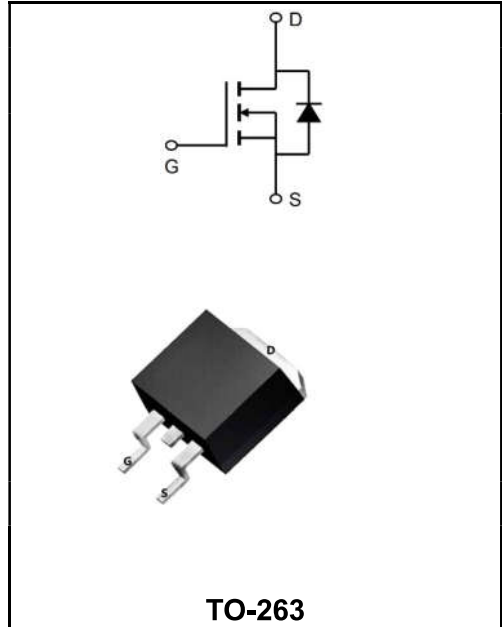


**100V N-CHANNEL ENHANCEMENT MODE MOSFET**
**MAIN CHARACTERISTICS**

<b>I<sub>D</sub></b>	120A
<b>V<sub>DSS</sub></b>	100V
<b>R<sub>DS(on)-typ(@V<sub>GS</sub>=10V)</sub></b>	< 4.4mΩ ( <b>Type:3.5 mΩ</b> )


**Features**

◆Adopt advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

**Application**

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

**Product Specification Classification**

Part Number	Package	Marking	Pack
YFW120N10AS	TO-263	YFW 120N10AS XXXXX	800PCS/Reel

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

Characteristics	Symbols	Value	Units
Drain-Source Voltage	<b>V<sub>DS</sub></b>	100	<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>	120	<b>A</b>
Pulsed Drain Current (Note1)	<b>I<sub>DM</sub></b>	520	<b>A</b>
Power Dissipation	<b>P<sub>D</sub></b>	210	<b>W</b>
Single Pulse Avalanche Energy (Note1)	<b>E<sub>AS</sub></b>	750	<b>mJ</b>
Operating Junction Temperature Range	<b>T<sub>J</sub></b>	175	<b>°C</b>
Storage Temperature Range	<b>T<sub>STG</sub></b>	-55 to +175	<b>°C</b>
Thermal Resistance, Junction-case	<b>R<sub>θJC</sub></b>	0.71	<b>°C/W</b>
Thermal Resistance, Junction ambient	<b>R<sub>θJA</sub></b>	55	<b>°C/W</b>

