




YJD13P06AJ

P-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	-60 V
I_D	-13 A
$R_{DS(ON)}$ (at $V_{GS}=-10V$)	110 m
$R_{DS(ON)}$ (at $V_{GS}=-4.5V$)	135 m
100% EAS Tested	
100% V_{DS} Tested	

General Description

Trench Power LV MOSFET technology
 Excellent package for heat dissipation
 High density cell design for low $R_{DS(ON)}$
 Moisture Sensitivity Level 1
 $UL 94 V-0$ Flammability Rating
 Halogen Free

Applications

Power switching application
 Uninterruptible power supply
 DC-DC convertor

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

Parameter	Symbol	Limit	Unit
Gate-source Voltage	V_{GS}	± 20	V
	$T_A=25^\circ C$	-3	
Drain Current	$T_A=100^\circ C$	-2.1	A
	$T_C=25^\circ C$	-13	
	$T_C=100^\circ C$	-8.2	
Pulsed Drain Current ^A	I_{DM}	-30	A
Avalanche energy ^B	EAS	25	mJ
		$T_A=25^\circ C$	
Total Power Dissipation ^C	P_D	1.25	W
		$T_A=100^\circ C$	



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

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=- & \geq$	-60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$	-	-	-1	μ
		$V_{DS}=-60V, V_{GS}=0V, T_J=175^\circ C$	-	-	-100	
Gate-Body Leakage Current	I_{GSS}	$V_{GS}= \pm 20V, V_{DS}=0V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}= V_{GS}, I_D=- & \geq$	-1.2	-1.7	-2.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-13A$	-	85	110	
		$V_{GS}=-4.5V, I_D=-4A$	-	96	135	
Diode Forward Voltage	V_{SD}	I				



