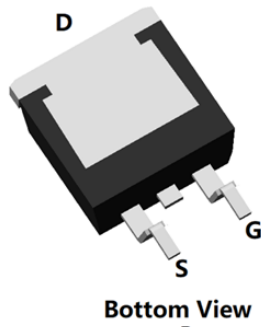
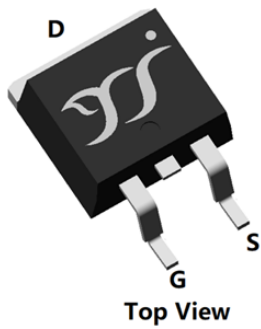
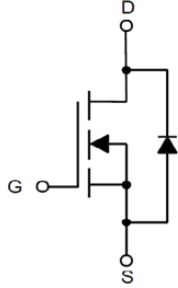


## N-Channel Enhancement Mode Field Effect Transistor



**TO-263**



### Product Summary

- $V_{DS}$  100V
- $I_D$  70A
- $R_{DS(ON)}$  (at  $V_{GS}=10V$ ) < 8.6 mohm
- $R_{DS(ON)}$  (at  $V_{GS}=4.5V$ ) < 11 mohm
- 100% EAS Tested
- 100%  $\nabla V_{DS}$  Tested

### General Description

- Low  $R_{DS(on)}$  & FOM
- Extremely low switching loss
- Excellent stability and uniformity
- Fast switching and soft recovery
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

### Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

### ■ Absolute Maximum Ratings ( $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-source Voltage	$V_{DS}$	100	V
Gate-source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current	$I_D$	$T_C=25^\circ C$	70
		$T_C=100^\circ C$	44.2
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	280	A
Avalanche energy <sup>B</sup>	EAS	200	mJ
Total Power Dissipation <sup>C</sup>	$P_D$	$T_C=25^\circ C$	125
		$T_C=100^\circ C$	50
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~+150	$^\circ C$

### ■ Thermal resistance

Parameter	Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient <sup>D</sup>	$R_{\theta JA}$	$t \leq 10S$	12	$^\circ C/W$
Thermal Resistance Junction-to-Ambient <sup>D</sup>		Steady-State	50	
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	0.8	1.0	

