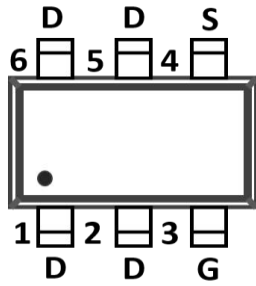
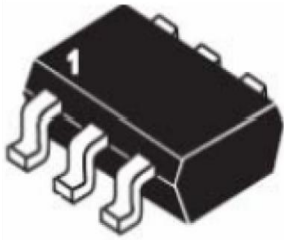
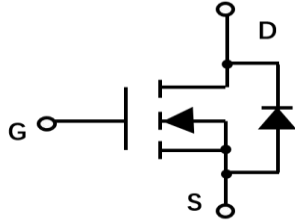


N-Channel Enhancement Mode Field Effect Transistor



SOT-23-6L



Product Summary

- V_{DS} 100V
- I_D 3A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) < 120 mohm
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) < 140 mohm
- 100% UIS Tested
- 100% ∇V_{DS} Tested

General Description

- Trench Power HV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

Applications

- DC-DC Converters
- Power management functions

■ 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}	± 20	V
Drain Current	I_D	$T_A=25^\circ C$	3
		$T_A=70^\circ C$	2.4
Pulsed Drain Current ^A	I_{DM}	15	A
Single Pulse Avalanche Energy	E_{AS}	8	mJ
Total Power Dissipation @ $T_A=25^\circ C$	P_D	1.5	W
Thermal Resistance Junction-to-Ambient ^B	$R_{\theta JA}$	83	$^\circ C/W$
Thermal Resistance From Junction To Lead	R_{thJL}	36	$^\circ C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ C$

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJS03N10A	F2	1003	3000	/	180000	7" reel



YJS03N10A

■ Electrical Characteristics ($T_J=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$		95	120	m Ω
		$V_{GS}=4.5V, I_D=2.4A$		100	140	
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$		0.8	1.2	V
Maximum Body-Diode Continuous Current	I_S				3	A
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{DS}=50V, V_{GS}=0V, f=1\text{MHz}$		810		pF
Output Capacitance	C_{oss}			40		
Reverse Transfer Capacitance	C_{rss}			32		
Switching Parameters						
Total Gate Charge	Q_g	$V_{GS}=10V, V_{DS}=80V, I_D=2.5A$		19.2		nC
Gate-Source Charge	Q_{gs}			3.4		
Gate-Drain Charge	Q_{gd}			6.1		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=10V, V_{DD}=50V, R_L=6.4\Omega$ $R_{GEN}=3\Omega$		15		ns
Turn-on Rise Time	t_r			5		
Turn-off Delay Time	$t_{D(off)}$			30		
Turn-off fall Time	t_f			5		

