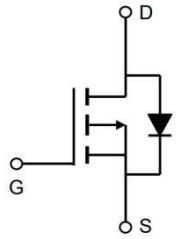
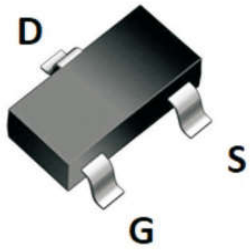
-12V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-7.0A
V_{DSS}	-12V
R_{DSON}-typ(@V_{GS}=-4.5V)	< 24mΩ(Type:19 mΩ)





SOT23-3L

Application

- electronic cigarette
- Load switch

Marking Code	
YFW2311MI	20P07

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-12	V
Gate - Source Voltage	V_{GS}	±12	V
Continuous Drain Current, V_{GS} @ 10V[1] @T_C=25℃	I_D	-7.0	A
Continuous Drain Current, V_{GS} @ 10V[1] @T_C=100℃	I_D	-3.6	A
Pulsed Drain Current note1	I_{DM}	-22	A
Power Dissipation @T_C=25℃	P_D	1.6	W
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	125	°C/W
Operating Junction Temperature Range	T_J ,T_{STG}	-55 to +150	°C

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250uA	V(BR)DSS	-12	-18	-	V
Zero Gate Voltage Drain Current	V_{DS}=-12V , V_{GS}=0V	I_{DSS}	-	-	-1	μA
Gate to Body Leakage Current	V_{GS}=±12V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Gate Threshold Voltage	V_{DS}= V_{GS}, I_D=-250μA	$V_{GS(th)}$	-0.5	-0.65	-1.0	V
Static Drain-Source on-Resistance note2	V_{GS}=-4.5V, I_D=-5.2A	$R_{DS(ON)}$	-	19	24	mΩ
	V_{GS}=-2.5V, I_D=-4.2A		-	28	35	
Input Capacitance	V_{DS}=-6V V_{GS}=0V f=1MHz	C_{iss}	-	1100	-	pF
Output Capacitance		C_{oss}	-	390	-	
Reverse Transfer Capacitance		C_{rss}	-	300	-	
Total Gate Charge	V_{DS}=-4V I_D=-4.1A V_{GS}=-4.5V	Q_g	-	11.5	-	nC
Gate-Source Charge		Q_{gs}	-	1.5	-	
Gate-Drain("Miller") Charge		Q_{gd}	-	3.2	-	
Turn-on delay time	V_{DD}=-4V I_D=-3.3A R_G=1.0Ω V_{GEN}=-4.5V R_L=1.2Ω	$t_{d(on)}$	-	25	-	ns
Turn-on Rise Time		T_r	-	45	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	72	-	
Turn-Off Fall Time		t_f	-	60	-	
Maximum Continuous Drain to Source Diode Forward Current		I_S	-	-	-6.0	A
Maximum Pulsed Drain to Source Diode Forward Current		I_{SM}	-	-	-16	A
Drain to Source Diode Forward Voltage	V_{GS}=0V , I_S=-4.1A	V_{SD}	-	-	-1.2	V
Reverse Recovery Time	I_S=-4.1A, dI/dt=100A/μs, V_{GS}=0V	t_{rr}	-	20	-	ns
Reverse Recovery Charge		Q_{rr}	-	9	-	nC

Note :
1、The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper.
2、The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%
3、The power dissipation is limited by 150℃ junction temperature
4、The data is theoretically the same as ID and IDM , in real applications , should be limited by total power dissipation.

