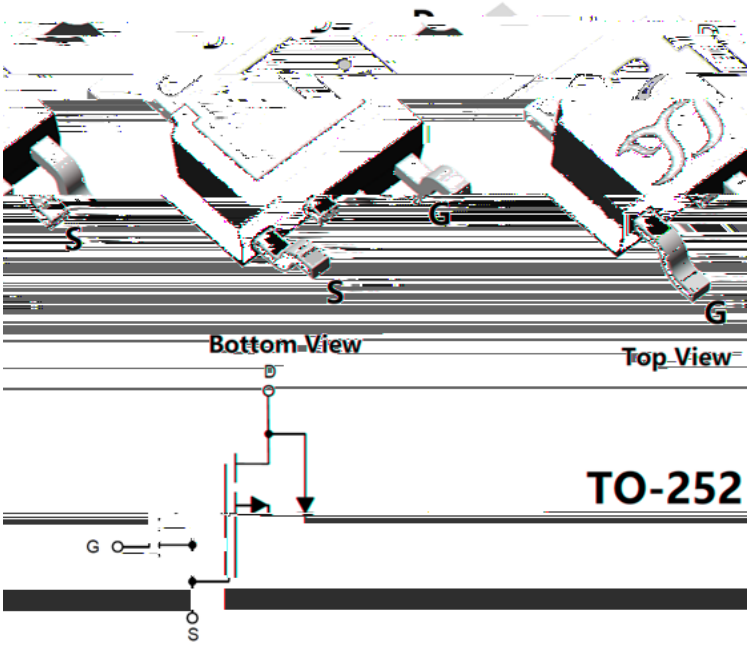
P-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	-30 V
I_D	-70 A
$R_{DS(ON)}$(at V_{GS}=-20V)	5.3m
$R_{DS(ON)}$(at V_{GS}=-10V)	6m
$R_{DS(ON)}$(at V_{GS}=-6V)	7.5m
$R_{DS(ON)}$(at V_{GS}=-4.5V)	10m

100% EAS Tested

100% V_{DS} Tested

General Description

Trench Power LV MOSFET technology
High density cell design for Low RDS(ON)
High Speed switching
Moisture Sensitivity Level 1
Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free

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}	-30	V
Gate-source Voltage		V_{GS}	±25	V
Drain Current	T_A=25℃	I_D	-16	A
	T_A=100℃		-10	
	T_C=25℃		-70	
	T_C =100℃		-44	
Pulsed Drain Current [A]		I_{DM}	-280	A
Avalanche energy [B]		EAS	232	mJ
Total Power Dissipation [C]	T_A=25℃	P_D	2.5	W
	T_A=100℃		1	
	T_C=25℃		83	
	T_C =100℃		33	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	℃

Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient [D]	Steady-State	R	40	50	℃/W
Thermal Resistance Junction-to-Case	Steady-State	R	1.2	1.5	

Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJD70P03B	F1/F2	YJD70P03B	2500	/	25000	