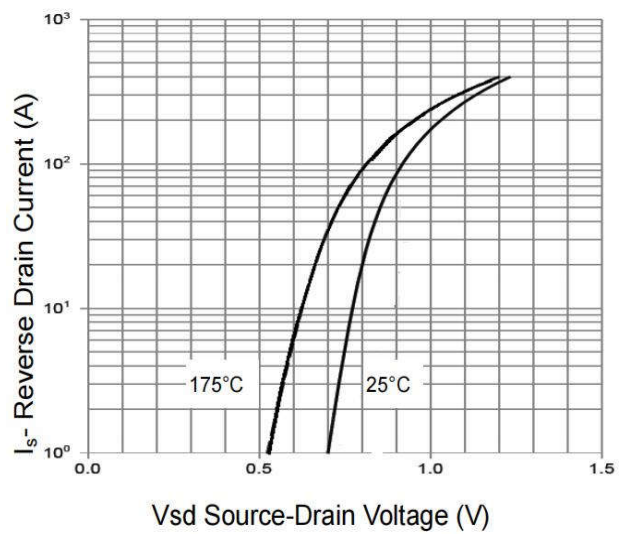
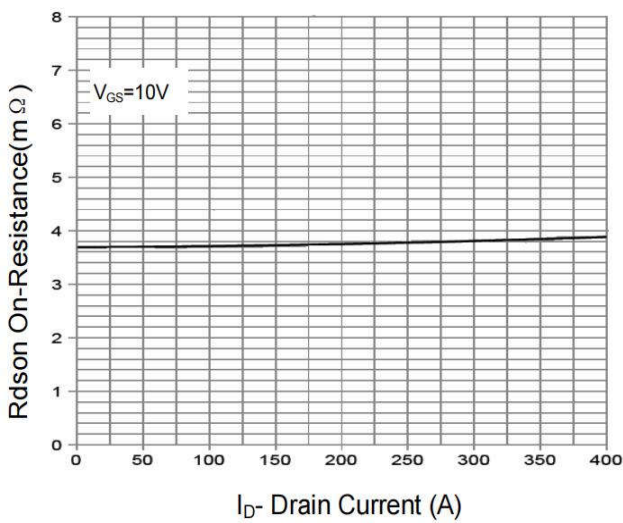
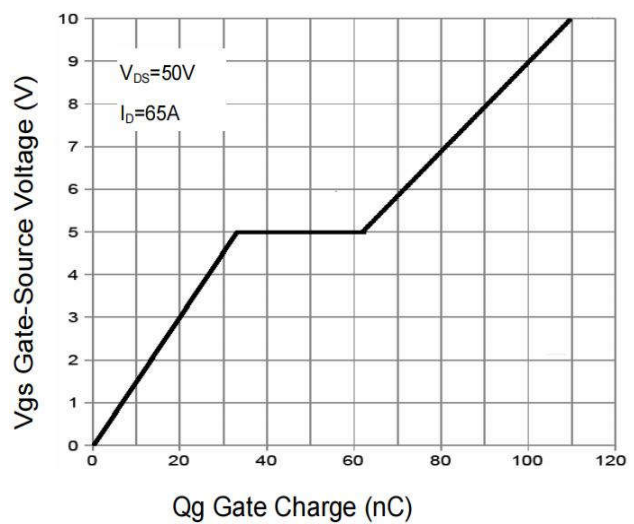
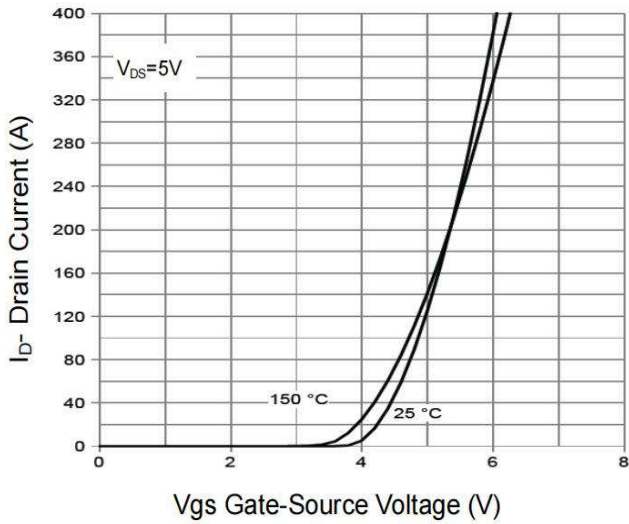
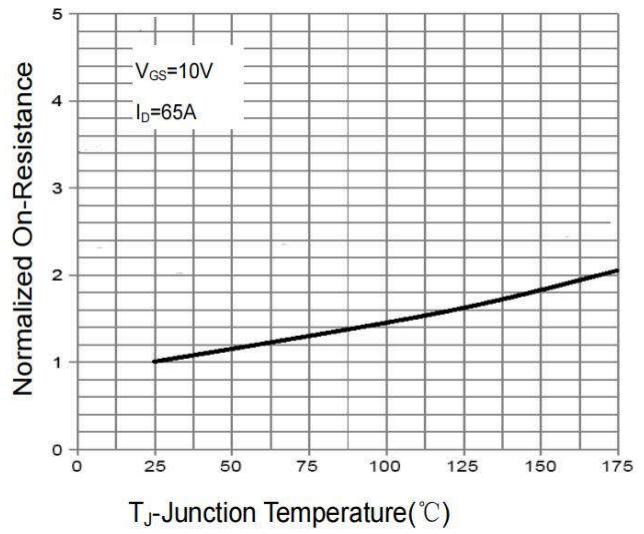
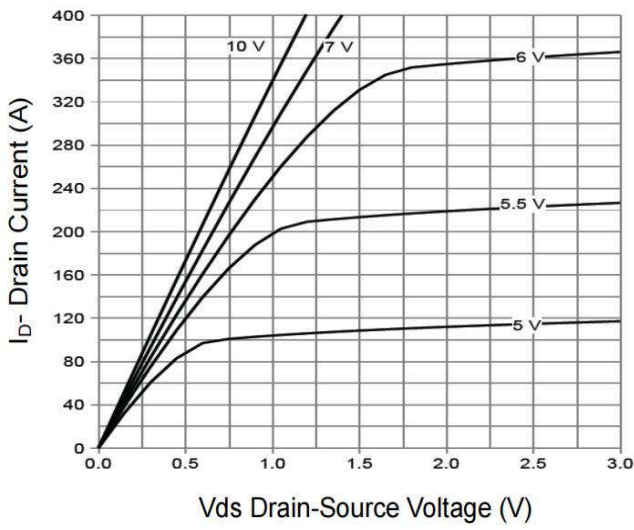
**Maximum Ratings at Tc=25°C unless otherwise specified**

