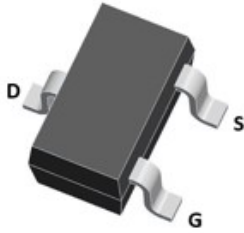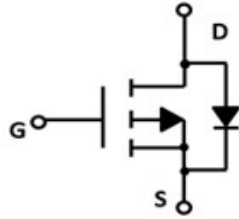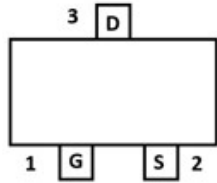# P-Channel Enhancement Mode Field Effect Transistor

SOT-323

Product Summary

- V_{DS} -19V
- I_D -1.5A
- $R_{DS(ON)}$(at V_{GS}=-4.5V)   ＜108 mohm
- $R_{DS(ON)}$(at V_{GS}=-2.5V)   ＜130 mohm
- $R_{DS(ON)}$(at V_{GS}=-1.8V)   ＜230 mohm

General Description

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Applications

- Video monitor
- Power management

■ Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter		Symbol	Maximum	Unit
Drain-source Voltage		V_{DS}	-19	V
Gate-source Voltage		V_{GS}	±10	V
Drain Current	T_A=25℃ @ Steady State	I_D	-1.5	A
	T_A=70℃ @ Steady State		-1.2	
Pulsed Drain Current [A]		I_{DM}	-8	A
Total Power Dissipation @ T_A=25℃		P_D	0.25	W
Thermal Resistance Junction-to-Ambient [B]		$R_{θJA}$	500	℃/ W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55～+150	℃

■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL2301G	F2	2301$_G$.	3000	30000	120000	7" reel

1 / 6

YJL2301GW

■ 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=-250μA	-19			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-19V,V_{GS}=0V,T_C=25℃			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±10V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250μA	-0.4	-0.62	-1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}= -4.5V, I_D=-1.5A		90	108	mΩ
		V_{GS}= -2.5V, I_D=-1.5A		105	130	
		V_{GS}= -1.8V, I_D=-1.5A		140	230	
Diode Forward Voltage	V_{SD}	I_S=-1.5A,V_{GS}=0V		-0.8	-1.2	V
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=-10V,V_{GS}=0V,f=1MHZ		327		pF
Output Capacitance	C_{oss}			62		
Reverse Transfer Capacitance	C_{rss}			55		
Switching Parameters						
Total Gate Charge	Q_g	V_{GS}=-4.5V,V_{DS}=-10V,I_D=-1.5A		3.9		nC
Gate Source Charge	Q_{gs}			0.7		
Gate Drain Charge	Q_{gd}			0.9		
Reverse Recovery Charge	Q_{rr}	I_F=-1.5A, di/dt=100A/us		2.3		
Reverse Recovery Time	t_{rr}			27		ns
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=-4.5V,V_{DD}=-10V, I_D=-1A, R_{GEN}=2.5Ω		6		ns
Turn-on Rise Time	t_r			30		
Turn-off Delay Time	$t_{D(off)}$			45		
Turn-off Fall Time	t_f			46		

