

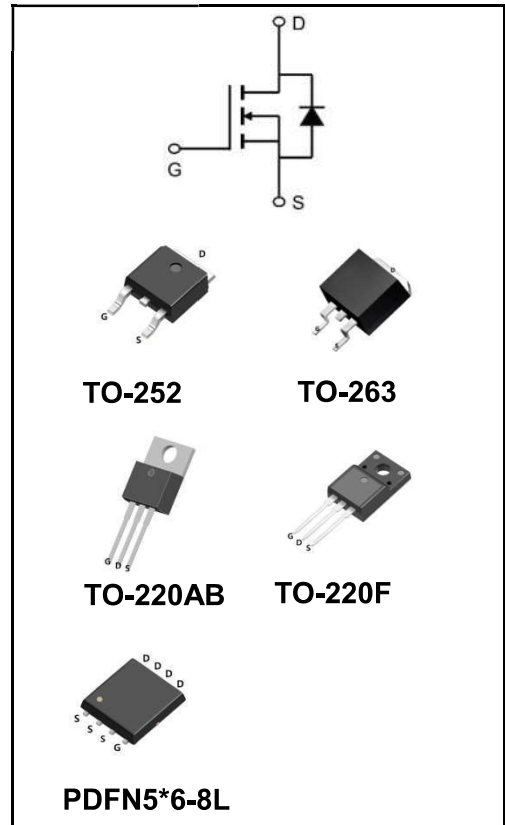
100V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D		80 A
V_{DSS}		100V
$R_{DS(on)}$ typ(@ $V_{GS}=10V$)	TO-252 /PDFN	< 8.7m Ω (Type:7.2m Ω)
	TO-263	< 8.7m Ω (Type:7.4m Ω)
	TO-220AB /220F	< 8.7m Ω (Type:7.5m Ω)

Application

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



MECHANICAL DATA

- ◆ Case: Molded plastic
- ◆ Mounting Position: Any
- ◆ Molded Plastic: UL Flammability Classification Rating 94V-0
- ◆ Lead free in compliance with EU RoHS 2011/65/EU directive
- ◆ Solder bath temperature 275°C maximum, 10s per JESD 22-B106

Product Specification Classification

Part Number	Package	Marking	Pack
YFW80N10AD	TO-252	YFW 80N10AD XXXXX	2500PCS/Reel
YFW80N10NF	PDFN5*6-8L	YFW 80N10NF XXXXX	5000PCS/Reel
YFW80N10AS	TO-263	YFW 80N10AS XXXXX	800PCS/Reel
YFW80N10AT	TO-220AB	YFW 80N10AT XXXXX	1000PCS/box
YFW80N10AF	TO-220F	YFW 80N10AF XXXXX	1000PCS/box

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value		Units
		TO-252/263/220AB/PDFN	TO-220F	
Drain-Source Voltage	V_{DS}	100		V
Gate - Source Voltage	V_{GS}	±20		V
Continuous Drain Current	I_D	80		A
Pulsed Drain Current(note1)	I_{DM}	320		A
Power Dissipation	P_D	110	30	W
Single Pulse Avalanche Energy(note1)	E_{AS}	132		mJ
Operating Temperature Range	T_J	150		°C
Storage Temperature Range	T_{STG}	-55 to +150		°C
Thermal Resistance, Junction-to-case	$R_{\theta JC}$	1.1	4.3	°C/W
Thermal Resistance, Junction ambient	$R_{\theta JA}$	62		°C/W

