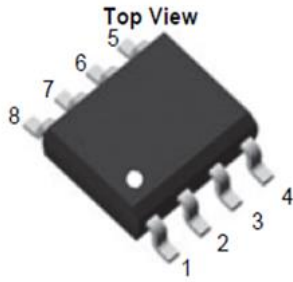
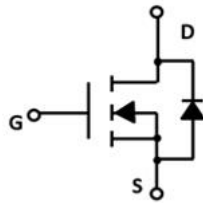
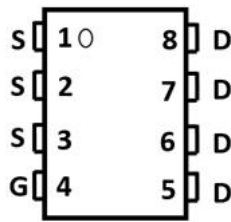


N-Channel Enhancement Mode Field Effect Transistor



SOP-8



Product Summary

- V_{DS} 100V
- I_D 15A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) <9.5 mohm
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) <12.5 mohm
- 100% UIS 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

Applications

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

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	100	V
Gate-source Voltage		V_{GS}	± 20	V
Drain Current ^A	$T_C=25^\circ\text{C}$	I_D	15	A
Pulsed Drain Current ^B	$T_C=25^\circ\text{C}$	I_{DM}	64	A
Avalanche energy ^C		E_{AS}	130	mJ
Total Power Dissipation ^D	$T_C=25^\circ\text{C}$	P_D	4	W
	$T_C=100^\circ\text{C}$		1.6	
Thermal Resistance, junction-ambient ^E		$R_{\theta JA}$	31	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range		T_J, T_{STG}	-55~+150	$^\circ\text{C}$

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJS15G10B	F2	Q15N10B	4000	8000	64000	13" reel



YJS15G10B

■ Electrical Characteristics (T_J=25 °C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	100			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	μA
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 =250μA	1.3	1.8	2.3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D =12A		7.7	9.5	mΩ
		V _{GS} = 4.5V, I _D =9A		9.2	12.5	
Diode Forward Voltage	V _{SD}	I _S =15A, V _{GS} =0V			1.3	V
Maximum Body-Diode Continuous Current	I _S				15	A
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =50V, V _{GS} =0V, f=1MHZ		3530		pF
Output Capacitance	C _{oss}			560		
Reverse Transfer Capacitance	C _{rss}			9.0		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =50V, I _D =10A		60.7		nC
Gate-Source Charge	Q _{gs}			7.2		
Gate-Drain Charge	Q _{gd}			14.6		
Reverse Recovery Charge	Q _{rr}	I _F =10A, di/dt=100A/us		160		nC
Reverse Recovery Time	t _{rr}			67		
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DD} =50V, I _D =10A		22.5		ns
Turn-on Rise Time	t _r			8.6		
Turn-off Delay Time	t _{D(off)}			66.6		
Turn-off fall Time	t _f			42.1		

- A. Calculated continuous current based on maximum allowable junction temperature.
 B. Repetitive rating; pulse width limited by max. junction temperature.
 C. V_{DD}=50V, R_θ=50 Ω, L=0.3mH, starting T_J=25 °C.
 D. P_D is based on max. junction temperature, using junction-case thermal resistance.
 E. The value of R_{θJA} is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_A=25 ° C.



