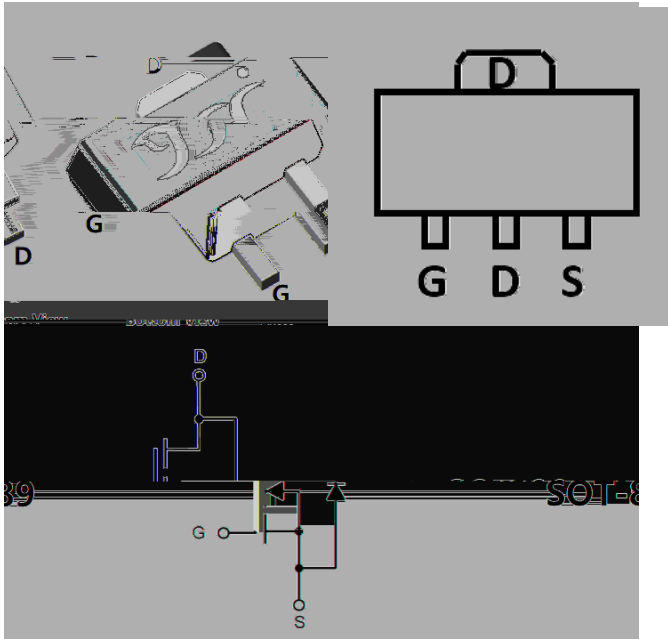


N-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	20 V
I_D	10 A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	11 mohm
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	15 mohm
$R_{DS(ON)}$ (at $V_{GS}=1.8V$)	20 mohm

General Description

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

Applications

DC-DC Converters
 Power management functions

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

Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	20	V
Gate-source Voltage	V_{GS}	± 10	V
Drain Current	I_D	$T_A=25$	10
		$T_A=70$	8
Pulsed Drain Current ^A	I_{DM}	43	A
Total Power Dissipation	P_D	$T_A=25$	1.5
		$T_C=25$	4.0
Thermal Resistance Junction-to-Ambient ^B	R_{JA}	83	/ W
Thermal Resistance Junction-to-Case	R_{JC}	31	/ W
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
YJH10N02A	F1	2010	1000	10000	40000	7" reel
	F2	2010	1000	8000	32000	7" reel



