

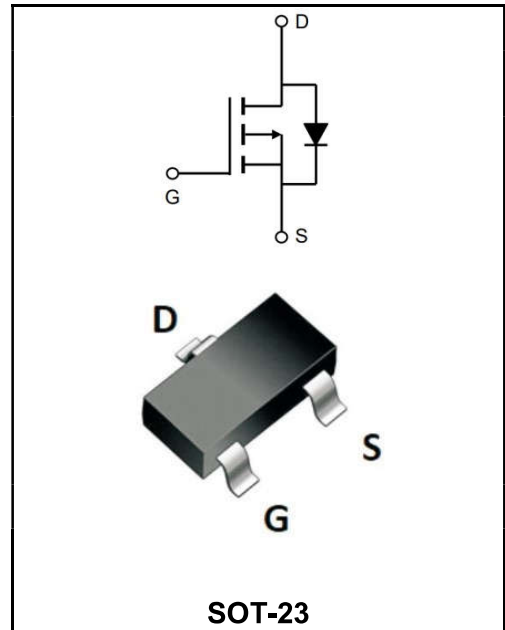
**-30V P-CHANNEL ENHANCEMENT MODE MOSFET**

**MAIN CHARACTERISTICS**

<b>I<sub>D</sub></b>	-4.8A
<b>V<sub>DSS</sub></b>	-30V
<b>R<sub>DS(on)-typ</sub>(@V<sub>GS</sub>=10V)</b>	< 50mΩ( <b>Type:40 mΩ</b> )
<b>R<sub>DS(on)-typ</sub>(@V<sub>GS</sub>=4.5V)</b>	< 55mΩ( <b>Type:45 mΩ</b> )

**Application**

- ◆Battery protection
- ◆Load switch
- ◆Uninterruptible power supply



**Product Specification Classification**

Part Number	Package	Marking	Pack
YFW3401MI	SOT23-3L	X1HV	3000PCS/Tape

**Maximum Ratings at T<sub>c</sub>=25°C unless otherwise specified**

Characteristics	Symbols	Value	Units
Drain-Source Voltage	<b>V<sub>DS</sub></b>	-30	<b>V</b>
Gate - Source Voltage	<b>V<sub>GS</sub></b>	±12	<b>V</b>
Continuous Drain Current, V <sub>GS</sub> @ -10V <sup>1</sup> @T <sub>c</sub> =25°C	<b>I<sub>D</sub></b>	-4.8	<b>A</b>
Continuous Drain Current, V <sub>GS</sub> @ -10V <sup>1</sup> @T <sub>c</sub> =100°C	<b>I<sub>D</sub></b>	-3.3	<b>A</b>
Pulsed Drain Current <sup>note1</sup>	<b>I<sub>DM</sub></b>	-20.4	<b>A</b>
Power Dissipation T <sub>A</sub> =25°C	<b>P<sub>D</sub></b>	2.15	<b>W</b>
Thermal Resistance Junction-Ambient <sup>1</sup>	<b>R<sub>θJA</sub></b>	125	<b>°C/W</b>
Thermal Resistance Junction-Case <sup>1</sup>	<b>R<sub>θJC</sub></b>	104	<b>°C/W</b>
Operating and Storage Temperature Range	<b>T<sub>J</sub>, T<sub>STG</sub></b>	-55 to +150	<b>°C</b>