■ Typical Performance Characteristics

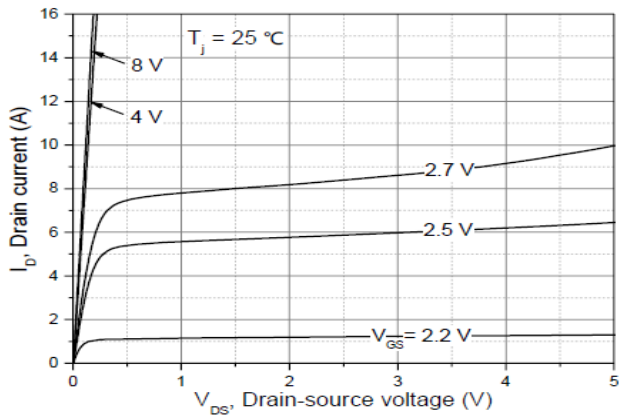


Figure1. Output Characteristics

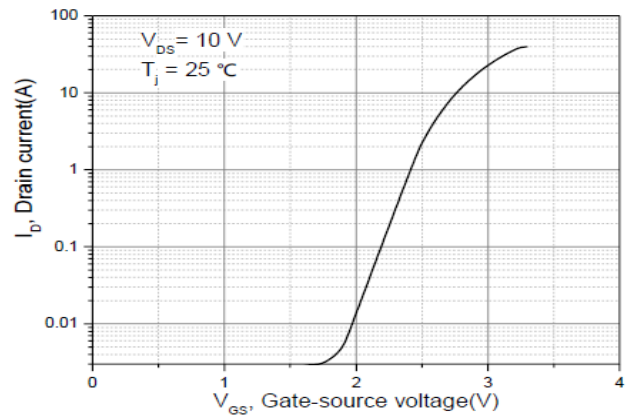


Figure2. Transfer Characteristics

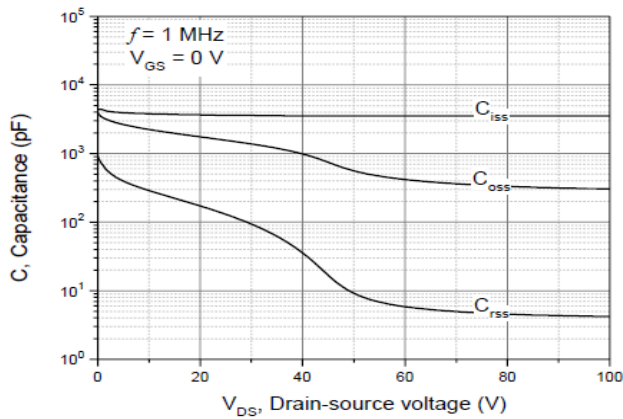


Figure3. Capacitance Characteristics

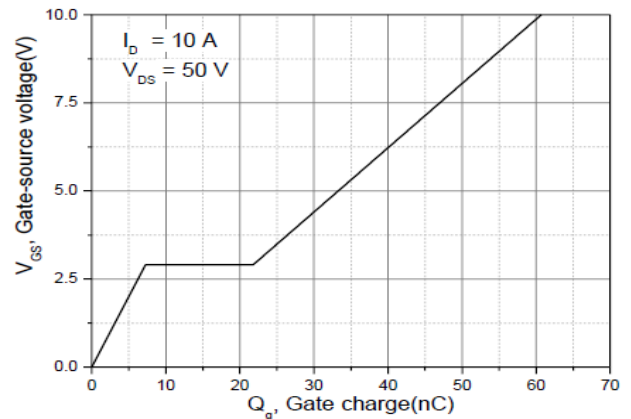


Figure4. Gate Charge

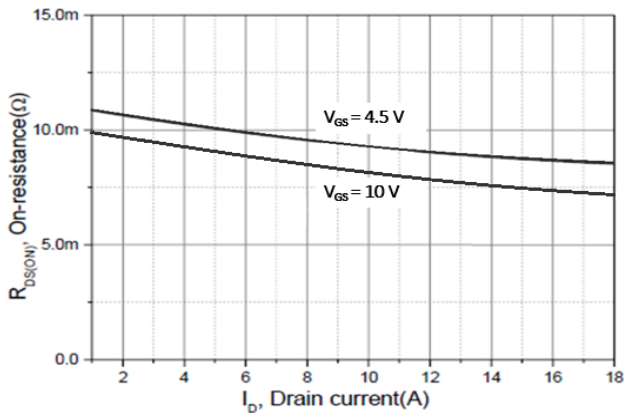


Figure5. Drain-Source on Resistance