Typical Performance Characteristics

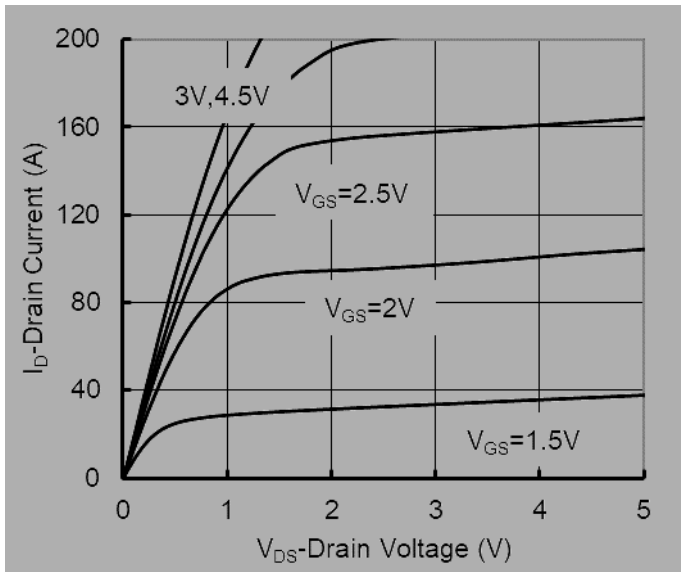


Figure1. Output Characteristics

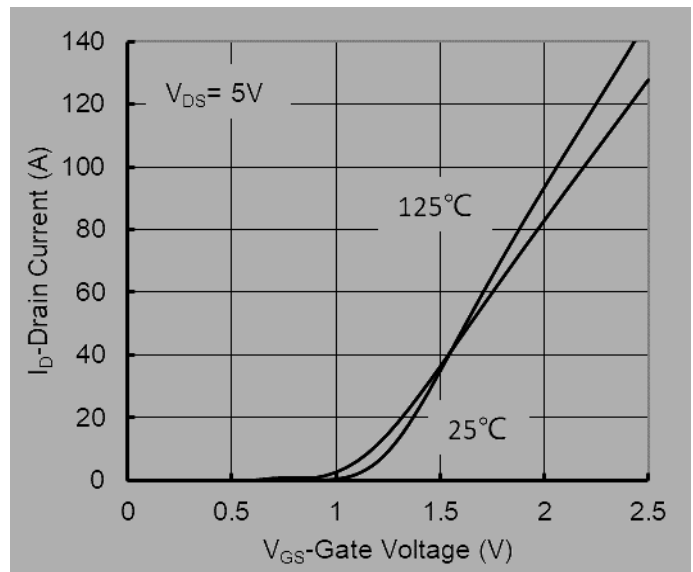


Figure2. Transfer Characteristics

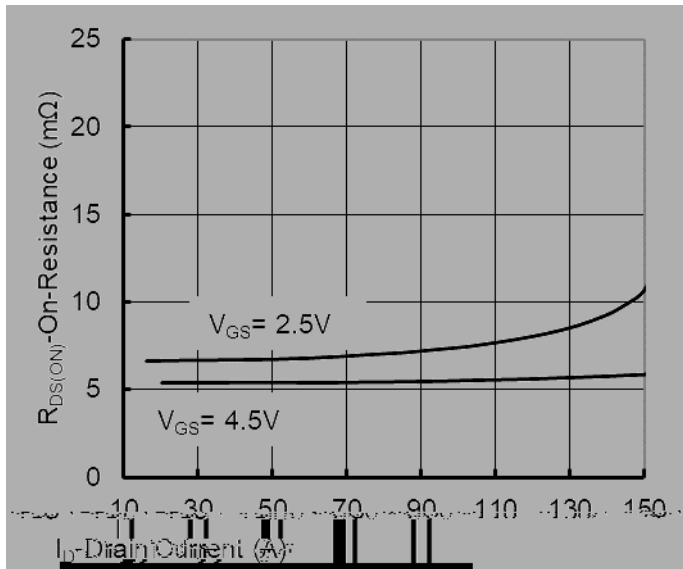


Figure3. On-Resistance vs. Drain Current

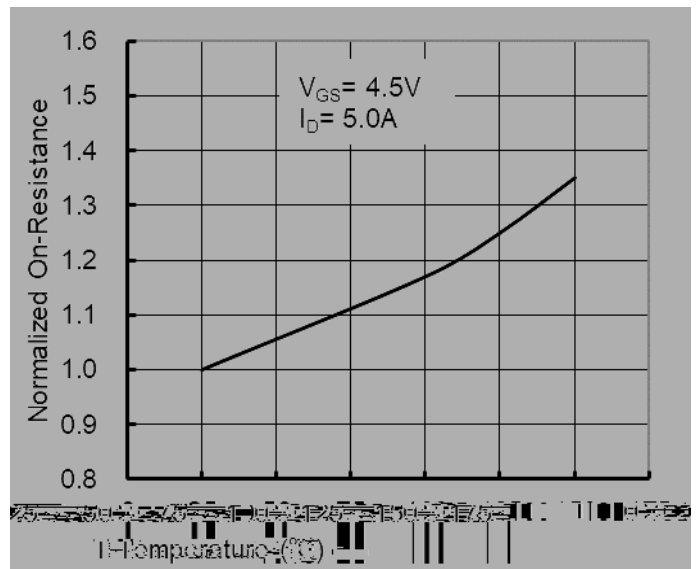