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=-	-30			

Typical Electrical and Thermal Characteristics Diagrams

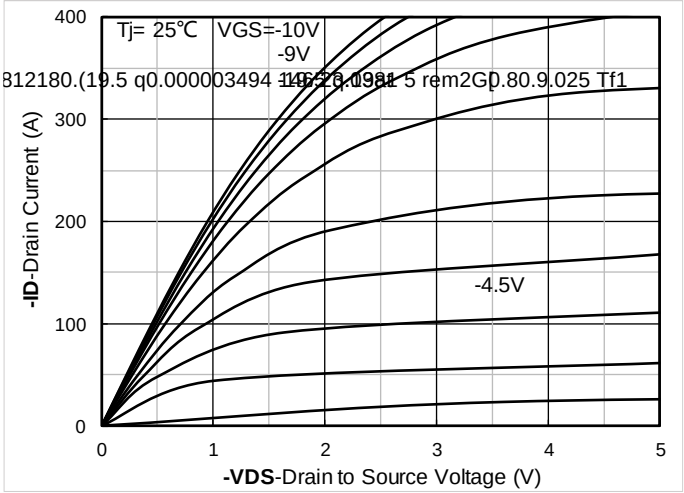


Figure 1. Output Characteristics

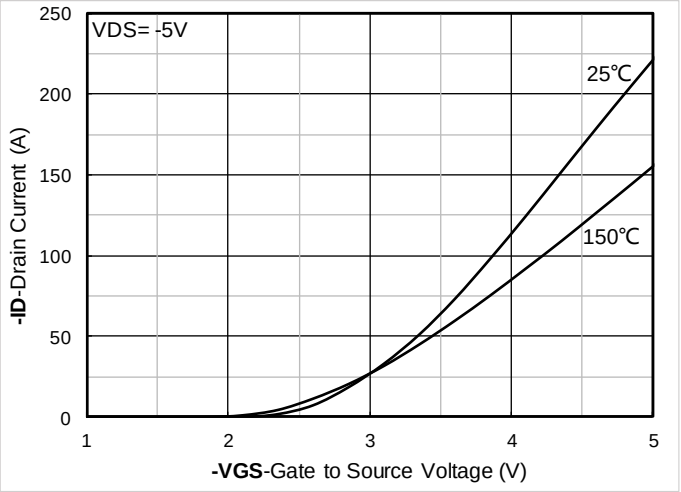


Figure 2. Transfer Characteristics

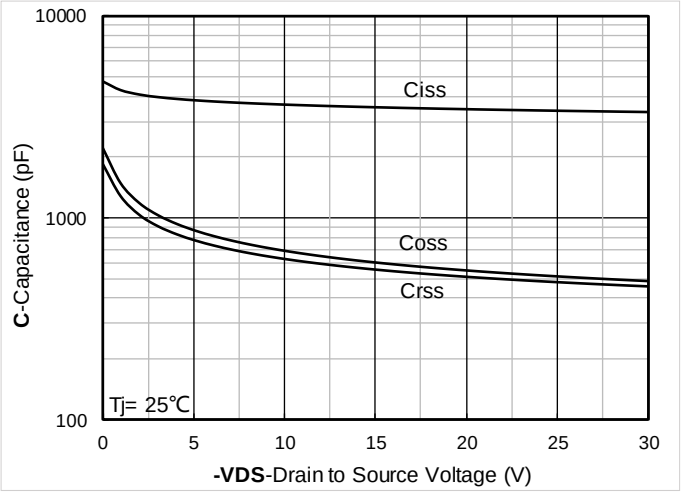


Figure 3. Capacitance Characteristics

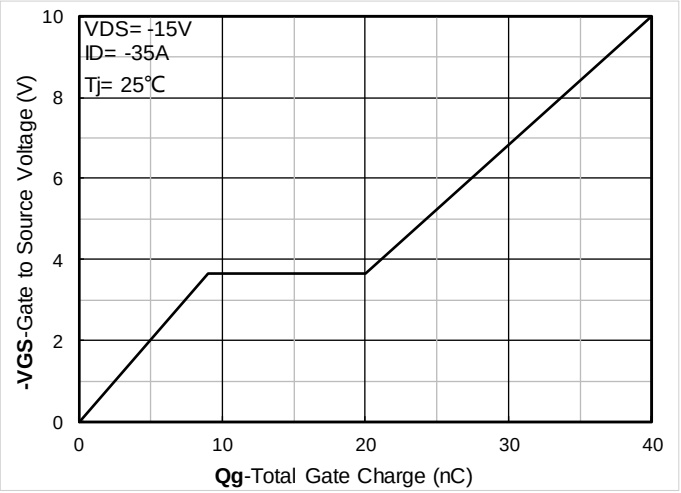


