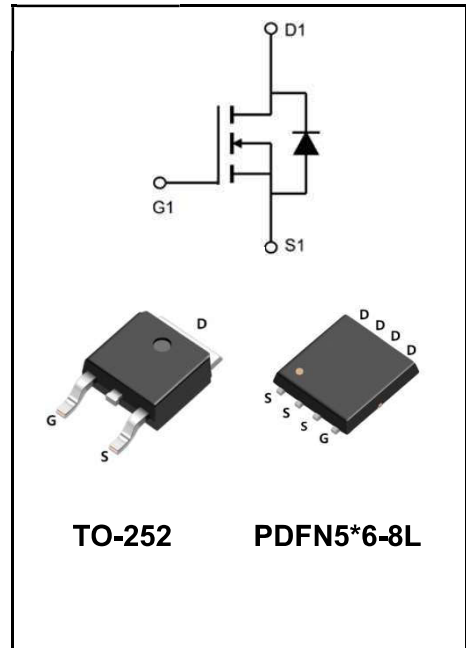


**60V N-CHANNEL ENHANCEMENT MODE MOSFET**

**MAIN CHARACTERISTICS**

<b>I<sub>D</sub></b>	15A
<b>V<sub>DSS</sub></b>	60V
<b>R<sub>DS(on)-typ(@V<sub>GS</sub>=10V)</sub></b>	<37mΩ ( <b>Type:28mΩ</b> )



**Features**

- ◆Fast Switching
- ◆Low ON Resistance
- ◆Low Gate Charge
- ◆100% Single Pulse avalanche energy Test

**Applications**

- ◆Power switch circuit of adaptor and charger.

**Mechanical Data**

- ◆Case: Molded plastic
- ◆Mounting Position: Any
- ◆Molded Plastic: UL Flammability Classification Rating 94V-0
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106

**Product Specification Classification**

Part Number	Package	Marking	Pack
YFW15N06AD	TO-252	YFW 15N06AD XXXXX	2500PCS/Tape
YFW15N06NF	PDFN5*6-8L	YFW 15N06NF XXXXX	5000PCS/Tape

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

Characteristics	Symbols	Value	Units
Drain-Source Voltage	<b>V<sub>DS</sub></b>	60	<b>V</b>
Gate-Source Voltage	<b>V<sub>GS</sub></b>	±20	<b>V</b>
Continue Drain Current	<b>I<sub>D</sub></b>	15	<b>A</b>
Pulsed Drain Current (Note1)	<b>I<sub>DM</sub></b>	50	<b>A</b>
Power Dissipation	<b>P<sub>D</sub></b>	18	<b>W</b>
Single Pulse Avalanche Energy (Note5)	<b>E<sub>AS</sub></b>	25	<b>mJ</b>
Operating Temperature Range	<b>T<sub>J</sub></b>	150	<b>°C</b>
Storage Temperature Range	<b>T<sub>STG</sub></b>	-55 to +150	<b>°C</b>
Thermal Resistance, Junction to Case	<b>R<sub>θJC</sub></b>	3	<b>°C/W</b>
Thermal Resistance, Junction to Ambient	<b>R<sub>θJA</sub></b>	62	<b>°C/W</b>