### ■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJB70G10A	F2	YJB70G10A	800	/	8000	13" reel



■



## Typical Performance Characteristics

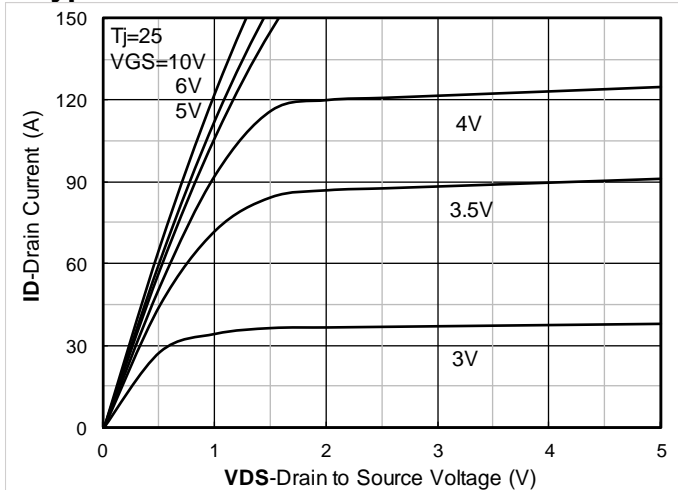


Figure1. Output Characteristics

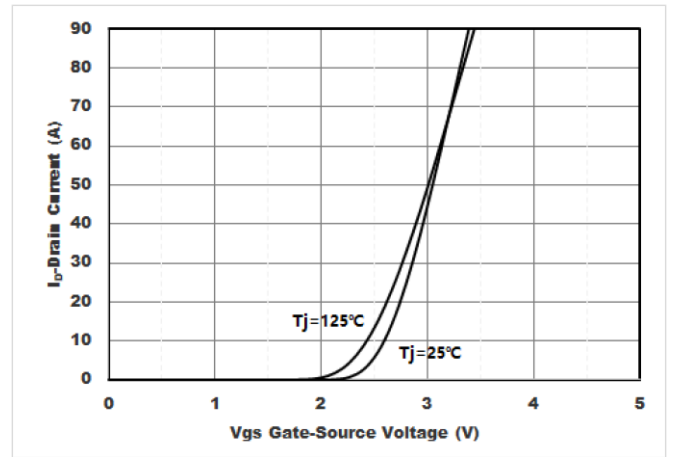


Figure2. Transfer Characteristics

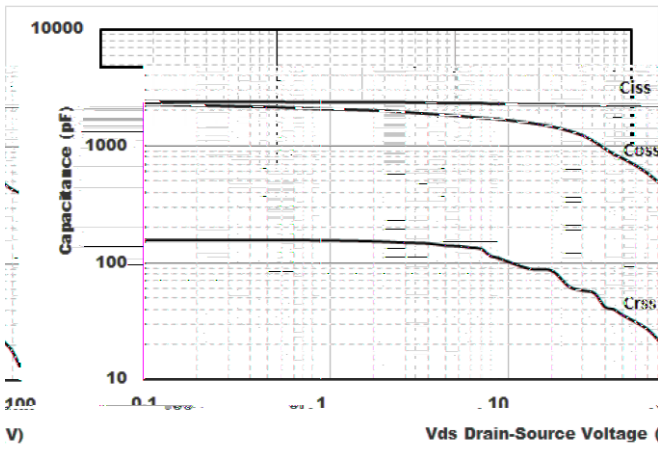