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	<b>V(BR)DSS</b>	100	-	-	<b>V</b>
Drain-Source Leakage Current	$V_{DS}=100V, V_{GS}=0V$	<b>I<sub>DSS</sub></b>	-	-	1	<b>μA</b>
Gate Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	<b>I<sub>GSS</sub></b>	-	-	±100	<b>nA</b>
Gate-Source Threshold V Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	<b>V<sub>GS(th)</sub></b>	2.0	-	4.0	<b>V</b>
Drain-Source on- State Resistance	$V_{GS}=10V, I_D=40A$	<b>R<sub>DS(ON)</sub></b>	-	3.5	4.4	<b>mΩ</b>
Forward Transconductance	$V_{DS}=5V, I_D=65A$	<b>g<sub>fs</sub></b>	-	130	-	<b>S</b>
Input Capacitance	$V_{DS}=50V$ $V_{GS}=0V$ $f=1MHz$	<b>C<sub>iss</sub></b>	-	6300	-	<b>pF</b>
Output Capacitance		<b>C<sub>oss</sub></b>	-	560	-	
Reverse Transfer Capacitance		<b>C<sub>rss</sub></b>	-	40	-	
Turn-on delay time (Note2)	$V_{GS}=10V$ $V_{DD}=50V$ $R_G=3\Omega$ $I_D=65A$	<b>t<sub>d(on)</sub></b>	-	23	-	<b>ns</b>
Rise Time (Note2)		<b>T<sub>r</sub></b>	-	15	-	
Turn-Off Delay Time (Note2)		<b>t<sub>d(OFF)</sub></b>	-	48	-	
Fall Time (Note2)		<b>t<sub>f</sub></b>	-	16	-	
Total Gate Charge (Note2)	$V_{GS}=10V$ $V_{DS}=50V$ $I_D=65A$	<b>Q<sub>g</sub></b>	-	110	-	<b>nC</b>
Gate to Source Charge (Note2)		<b>Q<sub>gs</sub></b>	-	33	-	
Gate to Drain Charge (Note2)		<b>Q<sub>gd</sub></b>	-	30	-	
Maximun Body-Diode Continuous Current		<b>I<sub>S</sub></b>	-	-	120	<b>A</b>
Drain-Source Diode Forward Voltage	$V_{GS}=0V, I_S=40A, T_J=25^\circ C$	<b>V<sub>SD</sub></b>	-	0.86	1.2	<b>V</b>
Reverse Recovery Time (Note2)	$T_J=25^\circ C, I_F=65A,$ $dI/dt=100A/\mu s$	<b>t<sub>rr</sub></b>	-	70	-	<b>ns</b>
Reverse Recovery Charge (Note2)		<b>Q<sub>rr</sub></b>	-	117	-	<b>nC</b>