A. Pulse Test: Pulse Width≤300us,Duty cycle ≤2%.
B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

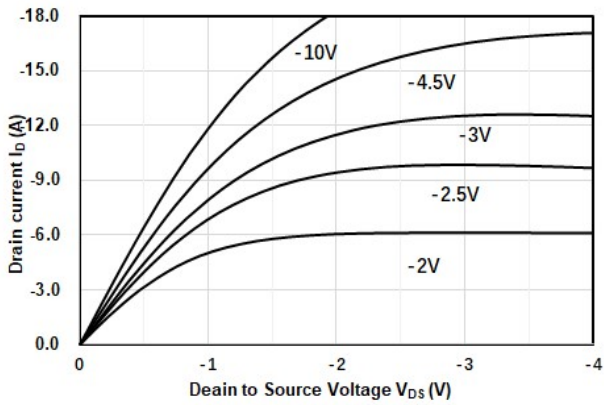## ■ Typical Performance Characteristics

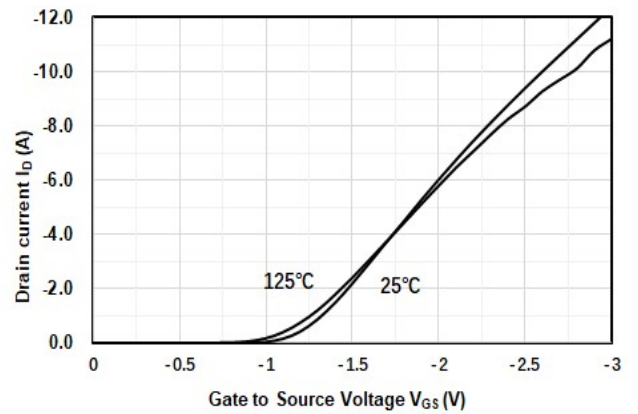Figure1. Output Characteristics

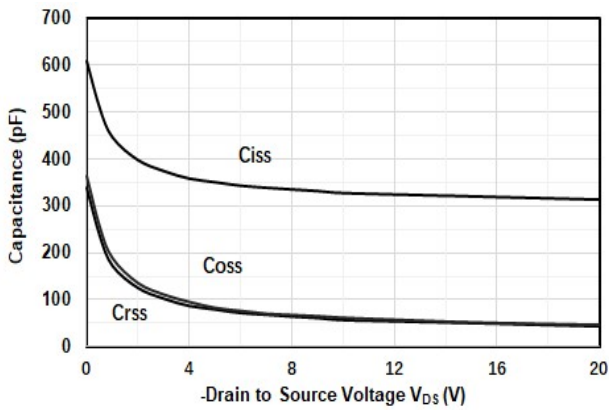
Figure2. Transfer Characteristics
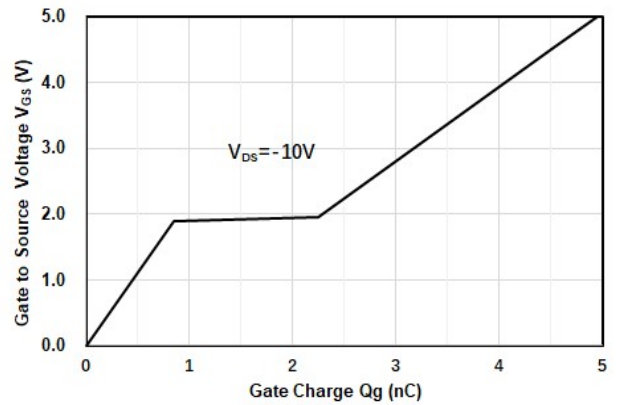

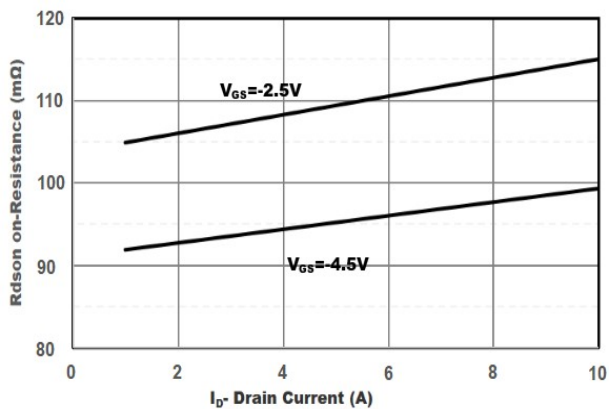
Figure3. Capacitance Characteristics
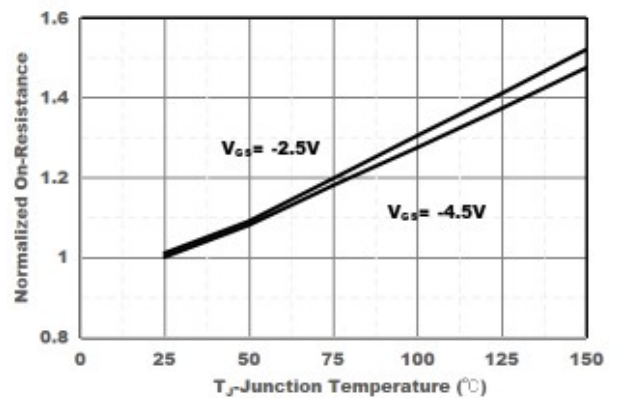