**Maximum Ratings at Tc=25°C unless otherwise specified**

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	<b>V(BR)DSS</b>	-30	-34	-	<b>V</b>
Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$	<b>I<sub>DSS</sub></b>	-	-	1	<b>μA</b>
Gate to Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	<b>I<sub>GSS</sub></b>	-	-	±100	<b>nA</b>
Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	<b>V<sub>GS(th)</sub></b>	-0.5	-1.0	-1.5	<b>V</b>
Static Drain-Source on-Resistance note2	$V_{GS}=-10V, I_D=-5A$	<b>R<sub>DS(on)</sub></b>	-	40	50	<b>mΩ</b>
	$V_{GS}=-4.5V, I_D=-4A$		-	45	55	
	$V_{GS}=-2.5V, I_D=-1A$		-	55	80	
Input Capacitance	$V_{DS}=-15V$ $V_{GS}=0V$ $f=1MHz$	<b>C<sub>iss</sub></b>	-	745	-	<b>pF</b>
Output Capacitance		<b>C<sub>oss</sub></b>	-	70	-	
Reverse Transfer Capacitance		<b>C<sub>rss</sub></b>	-	57	-	
Total Gate Charge	$V_{DS}=-15V$ $V_{GS}=-10V$ $I_D=-5.1A$	<b>Q<sub>g</sub></b>	-	8	-	<b>nC</b>
Gate-Source Charge		<b>Q<sub>gs</sub></b>	-	1.8	-	
Gate-Drain("Miller") Charge		<b>Q<sub>gd</sub></b>	-	2.7	-	
Turn-on delay time	$V_{DD}=-15V$ $V_{GS}=-10V$ $I_D=-1A$ $R_{GEN}=2.5\Omega$	<b>t<sub>d(on)</sub></b>	-	7	-	<b>ns</b>
Turn-on Rise Time		<b>T<sub>r</sub></b>	-	3	-	
Turn-Off Delay Time		<b>t<sub>d(OFF)</sub></b>	-	30	-	
Turn-Off Fall Time		<b>t<sub>f</sub></b>	-	12	-	
Maximum Continuous Drain to Source Diode Forward Current		<b>I<sub>S</sub></b>	-	-	-4.8	<b>A</b>
Maximum Pulsed Drain to Source Diode Forward Current		<b>I<sub>SM</sub></b>	-	-	-16.4	<b>A</b>
Drain to Source Diode Forward Voltage	$V_{GS}=0V, I_S=-5.1A$	<b>V<sub>SD</sub></b>	-	-0.8	-1.2	<b>V</b>

Note :

- 1、 The data tested by surface mounted on a 1 inch 2 FR-4 board with 20Z copper.
- 2、 The data tested by pulsed , pulse width  $\cong 300\mu s$  , duty cycle  $\cong 2\%$
- 3、 The power dissipation is limited by 150°C 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