Figure 4. Gate Charge

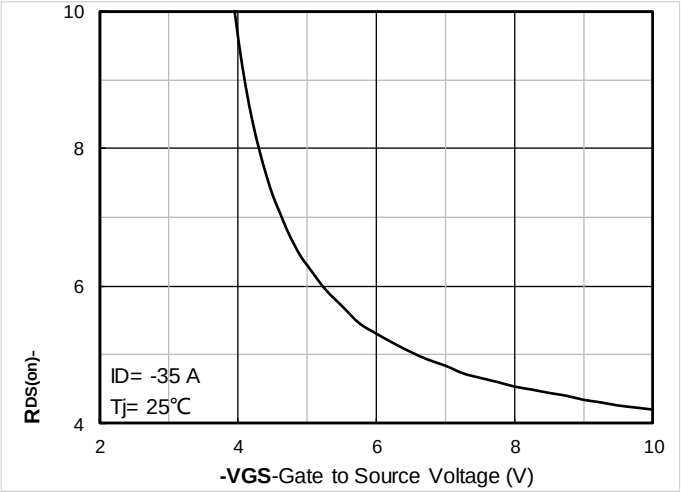


Figure 5. On-Resistance vs Gate to Source Voltage

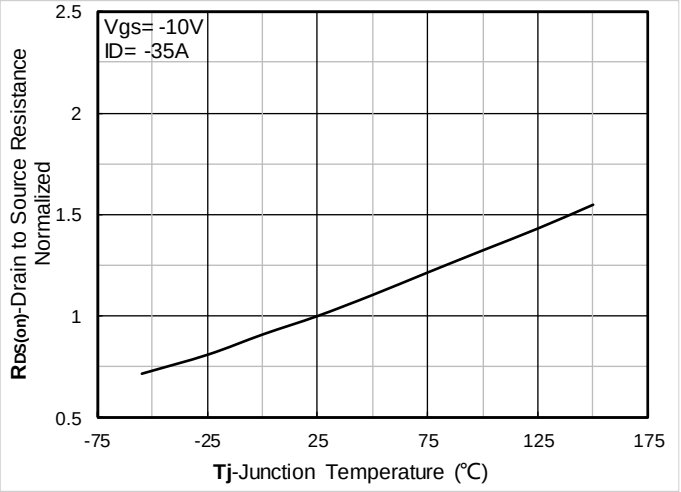


Figure 6. Normalized On-Resistance

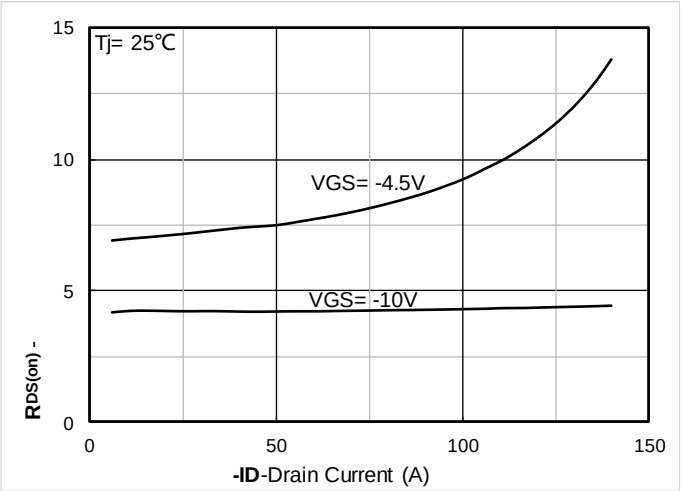


Figure 7. $R_{DS(on)}$ VS Drain Current

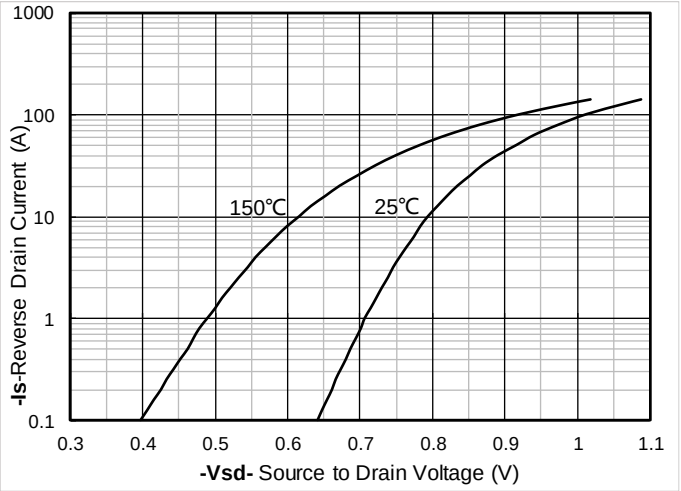


Figure 8. Forward characteristics of reverse diode

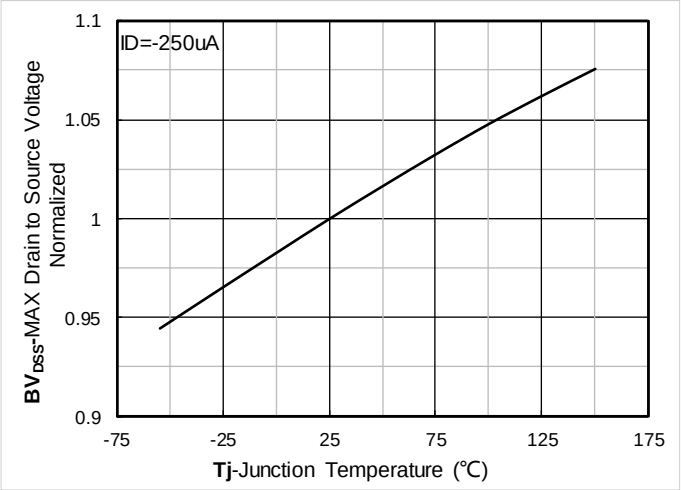


