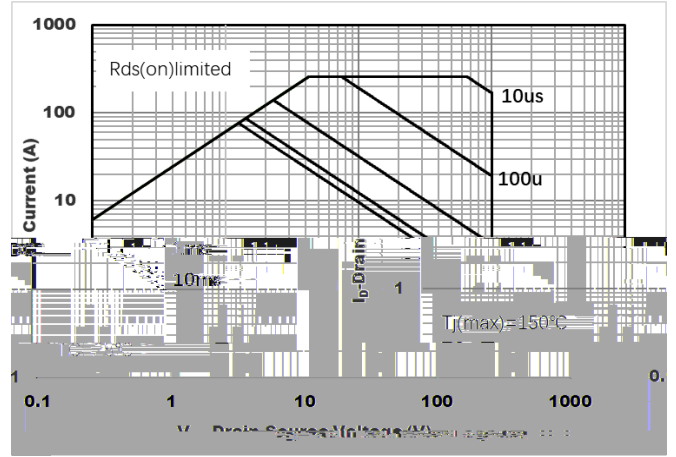


Figure8.Safe Operation Area

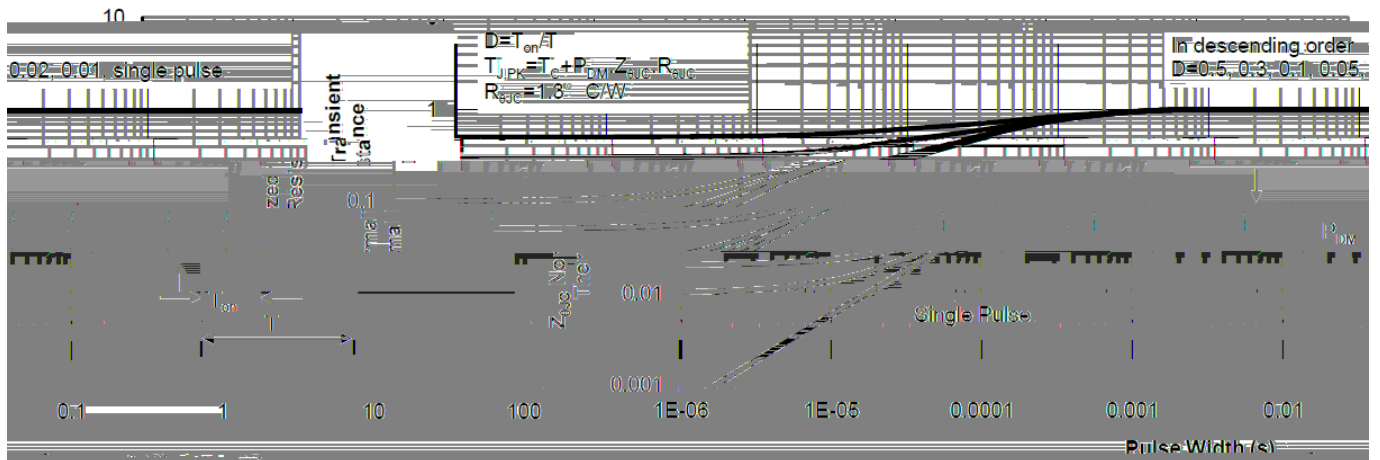


Figure9.Normalized Maximum Transient thermal impedance

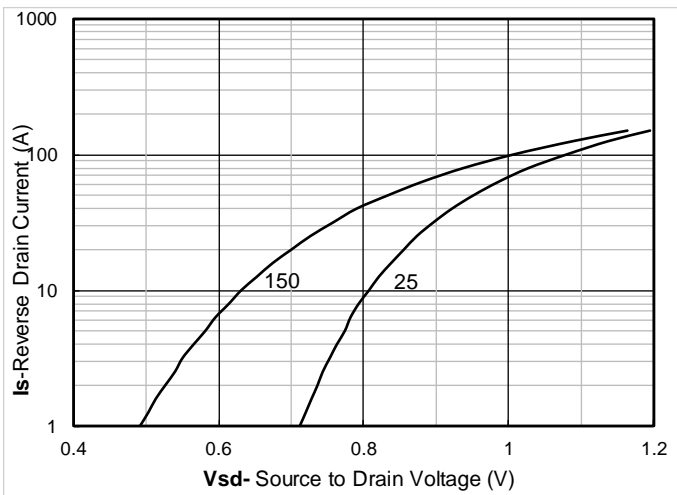
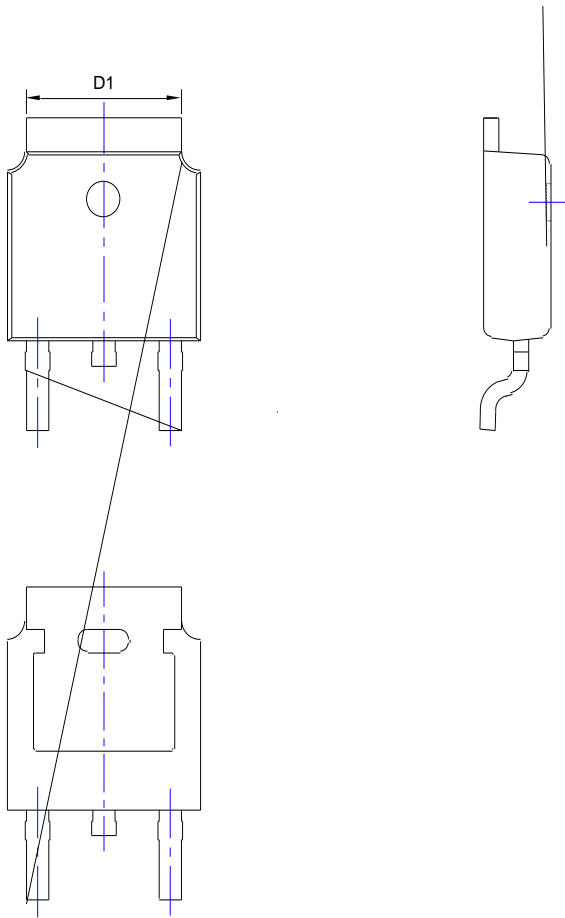


Figure 10. Forward characteristics of reverse diode



YJD65G10B

TO-252-B Package information



D1

DIMENSIONS				
SYMBOL	INCHES			
	MIN.	NOM.		
A1	0.000			
A2	0.087	0.091		
A3	0.035	0.039		
b	0.026	0.030		
c	0.018	0.020		
D	0.256	0.260		
D1				
D2	0.181	0.189		
E	0.390	0.398		
E1	0.236	0.240		

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.



YJD65G10B

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com)