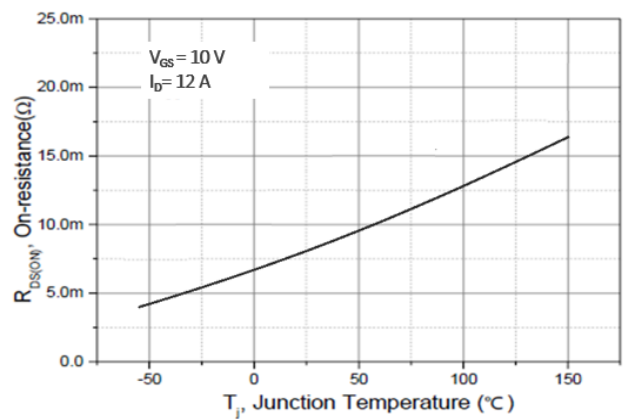


Figure6. Drain-Source on Resistance



YJS15G10B

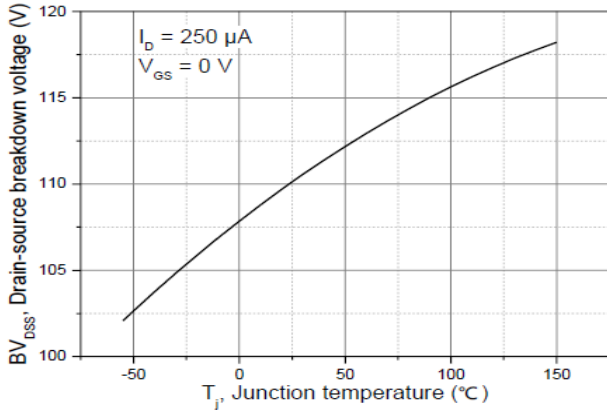


Figure7. Drain-source breakdown voltage

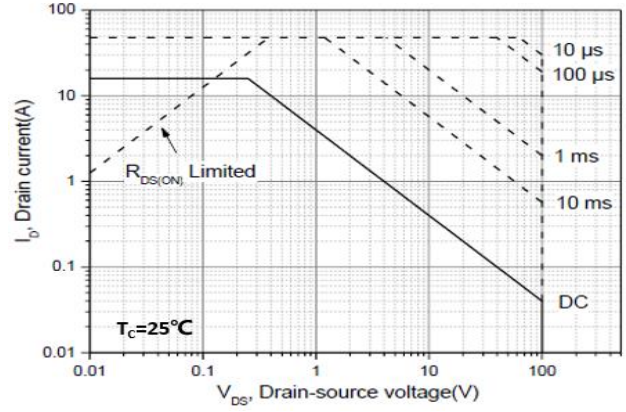
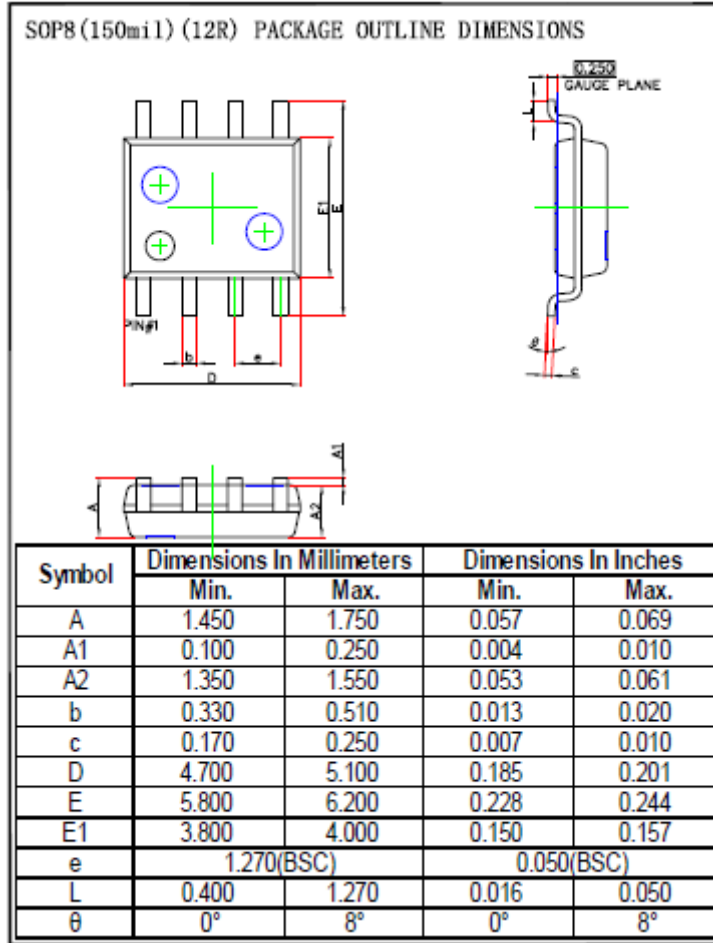


Figure8.Safe Operation Area



YJS15G10B

■ SOP-8 Package information





YJS15G10B

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