Figure3. Capacitance Characteristics

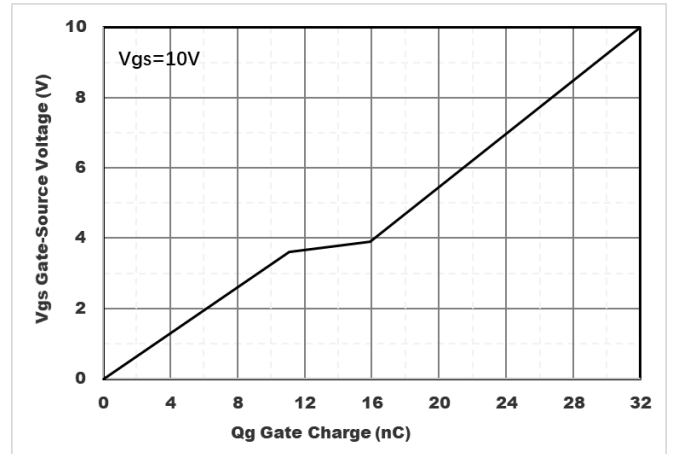


Figure4. Gate Charge

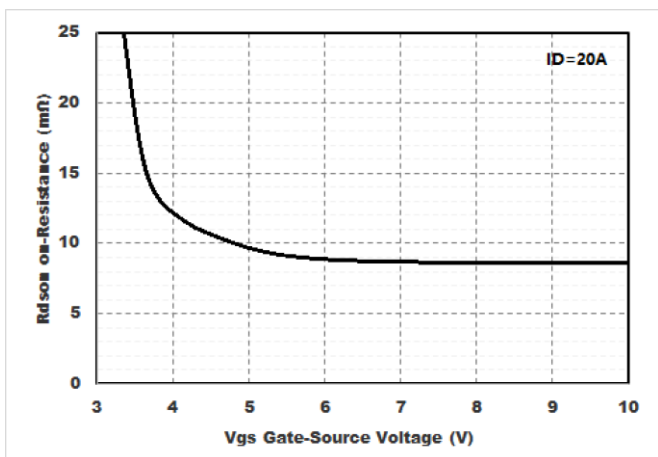


Figure5. : On-Resistance vs. Drain Current and Gate Voltage

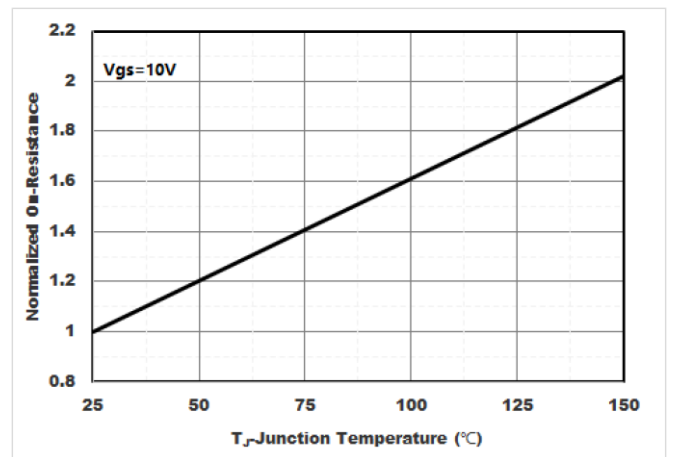


Figure6. Normalized On-Resistance



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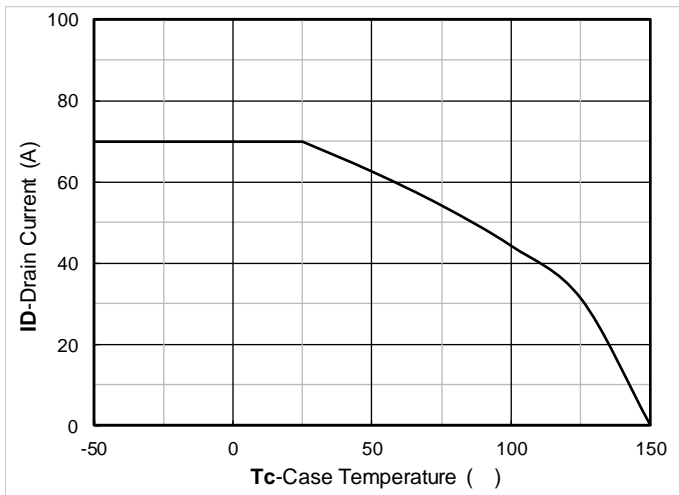