Ratings and Characteristic Curves

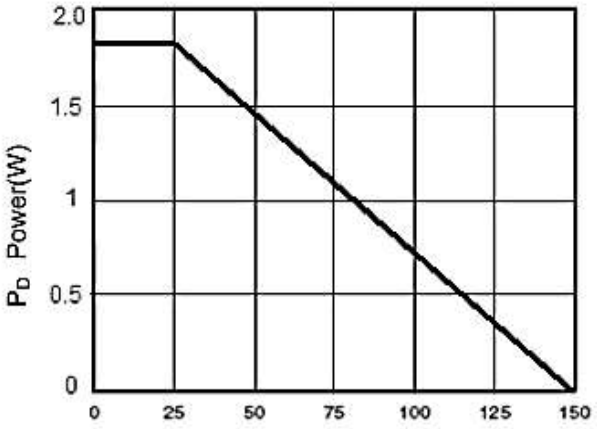


Figure 1 Power Dissipation

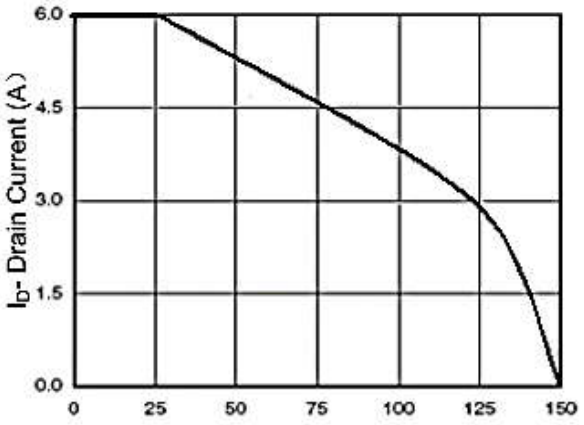


Figure 2 Drain Current

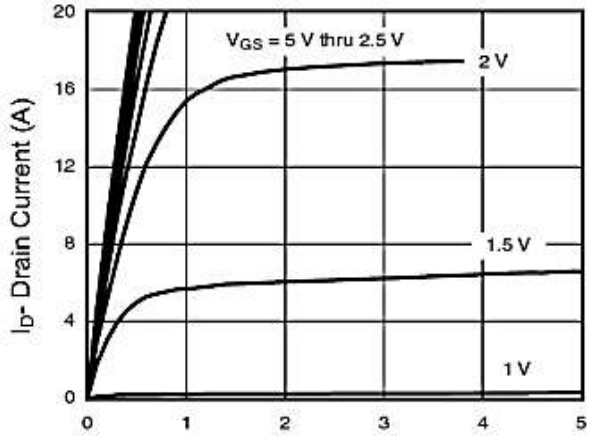


Figure 3 Output Characteristics

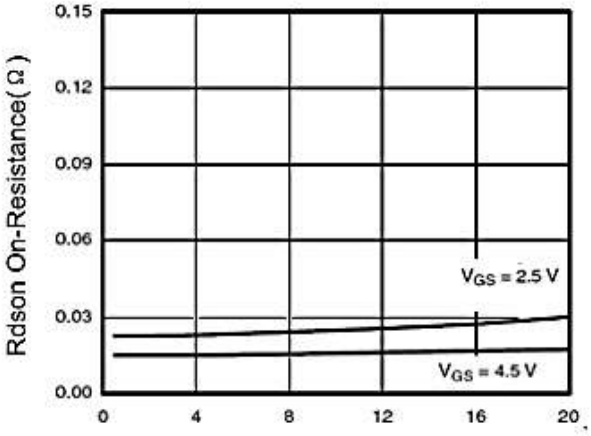


Figure 4 Drain-Source On-Resistance

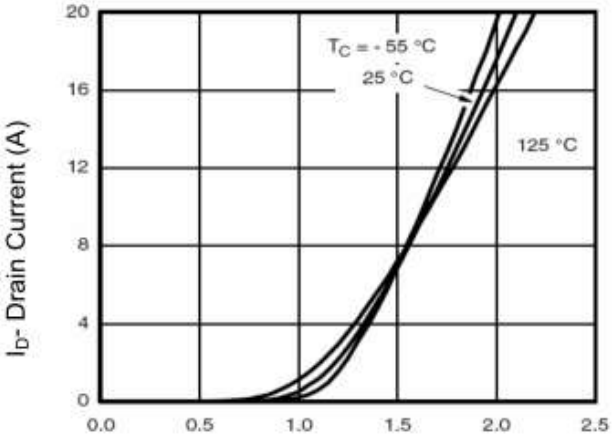


Figure 5 Transfer Characteristics

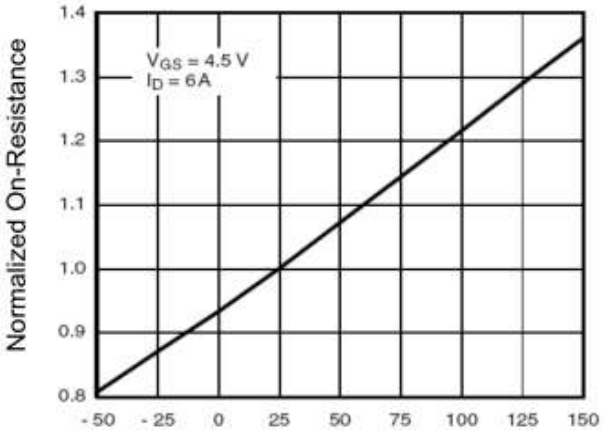


Figure 6 Drain-Source On-Resistance