A. Pulse Test: Pulse Width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.



■ Typical Performance Characteristics

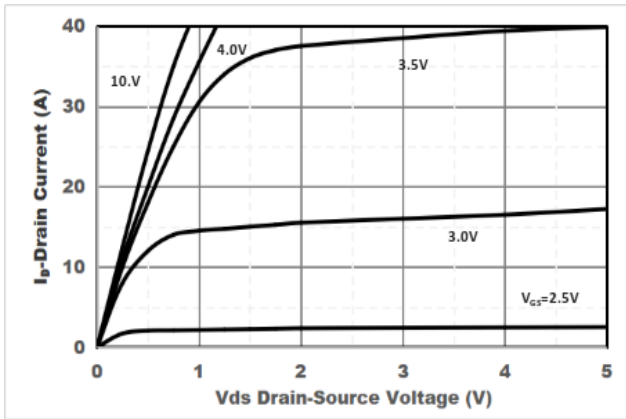


Figure1. Output Characteristics

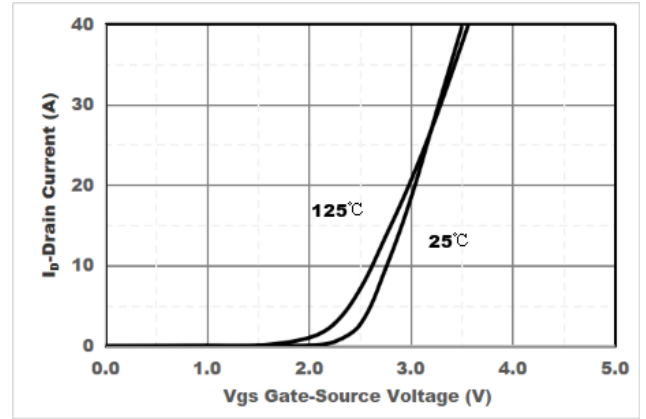


Figure2. Transfer Characteristics

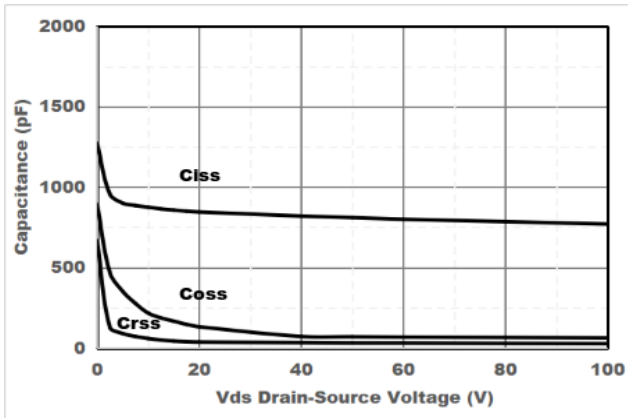


Figure3. Capacitance Characteristics

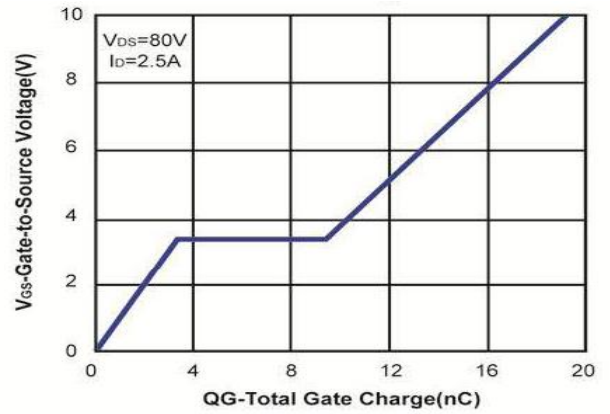


Figure4. Gate Charge

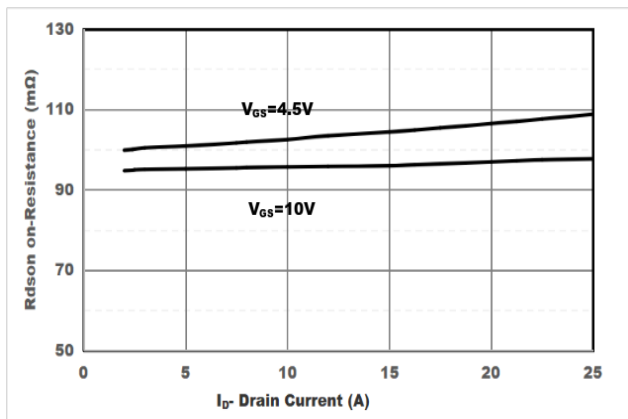


Figure5. Drain-Source on Resistance

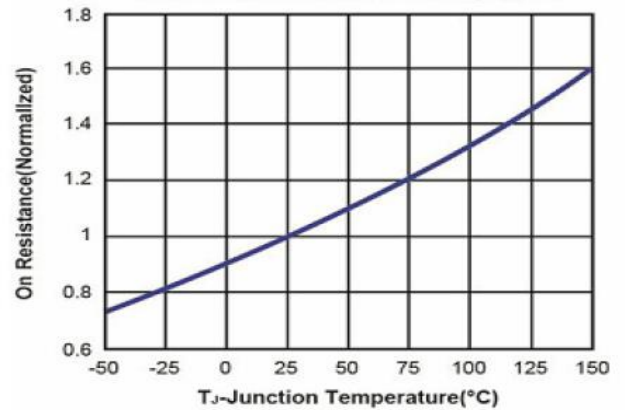


Figure6. Drain-Source on Resistance



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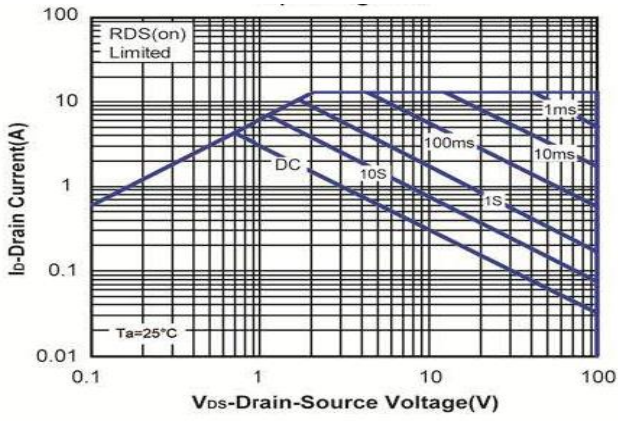