Figure7. Drain current

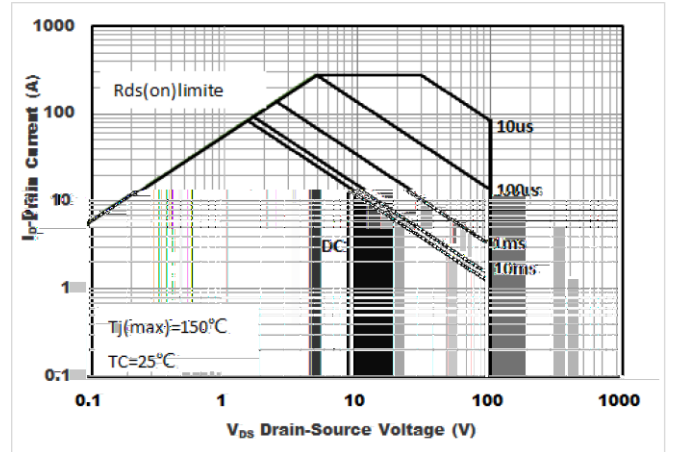


Figure8.Safe Operation Area

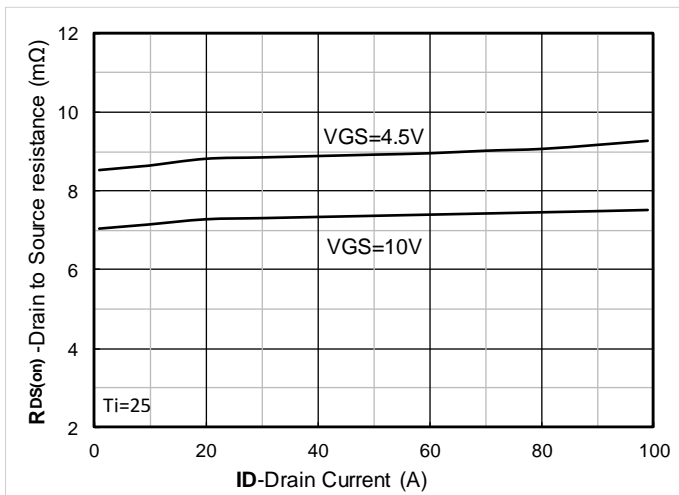


Figure 9. RDS(on) VS Drain Current

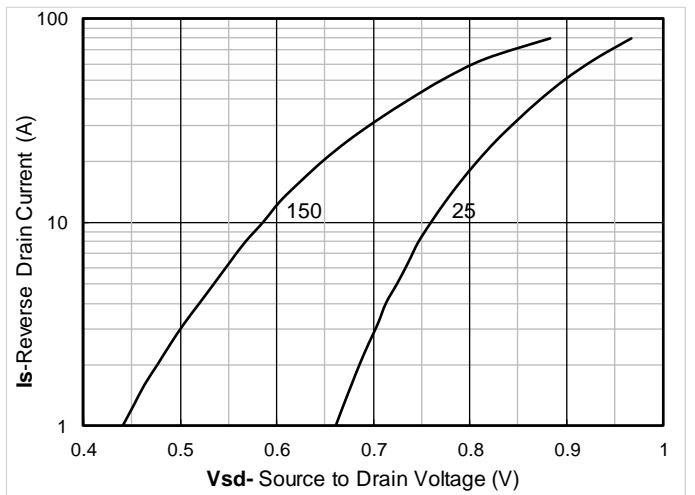


Figure 10. Forward characteristics of reverse diode

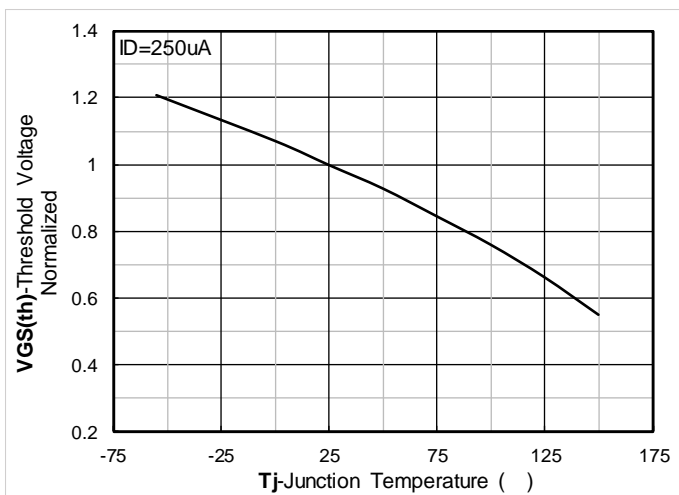


Figure 11. Normalized Threshold voltage

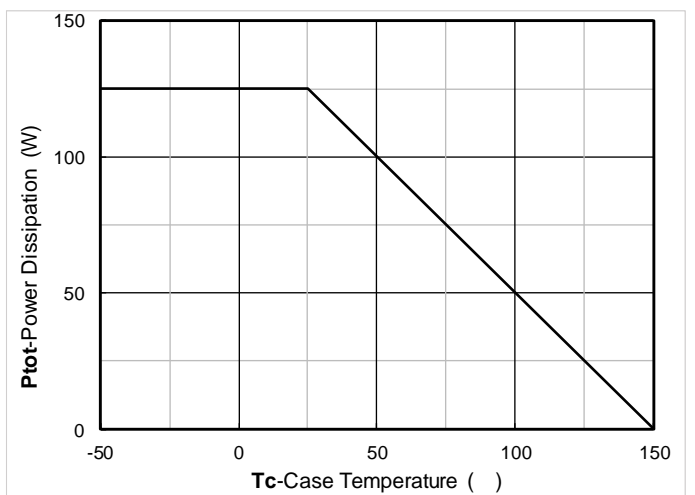


Figure 12. Power dissipation



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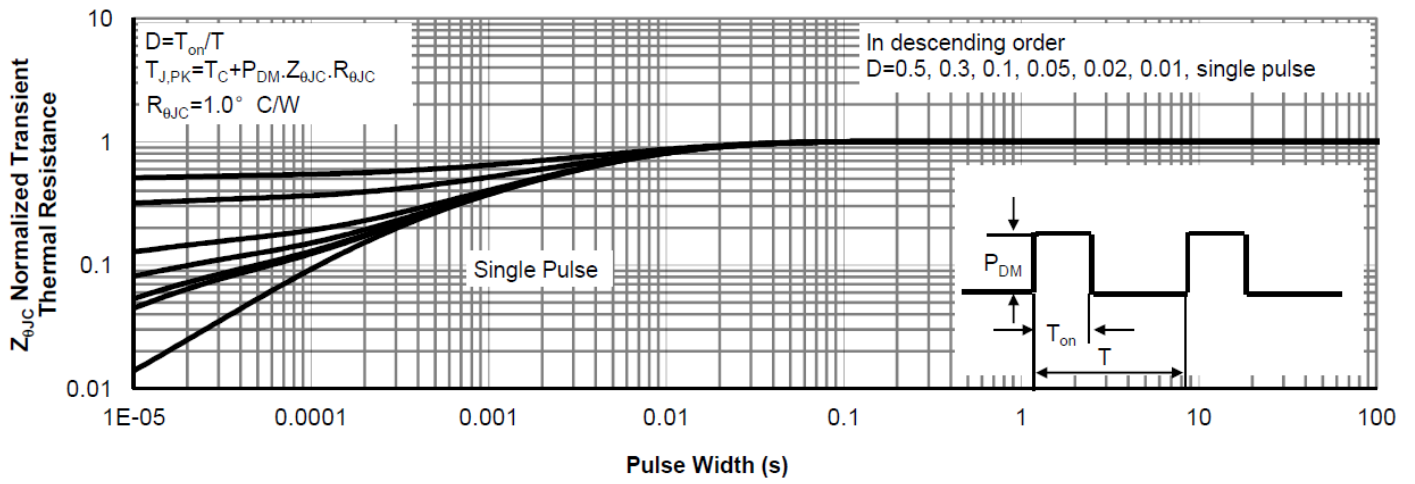
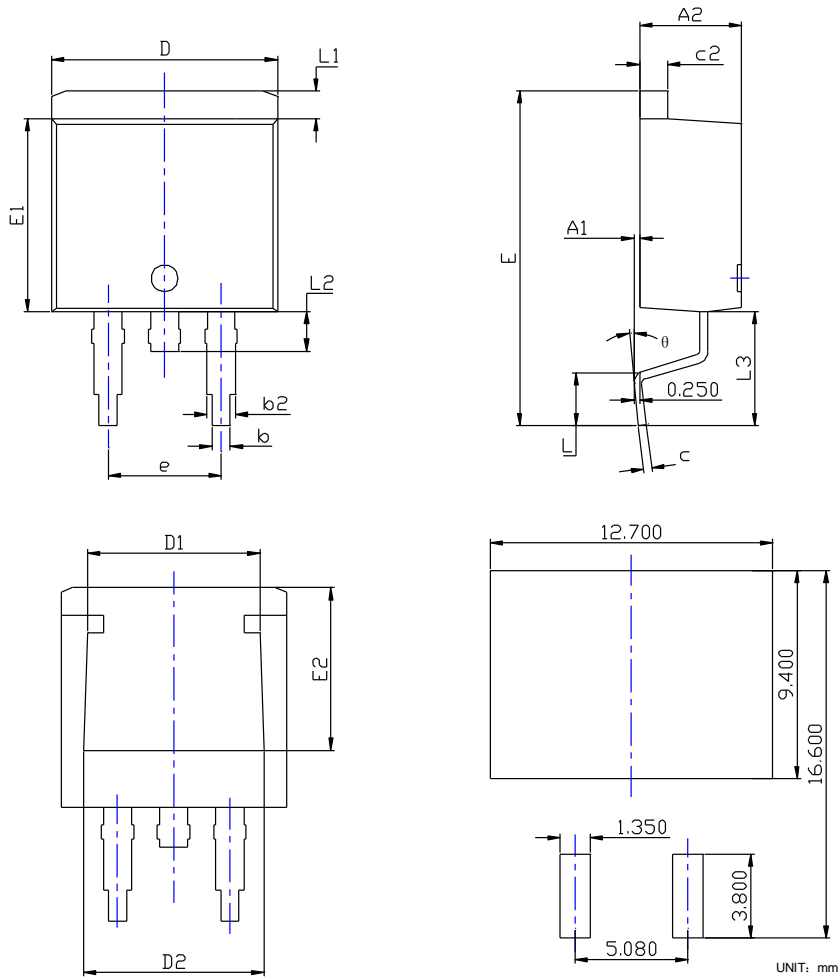


Figure 13. Normalized Maximum Transient thermal impedance



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## ■ TO-263-HY Package information



SYMBOL	DIMENSIONS					
	INCHES			Millimeter		
	MIN.	NDM.	MAX.	MIN.	NDM.	MAX.
A1	0.000	---	0.010	0.000	---	0.250
A2	0.174	0.180	0.186	4.430	4.580	4.730
b	0.028	0.032	0.036	0.720	0.820	0.920
b2	0.046	0.050	0.054	1.180	1.280	1.380
c	0.013	0.015	0.018	0.330	0.390	0.450
c2	0.048	0.050	0.053	1.220	1.280	1.340
D	0.394	0.400	0.406	10.000	10.150	10.300
D1	0.295	0.307	0.319	7.500	7.800	8.100
D2	0.303	0.315	0.327	7.700	8.000	8.300
E	0.571	0.591	0.610	14.500	15.000	15.500
E1	0.337	0.341	0.348	8.550	8.700	8.850
E2	0.276	0.287	0.299	7.000	7.300	7.600
e	0.200BSC			5.080BSC		
L	0.070	---	0.110	1.790	---	2.790
L1	0.044	---	0.056	1.120	---	1.420
L2	0.030	---	0.070	0.770	---	1.770
L3	0.197REF			5.000REF		
$\theta$	0°	---	8°	0°	---	8°

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.



## YJB70G10A

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