

**-30V P-Channel Enhancement Mode Field Effect Transistor**

**MAIN CHARACTERISTICS**

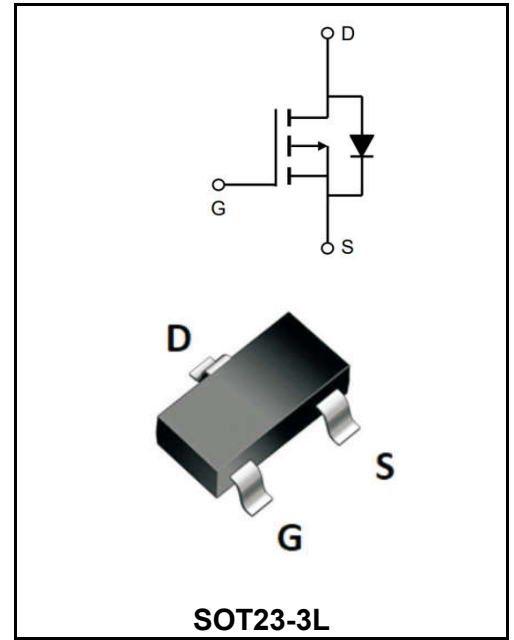
<b>I<sub>D</sub></b>	-4.8A
<b>V<sub>DSS</sub></b>	-30V
<b>R<sub>DS(on)-typ(@V<sub>GS</sub>-10V)</sub></b>	<60mΩ(Typ:50mΩ)
<b>R<sub>DS(on)-typ(@V<sub>GS</sub>-4.5V)</sub></b>	<87mΩ(Typ:68mΩ)

**Features**

- ◆High dense cell design for extremely low RDS(on).
- ◆Exceptional on-resistance and maximum DC current capability.
- ◆Load/Power Switching.
- ◆Interfacing Switching

**Mechanical Data**

- ◆SOT-23-3L Small Outline Plastic Package.
- ◆Epoxy UL: 94V-0.
- ◆Mounting Position: Any.



<b>Marking Code</b>	
YFW3407MI	3407

**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Drain-Source Voltage	<b>V<sub>DS</sub></b>	-30	<b>V</b>
Gate-Source Voltage	<b>V<sub>GS</sub></b>	±20	<b>V</b>
Continuous Drain Current	<b>I<sub>D</sub></b>	-4.8	<b>A</b>
Drain Current-Pulsed	<b>I<sub>DM</sub></b>	-20	<b>A</b>
Power Dissipation	<b>P<sub>D</sub></b>	300	<b>mW</b>
Junction Temperature	<b>T<sub>j</sub></b>	150	<b>°C</b>
Storage Temperature	<b>T<sub>stg</sub></b>	-50-+150	<b>°C</b>
Thermal Resistance From Junction to Ambient (note 2)	<b>R<sub>θJA</sub></b>	417	<b>°C/W</b>

**Electrical Characteristics**

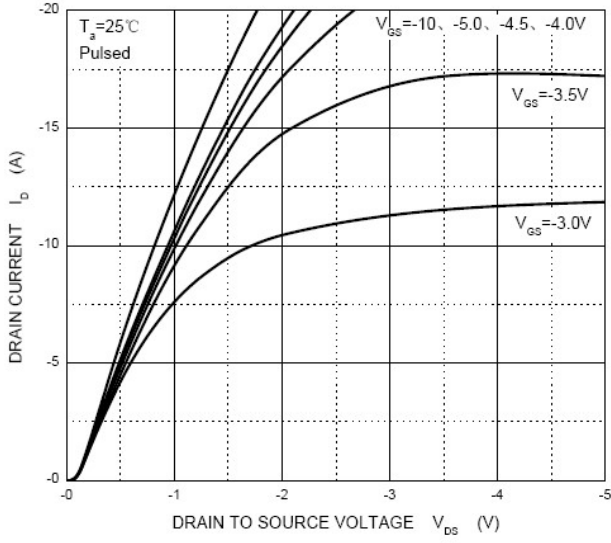
(Ratings at 25°C ambient temperature unless otherwise specified).

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	$BV_{DSS}$	-30			V
Zero Gate Voltage Drain current	$V_{DS}=-24V, V_{GS}=0V$	$I_{DSS}$			-1	$\mu A$
Gate-body Leakage	$V_{DS}=\pm 20V, V_{GS}=0V$	$I_{GSS}$			$\pm 100$	nA
Drain-Source On-Resistance (note 1)	$V_{GS}=-10V, I_D=-4.1A$	$R_{DS(ON)}$		50	60	m $\Omega$
	$V_{GS}=-4.5V, I_D=-3A$			68	87	
Forward trans conductance	$V_{DS}=-5V, I_D=-4A$	$g_{fs}$	5.5			S
Gate-Threshold voltage*	$V_{DS}=V_{GS}, I_D=-250\mu A$	$V_{GS(th)}$	-1.0	-1.4	-3.0	V
Input capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	$C_{iss}$		700		$\mu F$
Output capacitance		$C_{oss}$		120		
Reverse Transfer capacitance		$C_{rss}$		75		
Turn-on Time	$V_{GS}=-10V$ $R_L=3.6\Omega$ $V_{DS}=-15V$ $R_{GEN}=3\Omega$	$t_{d(on)}$		8.6		nS
Rise time		$T_r$		5.0		
Turn-off Time		$t_{d(OFF)}$		28.2		
Fall time		$t_f$		13.5		
Diode forward voltage(note 1)	$I_S=-1A, V_{GS}=0V$	$V_{SD}$			-1.0	V