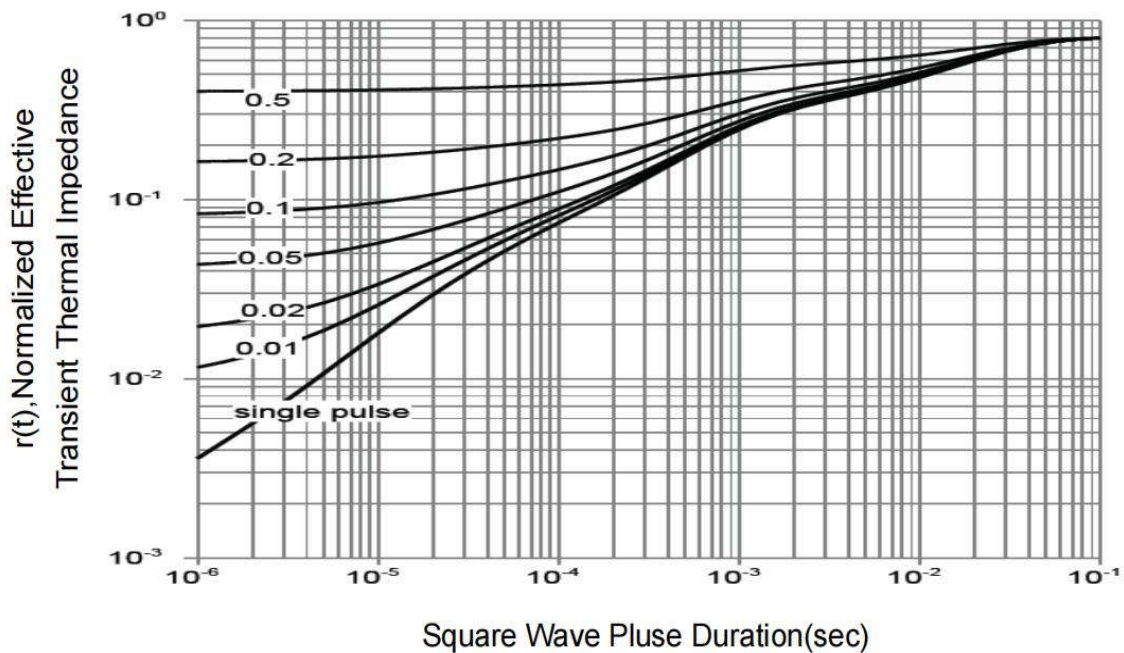
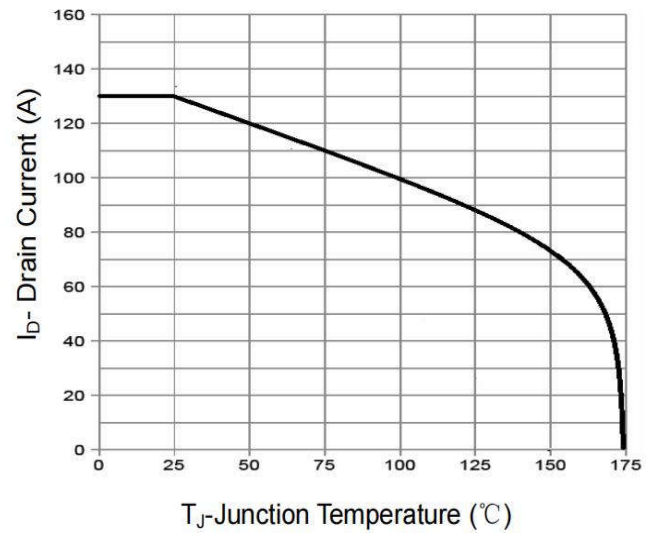
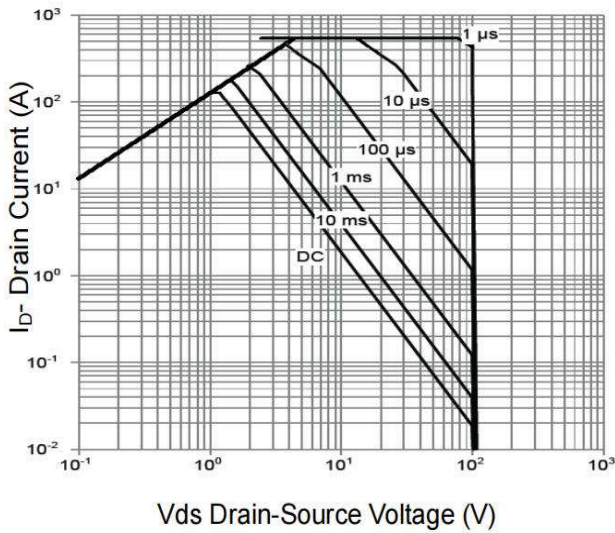
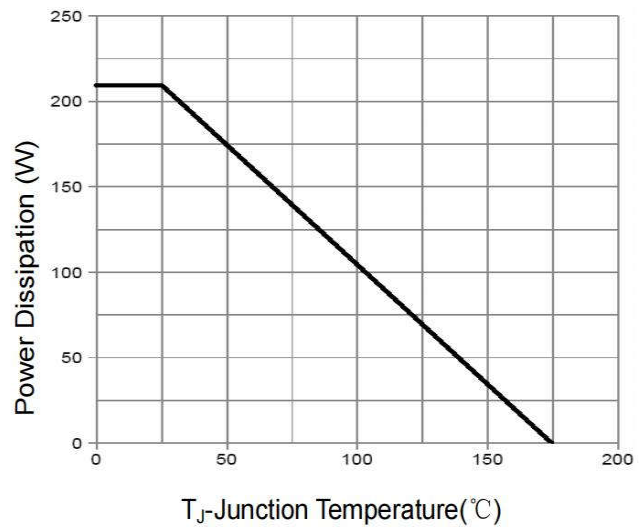
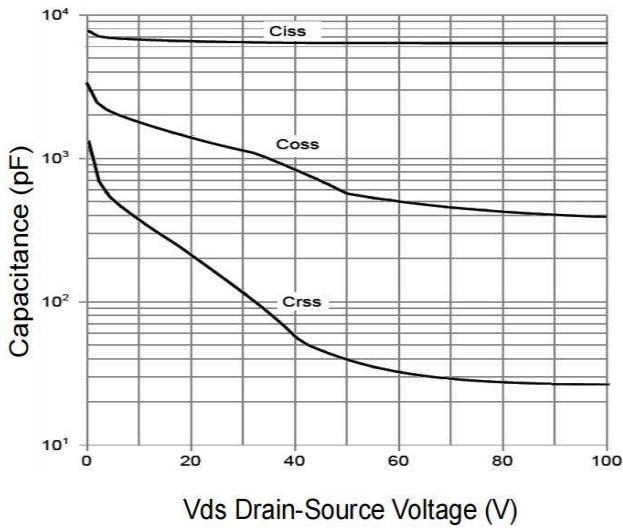
Note :

- 1、 Pulse test: 300 μs pulse width, 2 % Duty cycle
- 2、 Pulse test: 300 μs pulse width, 2 % Duty cycle

**Ratings and Characteristic Curves**



**Ratings and Characteristic Curves**



Package Outline Dimensions Millimeters

TO-263

Dim.	Min.	Max.
A	10.1	10.2
B	7.4	7.6
C	1.3	1.5
D	0.55	0.75
E	5.0	6.0
F	1.4	1.6
G	0.78	0.86
H	1.2	1.3
I	Typ2.54	
J	8.4	8.6
K	4.45	4.55
L	1.25	1.35
M	0.02	0.1
N	2.4	2.8
O	0.36	0.40
All Dimensions in millimeter		