Figure4. Gate Charge

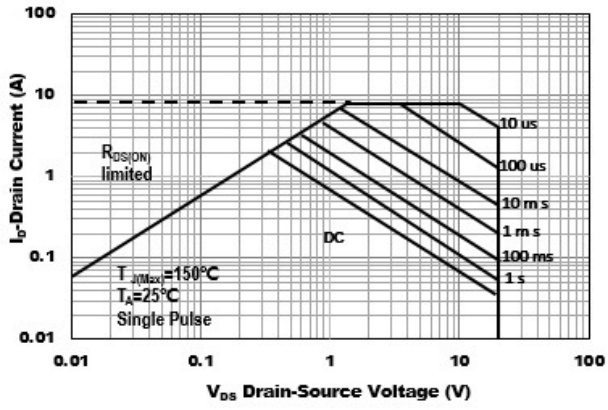Figure5. Drain-Source on Resistance
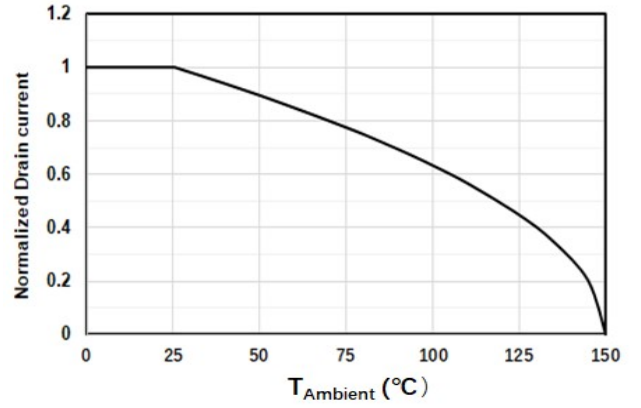

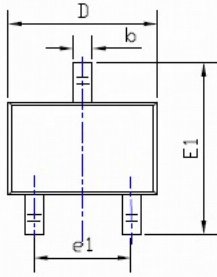Figure6. Drain-Source on Resistance

Figure7. Safe Operation Area
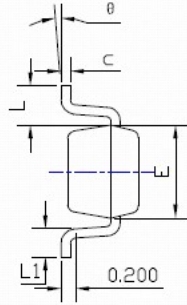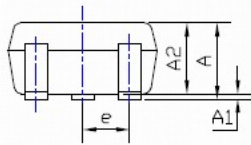

Figure8. Drain Current vs Ambient temperature

■ SOT-323 Package information

TOP VIEW

SIDE VIEW

SIDE VIEW

0.700

0.900

1.900

0.650   0.650

UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS					
	INCHES			MIllImeter		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.035	---	0.043	0.900	---	1.100
A1	0.000	---	0.004	0.000	---	0.100
A2	0.035	0.037	0.039	0.900	0.950	1.000
b	0.006	0.010	0.014	0.150	0.250	0.350
c	0.004	---	0.010	0.100	---	0.250
D	0.071	0.079	0.087	1.800	2.000	2.200
E	0.045	0.049	0.053	1.150	1.250	1.350
E1	0.085	0.091	0.096	2.150	2.300	2.450
e	0.026TYP			0.650TYP		
e1	0.047	0.051	0.055	1.200	1.300	1.400
L	0.021REF			0.525REF		
L1	0.010	0.014	0.018	0.260	0.360	0.460
θ	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.

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website http:// www.21yangjie.com , or consult your nearest Yangjie's sales office for further assistance.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET *category:*

Click to view products by Yangjie *manufacturer:*

Other Similar products are found below :

MCH3443-TL-E MCH6422-TL-E FDPF9N50NZ NTNS3A92PZT5G IRFD120 JANTX2N5237 2N7000 2SK2464-TL-E AOD464 2SJ277-DL-E 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C IRS2092STRPBF-EL IPS70R2K0CEAKMA1 BSF024N03LT3 G PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 IPSA70R950CEAKMA1 IPSA70R2K0CEAKMA1 STU5N65M6 C3M0021120D DMN6022SSD-13