Ratings and Characteristic Curves

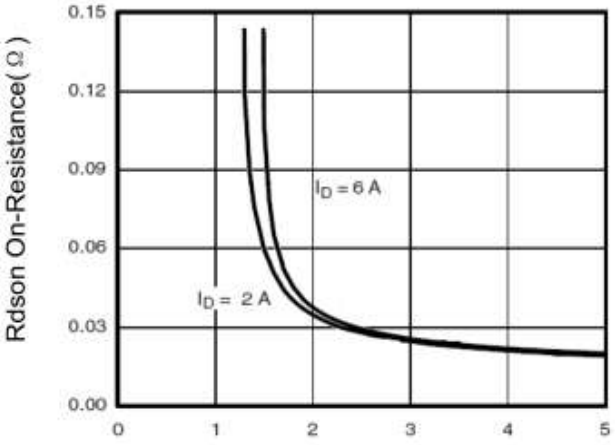


Figure 7 Rdson vs Vgs

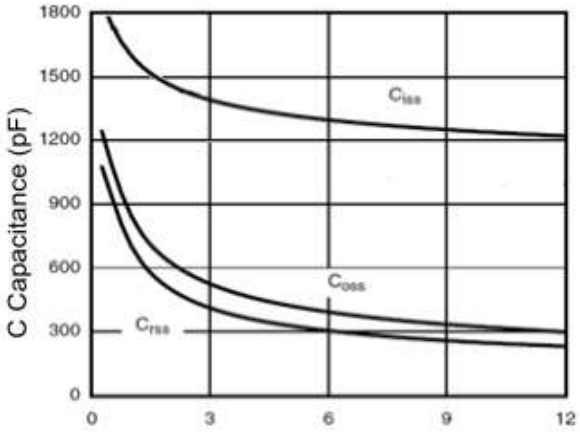


Figure 8 Capacitance vs Vds

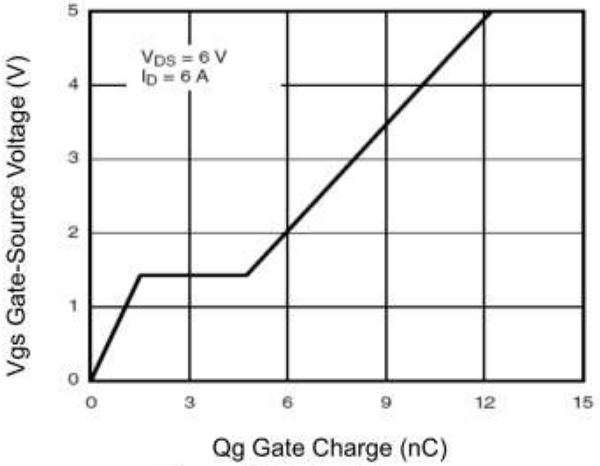


Figure 9 Gate Charge

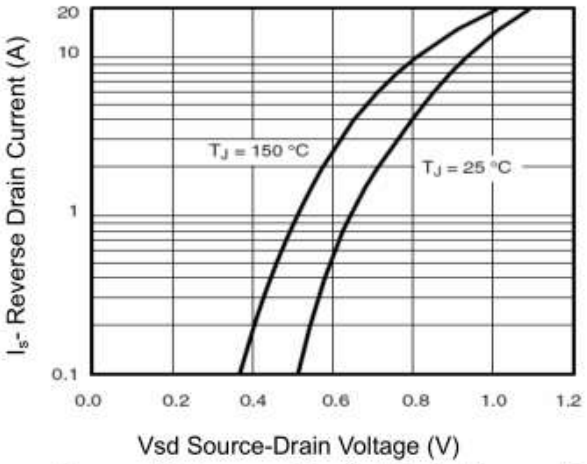


Figure 10 Source- Drain Diode Forward

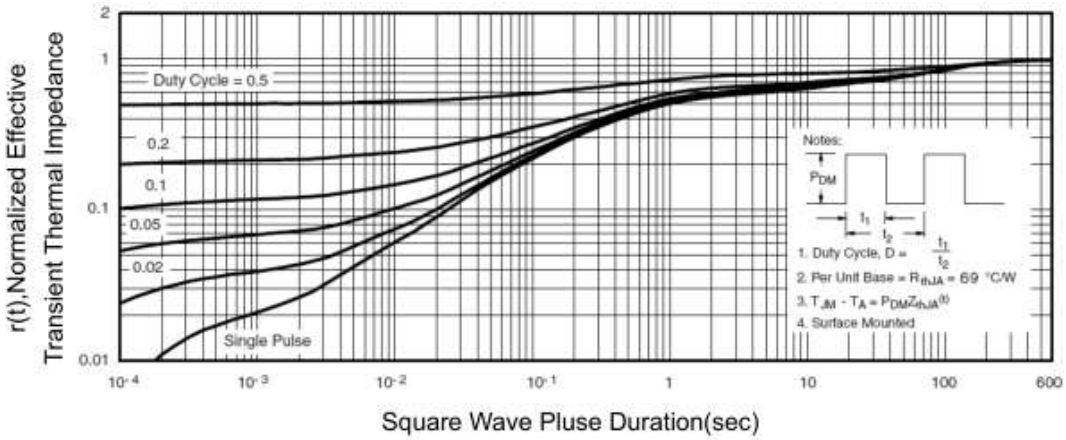


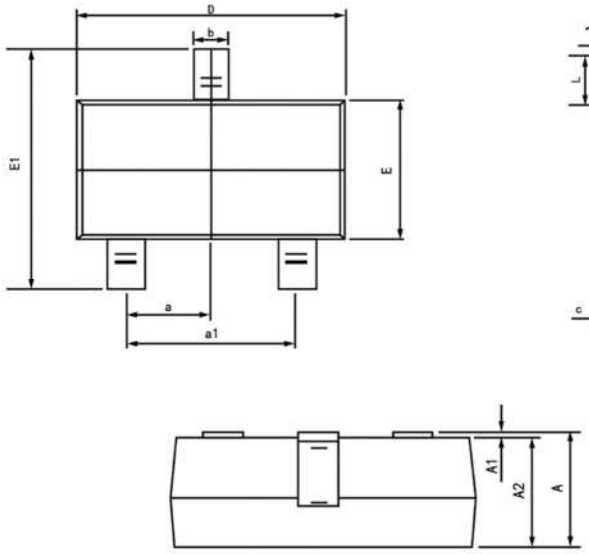
Figure 12 Normalized Maximum Transient Thermal Impedance

Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT23-3L	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

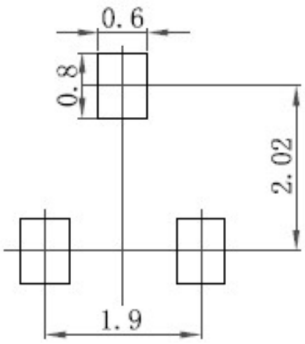
Package Dimensions

SOT23-3L



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	1.05	1.25	41	49.2
A1	0.10		3.93	
A2	1.05	1.15	41	45
b	0.30	0.50	12	20
c	0.10	0.20	3.93	7.9
D	2.82	3.02	111	119
E	1.50	1.70	59	67
E1	2.65	2.95	104	116
e	0.95		37.4	
e1	1.80	2.00	71	78
L	0.30	0.066	12	26
Θ	8°			

The recommended mounting pad size



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