Figure4. On-Resistance vs. Junction Temperature

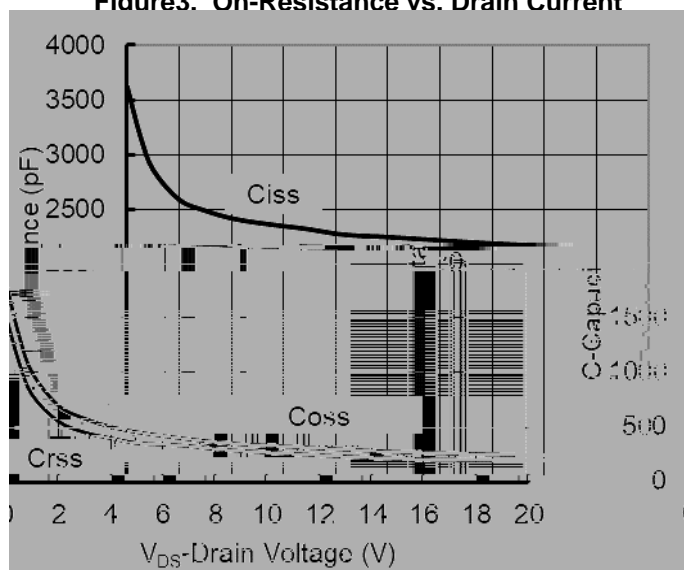


Figure5. Capacitance Characteristics

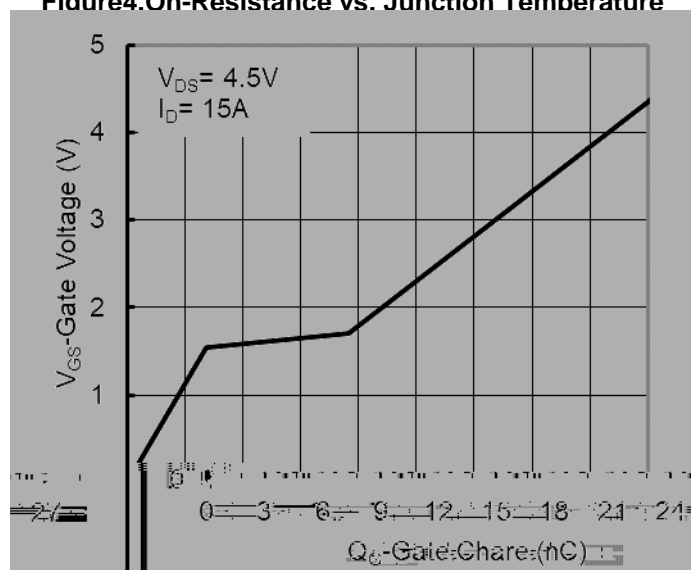


Figure6. Gate Charge



YJH10N02A

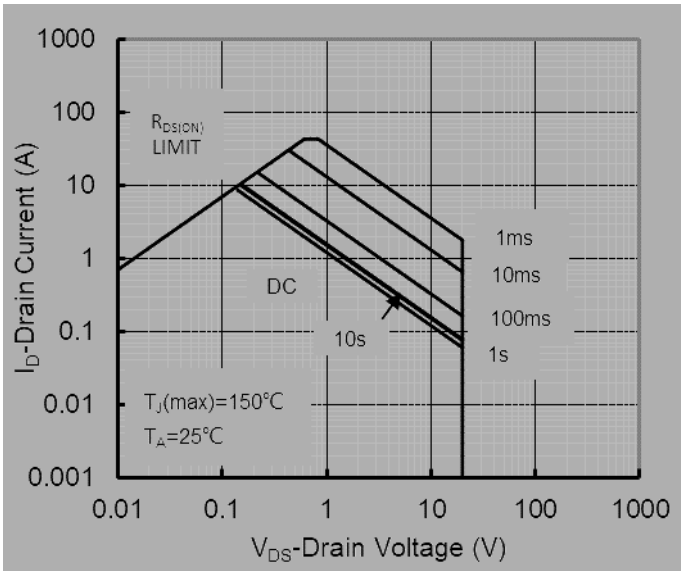


Figure7. Safe Operation Area