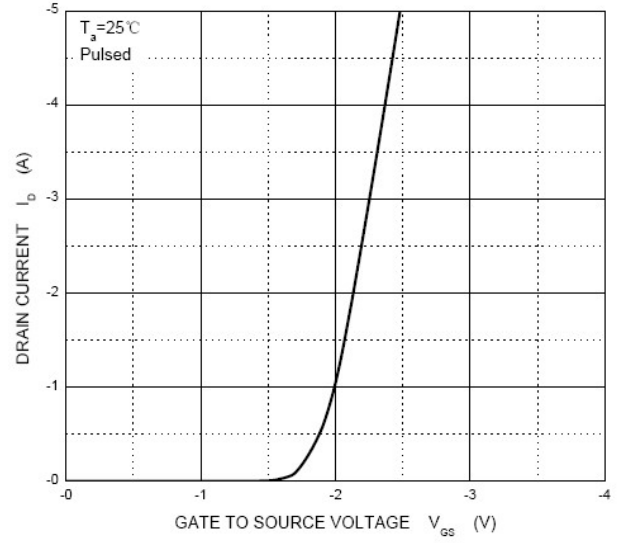
 Notes: 1. Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycles  $\leq 2\%$ .

Typical characteristics

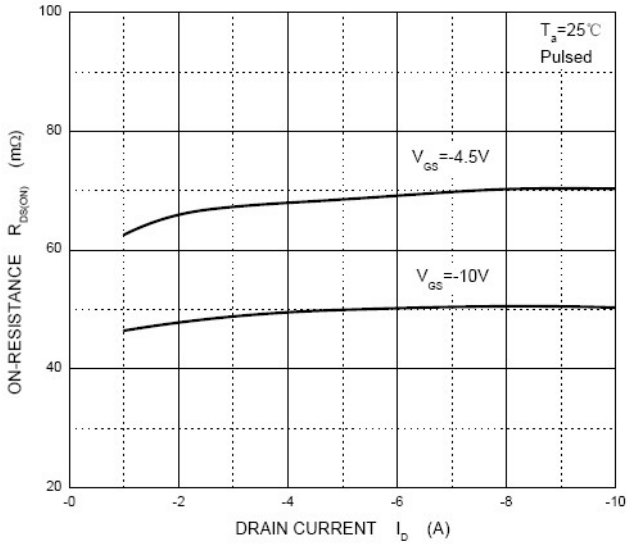
Output Characteristics



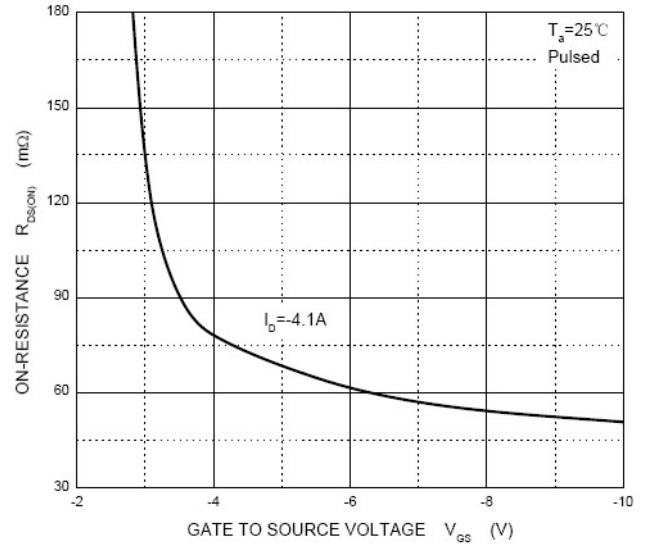
Transfer Characteristics



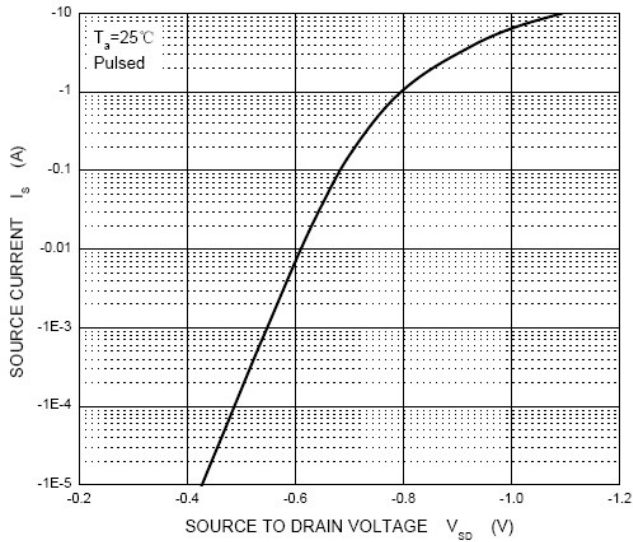
$R_{DS(ON)}$  —  $I_D$



$R_{DS(ON)}$  —  $V_{GS}$



$I_S$  —  $V_{SD}$



**Ordering information**

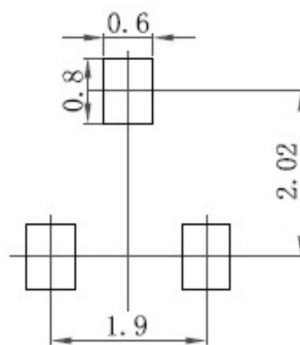
Package	Packing Description	Base Quantity	Packing Quantity
SOT23-3L	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**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**



## Disclaimer

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