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

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0 V, I <sub>D</sub> = 250 μA	<b>BV<sub>DSS</sub></b>	60	-	-	<b>V</b>
Drain-Source Leakage Current	V <sub>DS</sub> = 60 V, V <sub>GS</sub> = 0 V	<b>I<sub>BSS</sub></b>	-	-	1	<b>uA</b>
	V <sub>DS</sub> =60V, Tc=125°C		-	-	100	
Gate Leakage Current	V <sub>GS</sub> = ± 20 V, V <sub>DS</sub> = 0 V	<b>I<sub>GSS</sub></b>	-	-	±100	<b>nA</b>
Gate-Source Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	<b>V<sub>GS(th)</sub></b>	1	-	2.5	<b>V</b>
Drain-Source On-State Resistance	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 10 A	<b>R<sub>DS(on)</sub></b>	-	28	37	<b>mΩ</b>
	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 5 A		-	35	48	
Forward Transconductance	V <sub>DS</sub> = 50 V, I <sub>D</sub> = 25A	<b>g<sub>fs</sub></b>	-	20	-	<b>S</b>
Input Capacitance	V <sub>GS</sub> = 0 V, V <sub>DS</sub> = 25V, f = 1MHz	<b>C<sub>iss</sub></b>	-	1050	-	<b>pF</b>
Output Capacitance		<b>C<sub>OSS</sub></b>	-	65	-	
Reverse Transfer Capacitance		<b>C<sub>rss</sub></b>	-	45	-	
Turn-on Delay Time(Note2)	V <sub>DS</sub> =30V, R <sub>L</sub> =1.5Ω V <sub>GS</sub> =10V, R <sub>G</sub> =3Ω (Note3,4)	<b>td(ON)</b>	-	2.8	-	<b>nS</b>
Rise Time(Note2)		<b>tr</b>	-	17	-	
Turn-Off Delay Time(Note2)		<b>td(OFF)</b>	-	20	-	
Fall Time(Note2)		<b>tf</b>	-	5	-	
Total Gate Charge(Note2)	I <sub>D</sub> = 10A, V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 10 V(Note3,4)	<b>Q<sub>G</sub></b>	-	19	-	<b>nC</b>
Gate to Source Charge(Note2)		<b>Q<sub>GS</sub></b>	-	2.3	-	
Gate to Drain Charge(Note2)		<b>Q<sub>GD</sub></b>	-	4.6	-	