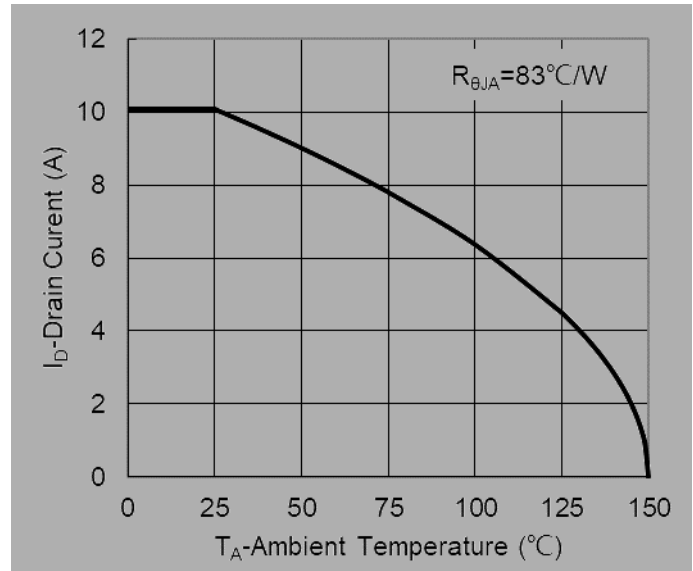


Figure8. Maximum Continuous Drain Current vs Ambient Temperature

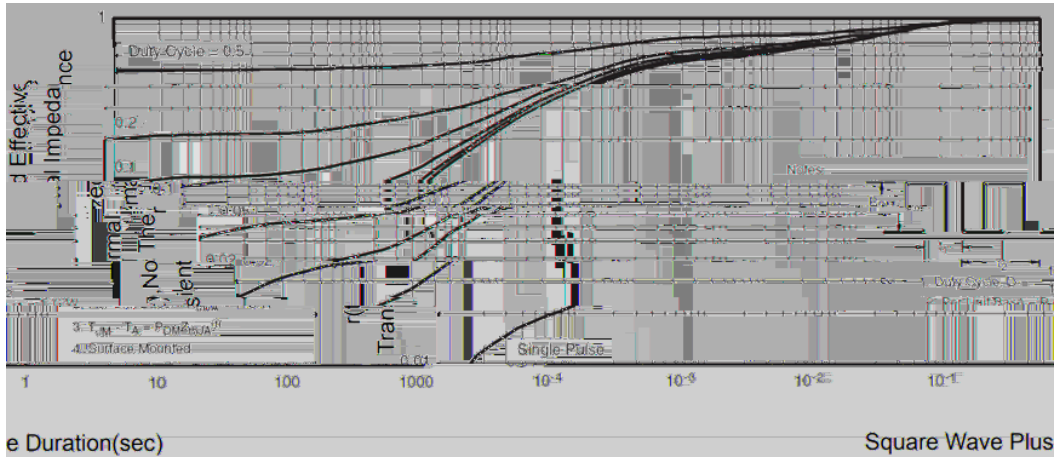
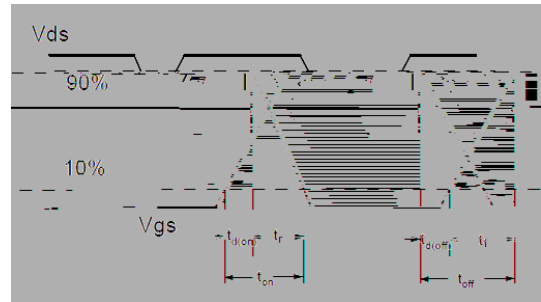
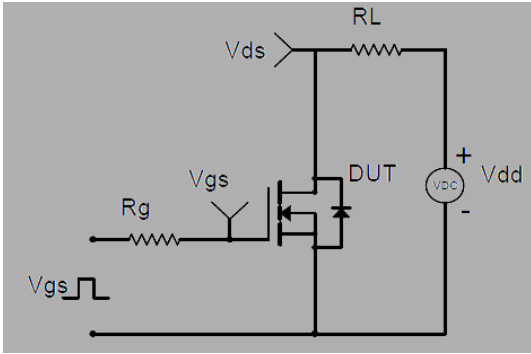
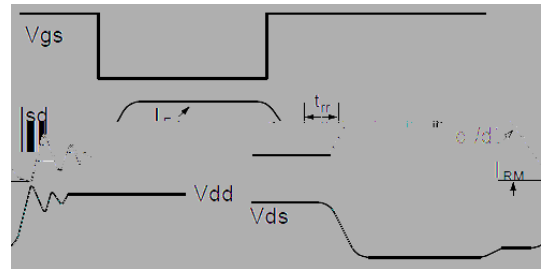
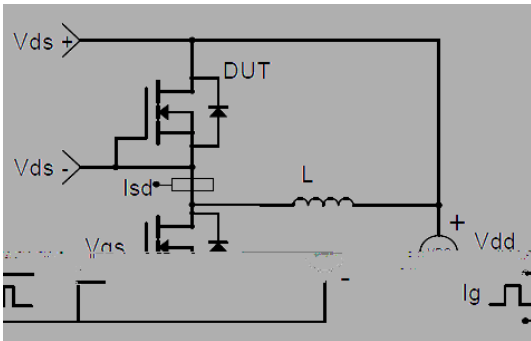