Typical Characteristics

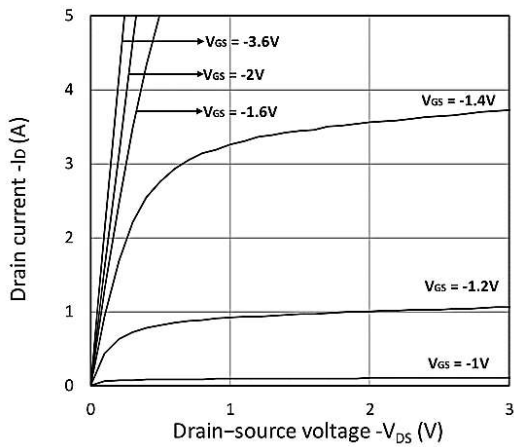


Figure 1. Output Characteristics

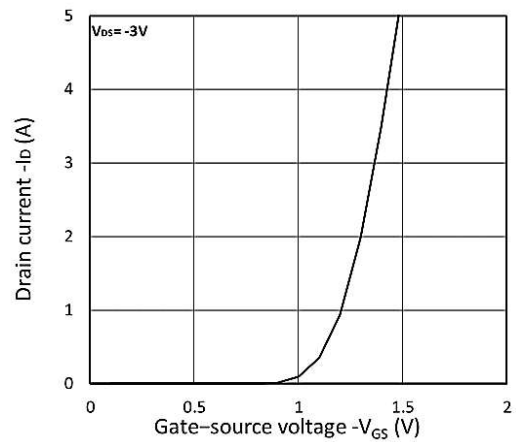


Figure 2. Transfer Characteristics

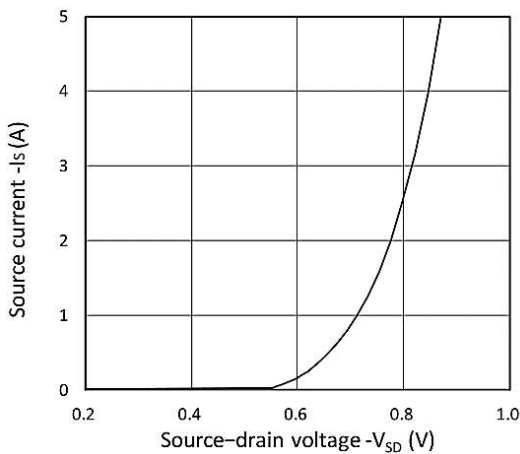


Figure 3. Forward Characteristics of Reverse

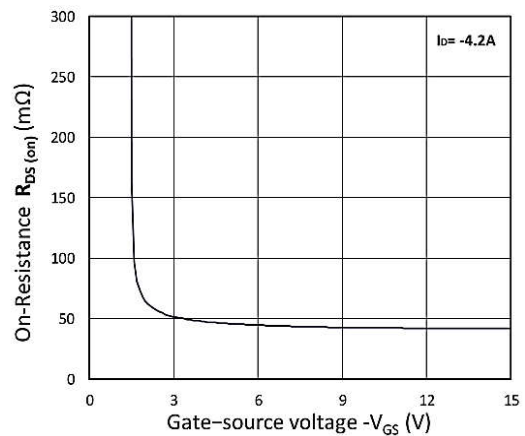


Figure 4.  $R_{DS(ON)}$  vs.  $V_{GS}$

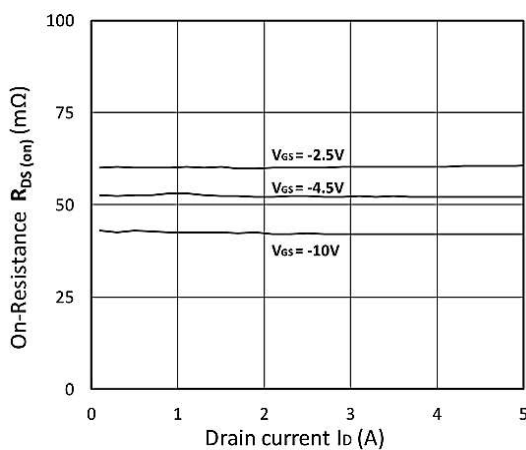


Figure 5.  $R_{DS(ON)}$  vs.  $I_D$

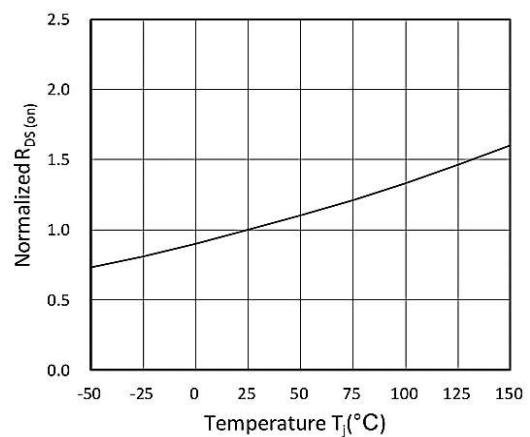


Figure 6. Normalized  $R_{DS(on)}$  vs. Temperature