Figure7. Safe Operation Area

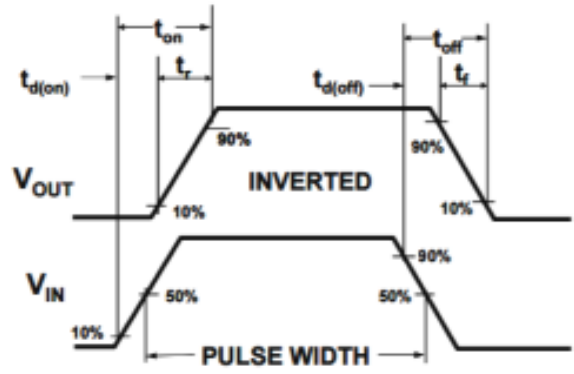
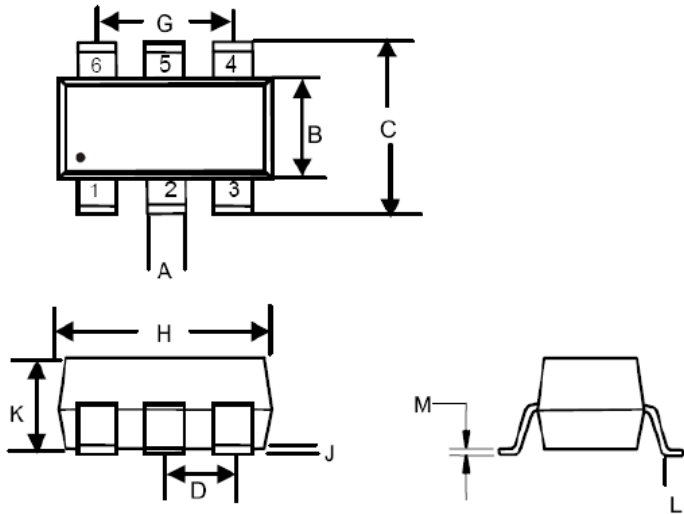


Figure8. Switching wave

■ SOT-23-6L Package information

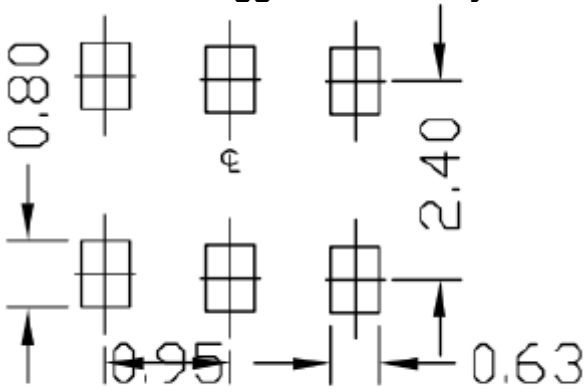


YJS03N10A



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.012	.020	0.30	0.50	
B	.051	.070	1.30	1.80	
C	.087	.126	2.20	3.20	
D	.037		0.95BSC		
G	.074		1.90BSC		
H	.106	.122	2.70	3.10	
J	.002	.006	0.05	0.15	
K	.035	.051	0.90	1.30	
L	.012	.024	0.30	0.60	
M	.003	.008	0.08	0.22	

■ SOT-23-6L Suggested Pad Layout



UNIT: mm



YJS03N10A

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