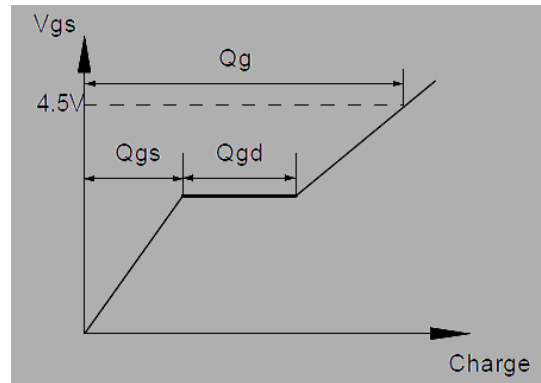
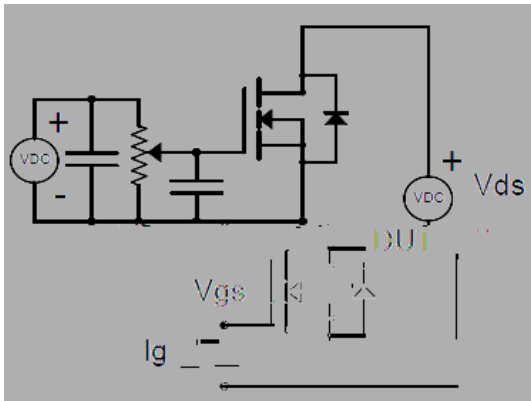
Figure9. Normalized Maximum Transient Thermal Impedance



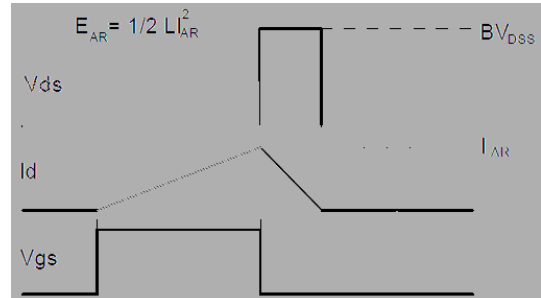
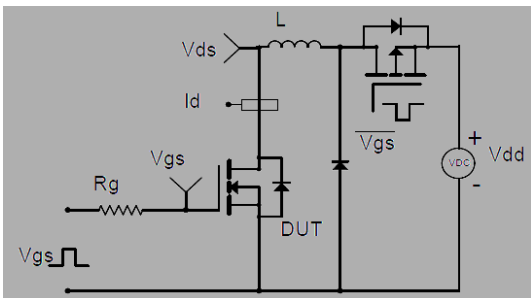
Resistive Switching Test Circuit & Waveforms



Diode Recovery Test Circuit & Waveforms



Gate Charge Test Circuit & Waveform



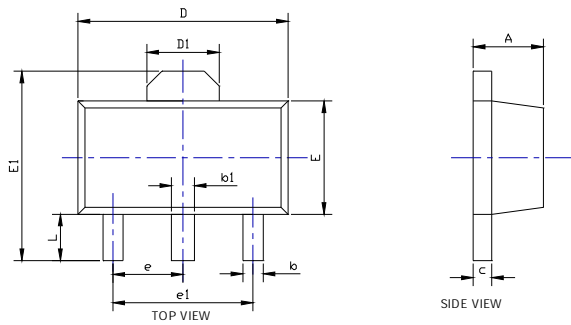
Unclamped Inductive Switching (UIS) Test Circuit & Waveforms



YJH10N02A

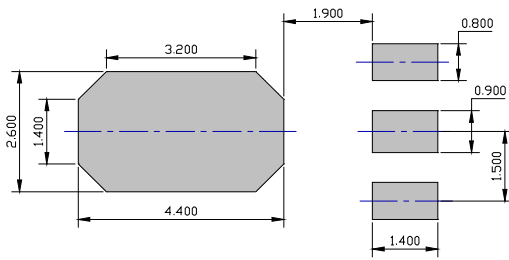
SOT-89 Package information

TYPE A(PACKING CODE:F1):



SYMBOL	DIMENSIONS					
	INCHES			Millimeter		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.055	0.059	0.063	1.400	1.500	1.600
b	0.014	---	0.020	0.350	---	0.520
b1	0.016	---	0.023	0.400	---	0.580
c	0.014	---	0.017	0.350	---	0.440
D	0.173	0.177	0.181	4.400	4.500	4.600
D1	0.061REF			1.550REF		
E	0.093	0.096	0.100	2.350	2.450	2.550
E1	0.155	---	0.167	3.940	---	4.250
e	0.059TYP			1.500TYP		
e1	0.118TYP			3.000TYP		
L	0.035	0.039	0.043	0.900	1.000	1.100

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.



SUGGESTED SOLDER PAD LAYOUT

UNIT mm

TYPE B(PACKING CODE:F2)



SUGGESTED SOLDER PAD LAYOUT

NOTE:
 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.



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