Ratings and Characteristic Curves

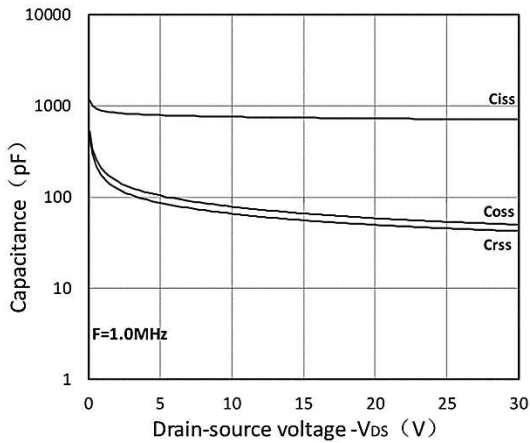


Figure 7. Capacitance Characteristics

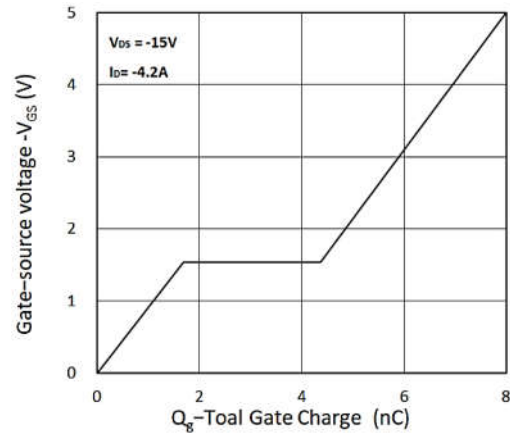


Figure 8. Gate Charge Characteristics

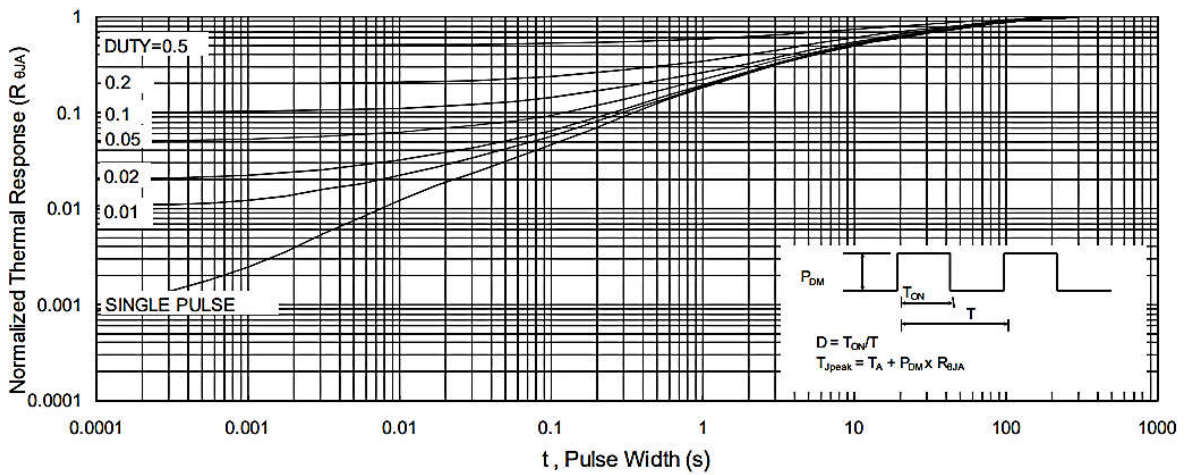


Figure 9 Normalized Maximum Transient Thermal Impedance

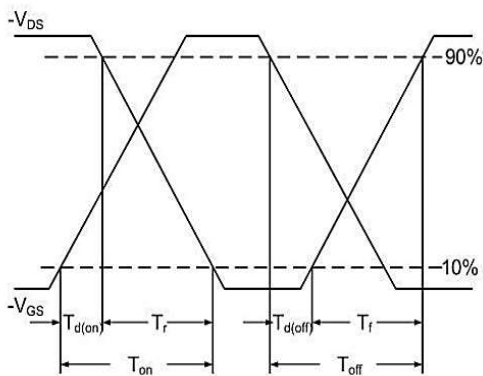


Figure.10 Switching Time Waveform

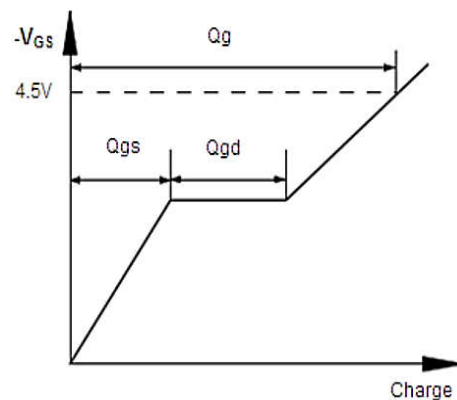
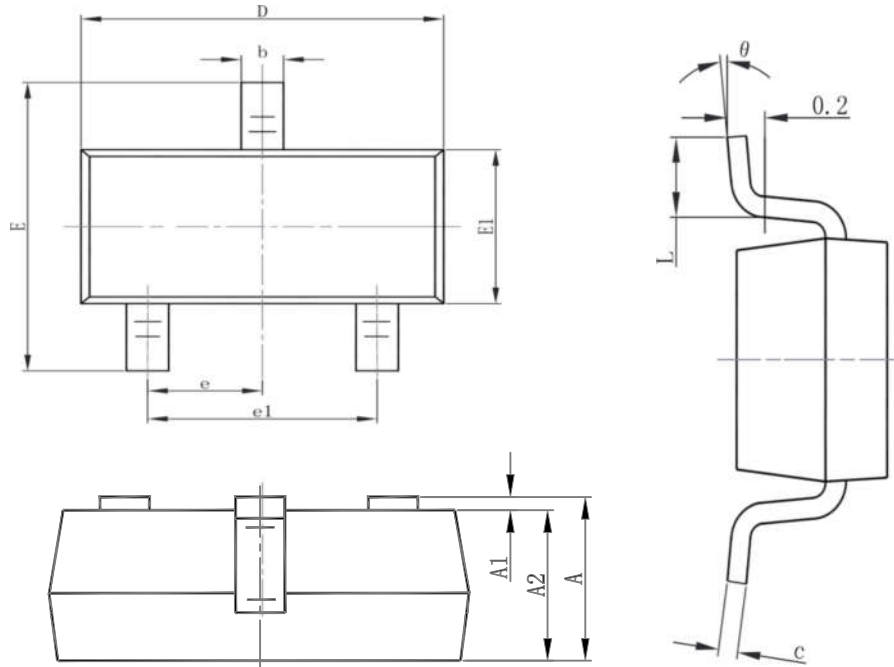


Figure.11 Gate Charge Waveform

**SOT23-3L**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)