Figure 9. Normalized breakdown voltage

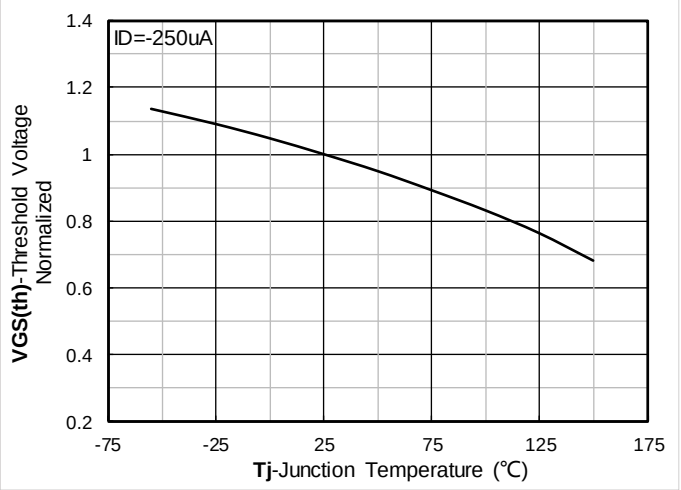


Figure 10. Normalized Threshold voltage

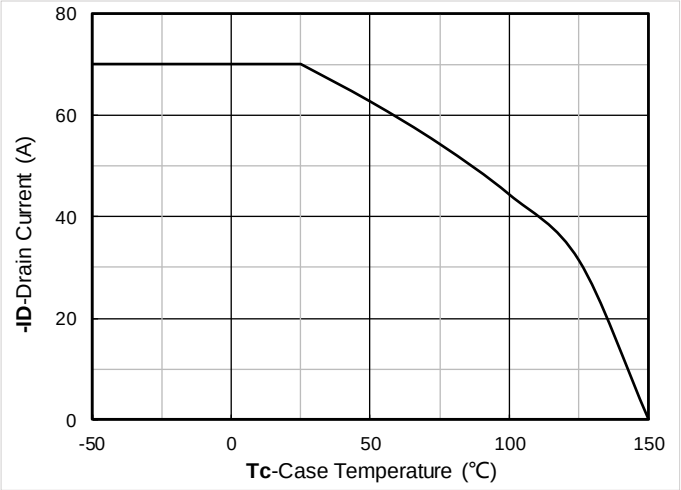


Figure 11. Current dissipation

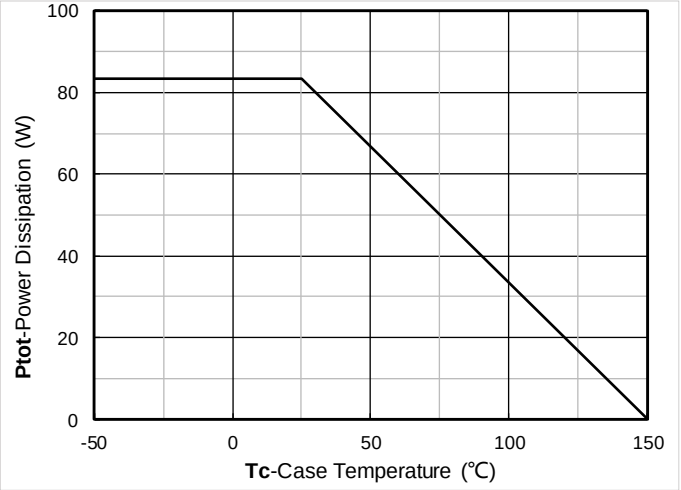


Figure 12. Power dissipation

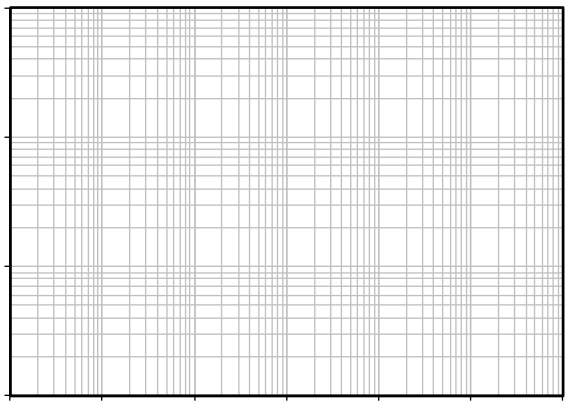


Figure 13. Maximum Transient Thermal Impedance

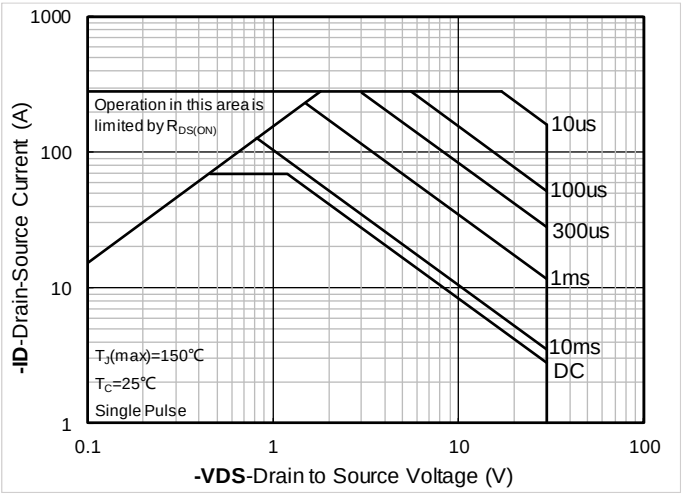
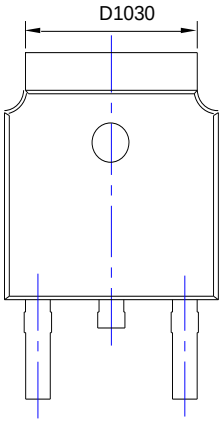
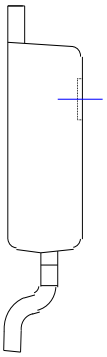


Figure 14. Safe Operation Area

TO-252-B Package information

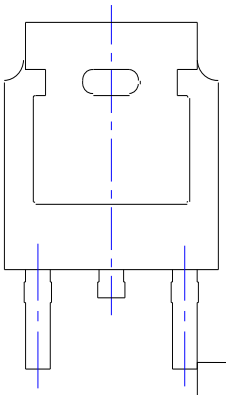


TOP VIEW



SIDE VIEW

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			



BOTTOM VIEW

SUGGESTED SOLDER PAD LAYOUT

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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