Typical Electrical and Thermal Characteristics Diagrams

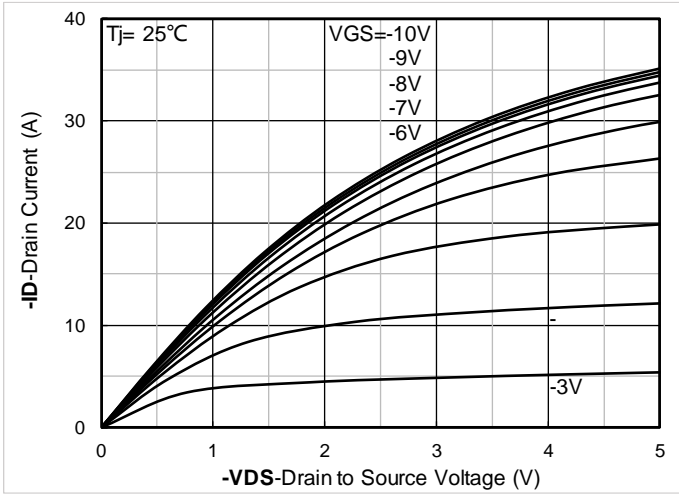


Figure 1. Output Characteristics

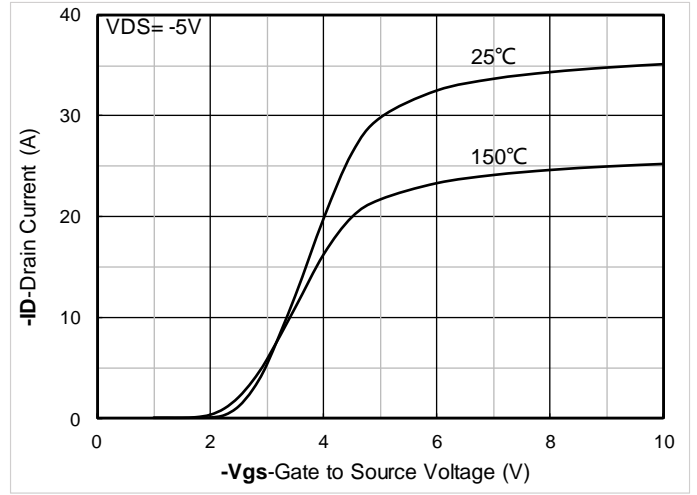


Figure 2. Transfer Characteristics

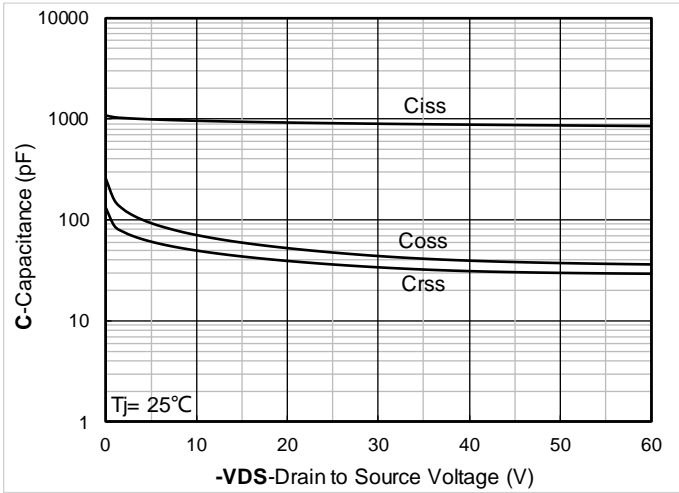


Figure 3. Capacitance Characteristics

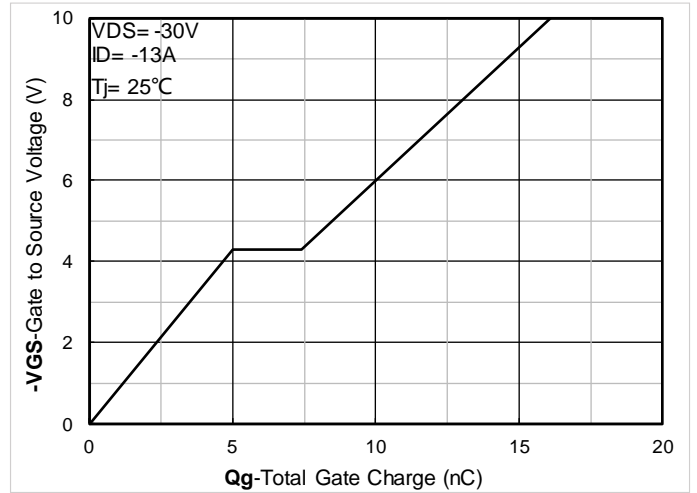


Figure 4. Gate Charge

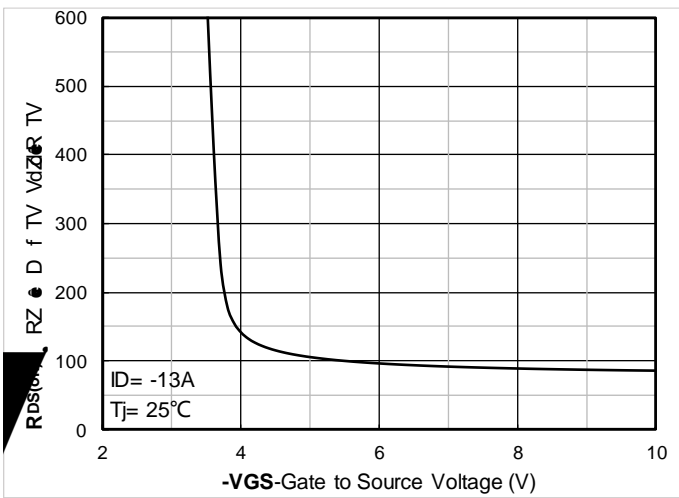