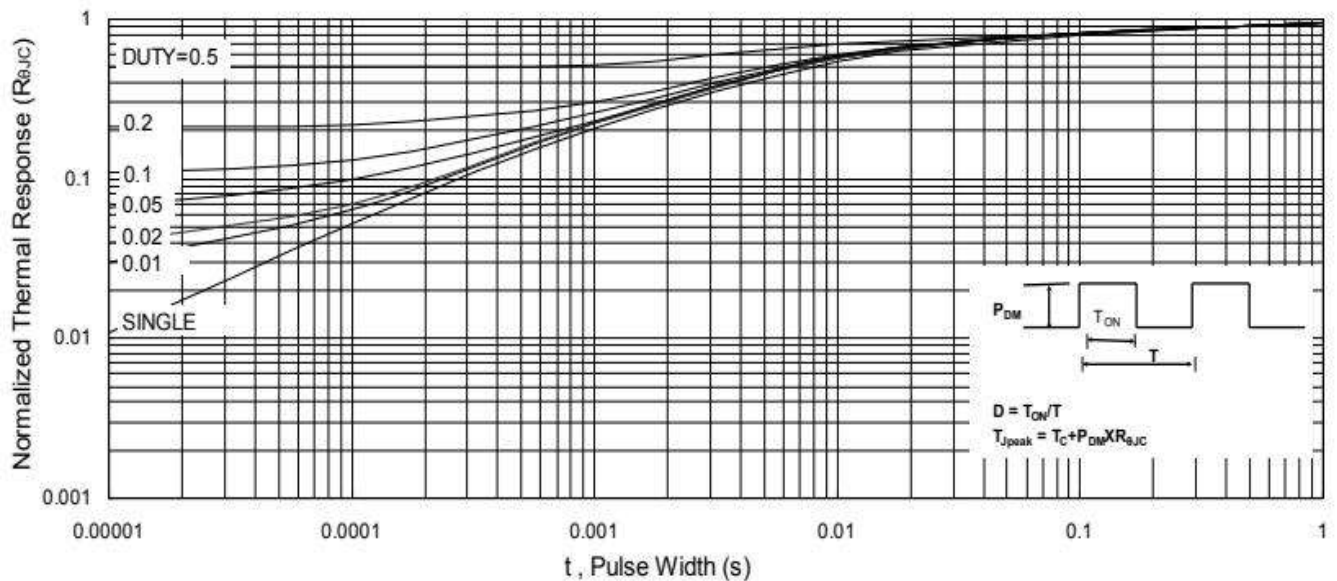
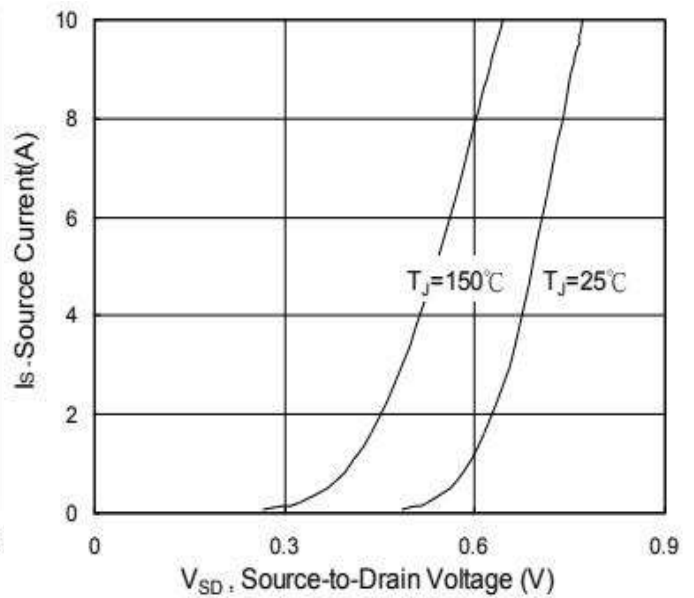
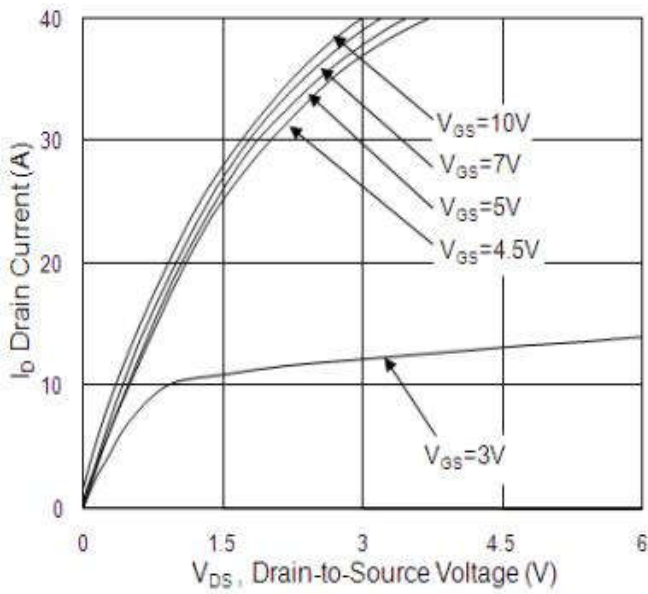
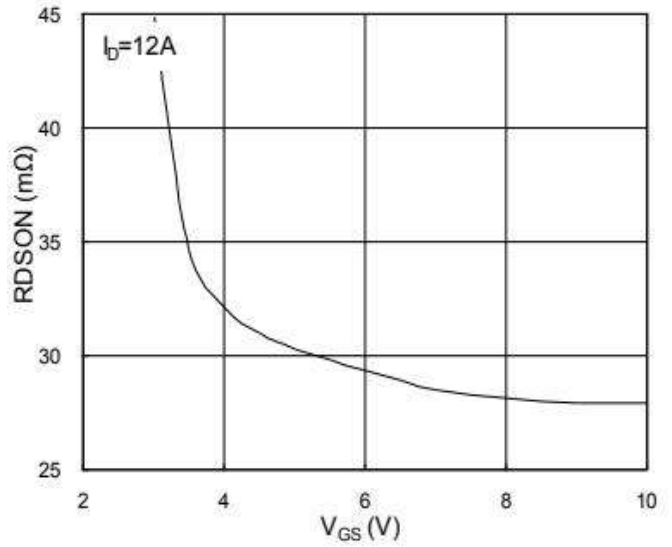
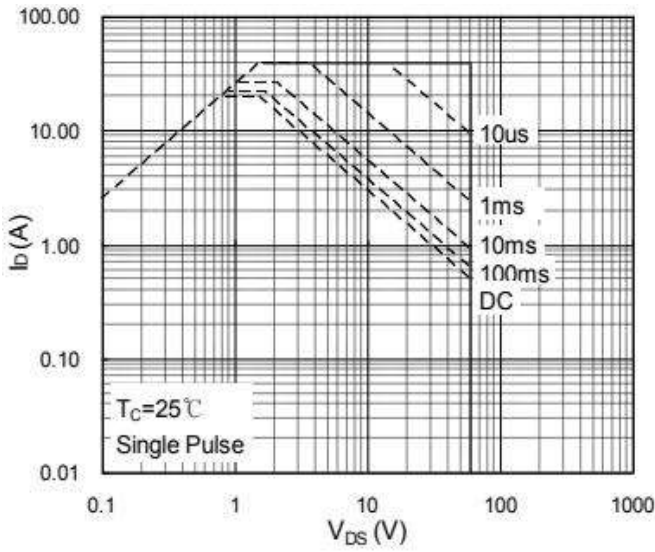
**Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified**