Figure 5. On-Resistance vs Gate to Source Voltage

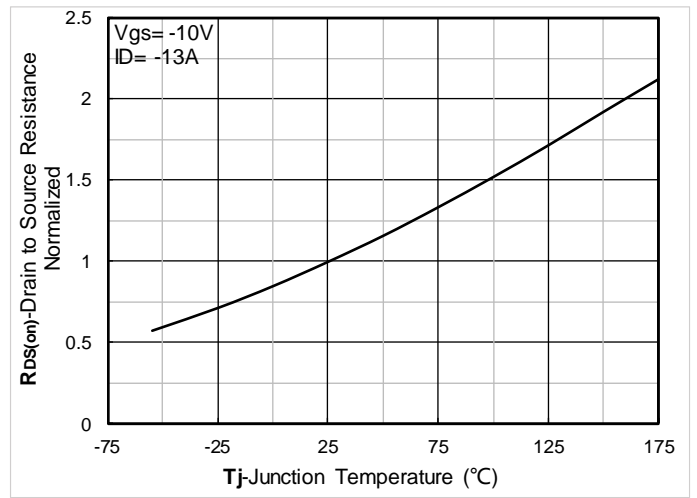


Figure 6. Normalized On-Resistance

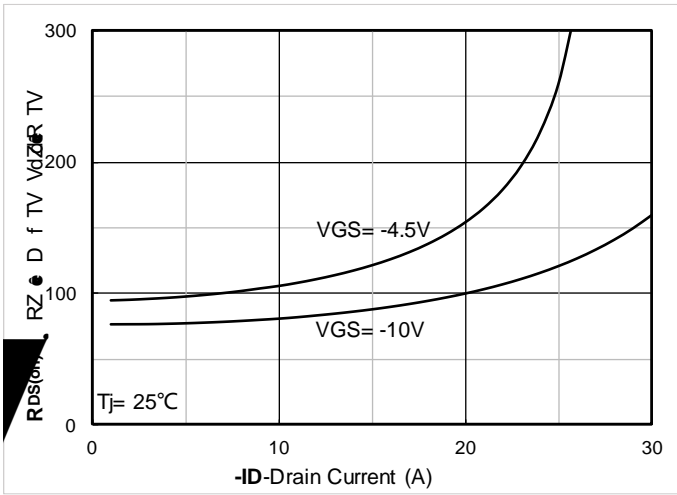


Figure 7. RDS(on) VS Drain Current

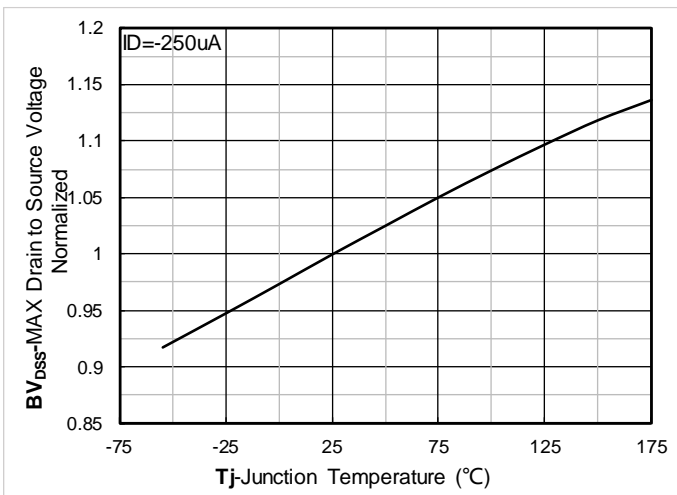


Figure 9. Normalized breakdown voltage

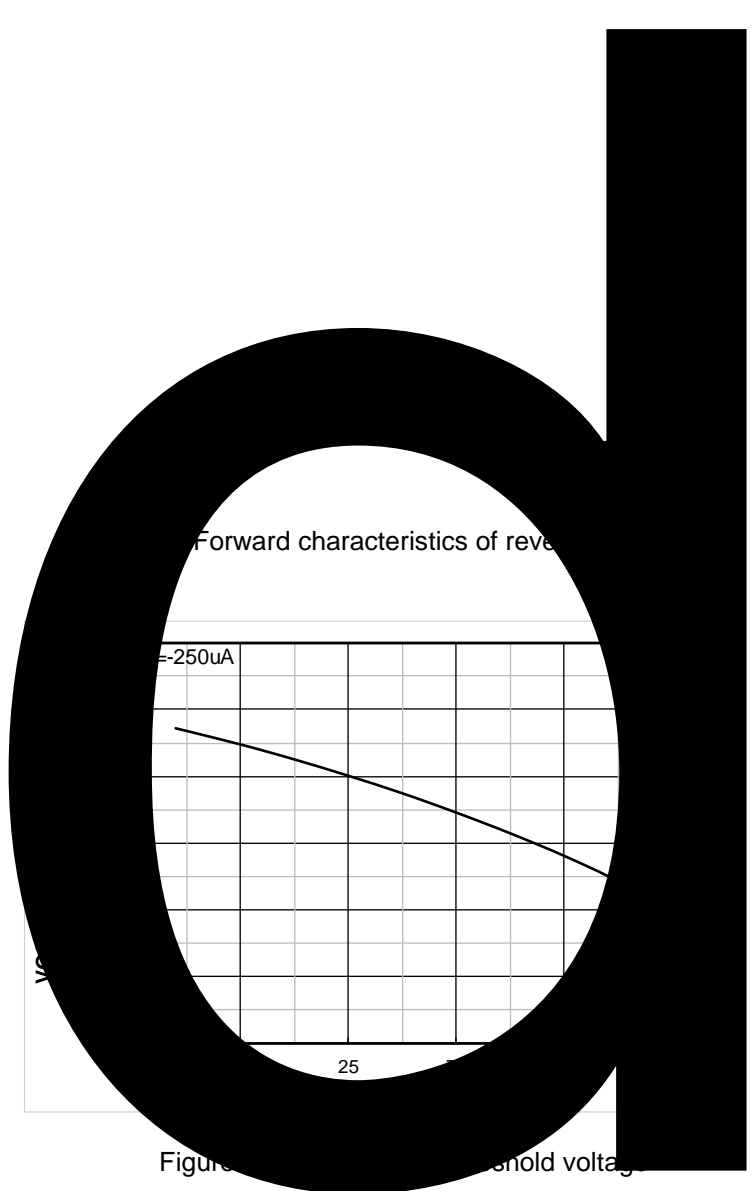
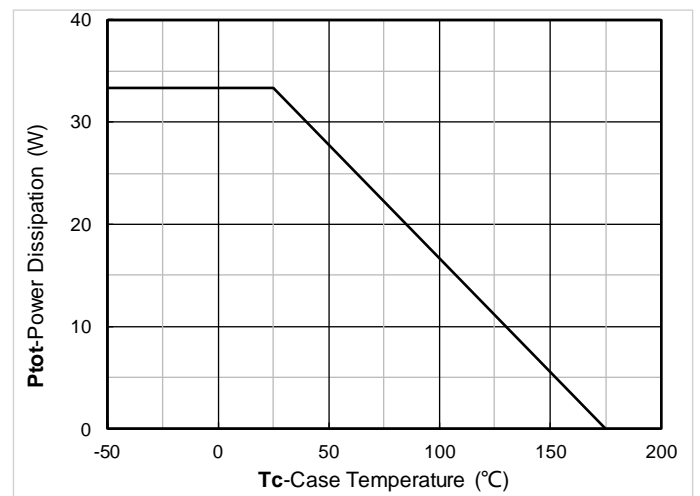
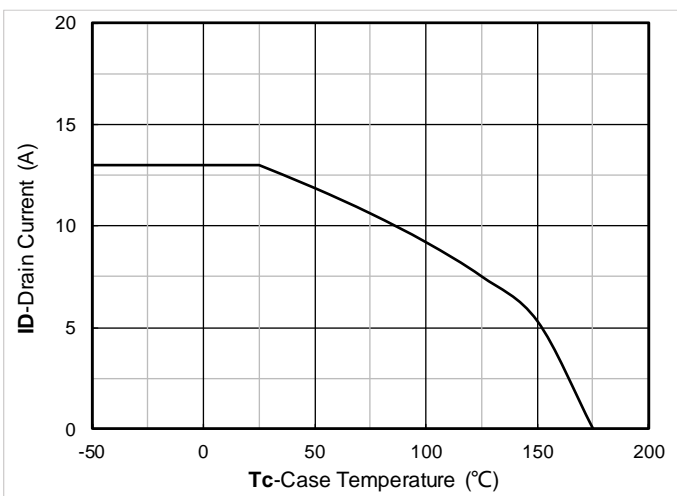


Figure 8. Forward characteristics of reverse threshold voltage

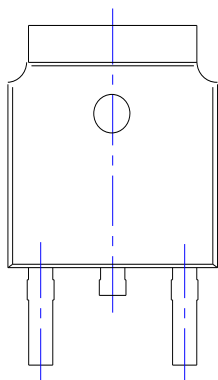






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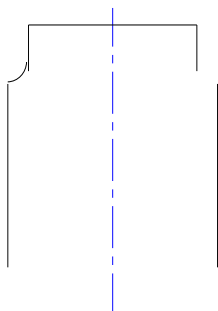
TO-252-B Package information



TOP VIEW



SIDE VIEW



BOTTOM VIEW

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS				
	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.



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