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Maximun Body-Diode Continuous Current(Note2)		<b>I<sub>S</sub></b>	-	-	15	<b>A</b>
Maximun Body-Diode Pulsed Current		<b>I<sub>SM</sub></b>	-	-	50	<b>A</b>
Drain-Source Diode Forward Voltage	<b>I<sub>SD</sub></b> = 10 A	<b>V<sub>SD</sub></b>	-	-	1.2	<b>V</b>
Reverse Recovery Time	<b>I<sub>S</sub></b> = <b>I<sub>F</sub></b> , <b>I<sub>SD</sub></b> = 10 A, <b>V<sub>GS</sub></b> = 0 V,	<b>trr</b>	-	12	-	<b>nS</b>
Reverse Recovery Charge	<b>dI<sub>F</sub> / dt</b> = 100 A/μs(Note3)	<b>Qrr</b>	-	7	-	<b>uC</b>

Note:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production
5. EAS condition: T<sub>j</sub> = 25 °C, V<sub>DD</sub> = 30V, V<sub>G</sub> = 10V, L = 0.1mH, R<sub>g</sub> = 25Ω

Ratings and Characteristic Curves



Package Outline Dimensions Millimeters

TO-252

	Dim.	Min.	Typ.	Max.
	A	2.10	-	2.50
	A2	0	-	0.10
	B	0.66	-	0.86
	B2	5.18	-	5.48
	C	0.40	-	0.60
	C2	0.44	-	0.58
	D	5.90	-	6.30
	D1	5.30REF		
	E	6.40	-	6.80
	E1	4.63	-	-
	G	4.47	-	4.67
	H	9.50	-	10.70
	L	1.09	-	1.21
	L2	1.35	-	1.65
V1	-	7°	-	
V2	0°	-	6°	
All Dimensions in millimeter				

PDFN5\*6-8L

	Dim.	Min.	Max.
	A	4.8	5.2
	B	0.25	0.35
	C	1	1.2
	C1	Typ 0.254	
	C2	Typ 0.254	
	E	Typ 1.27	
	L	6	6.3
	L1	5.7	6
	L2	MAX 0.2	
R	Typ 13°		
All Dimensions in millimeter			