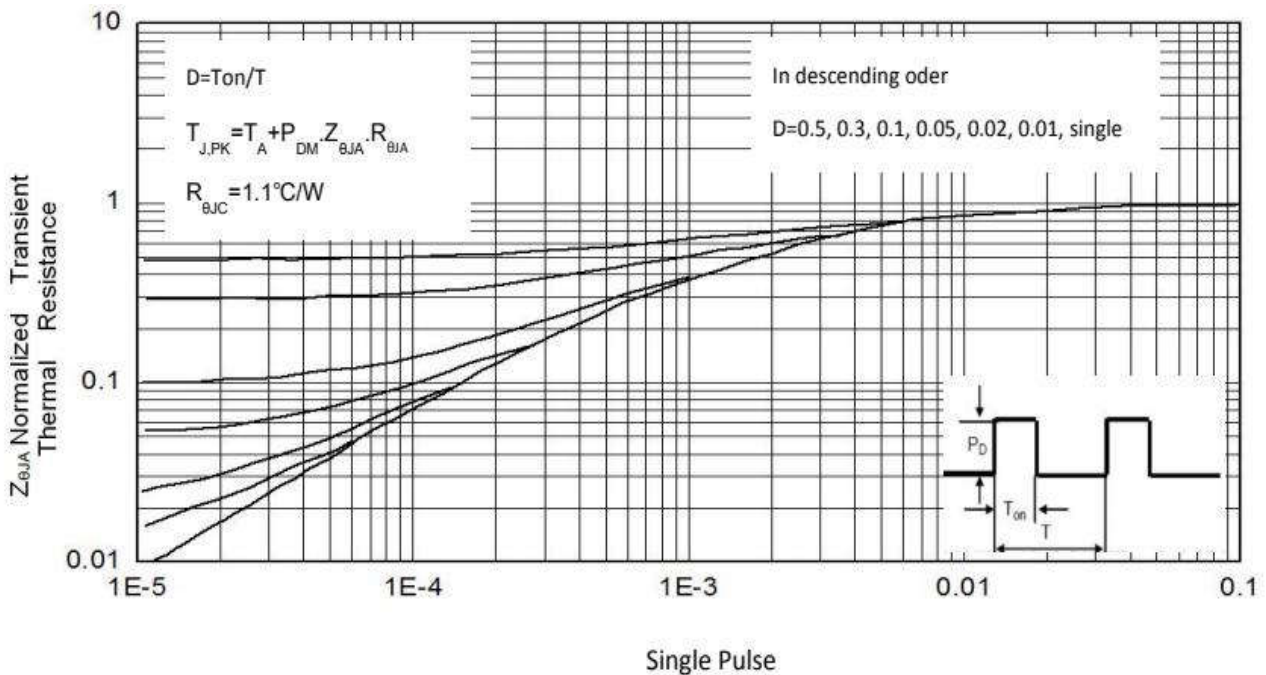
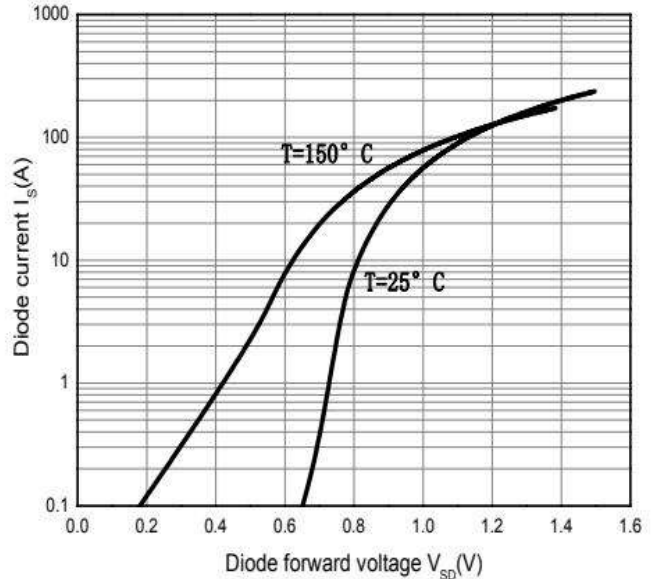
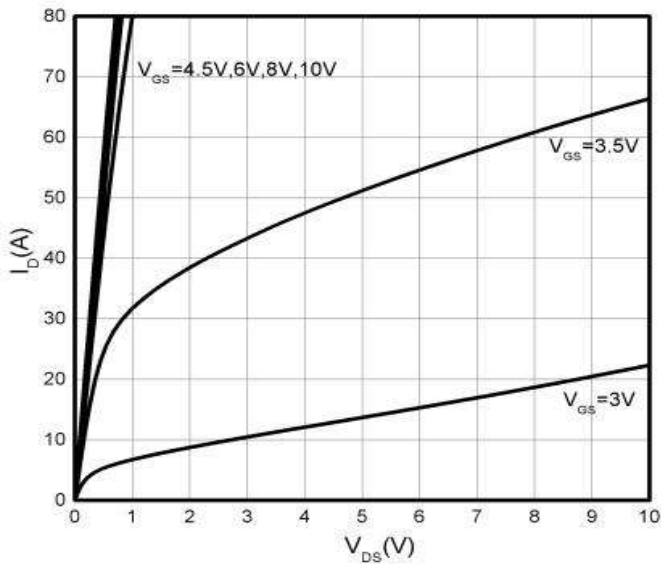
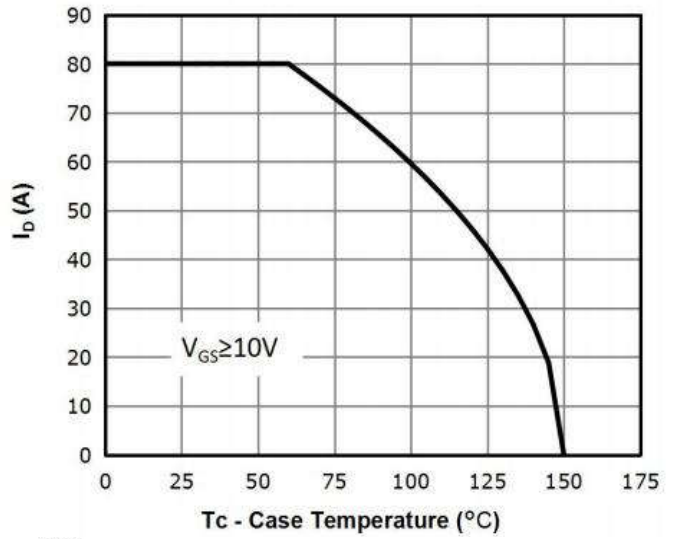
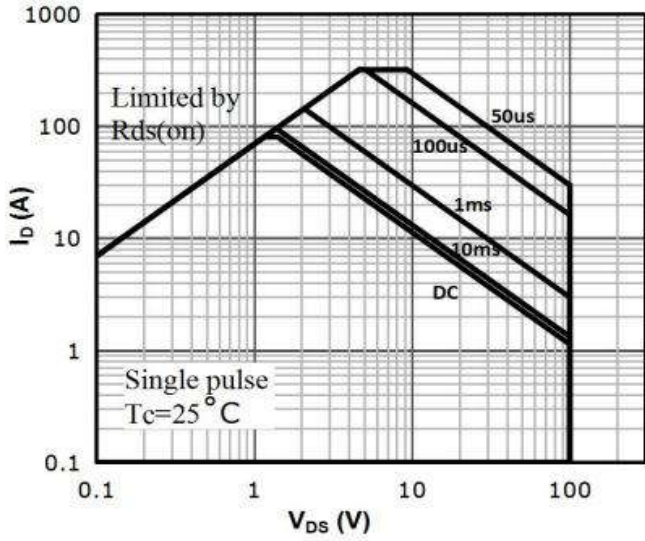
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	100	-	-	V
Drain-Source Leakage Current	$V_{DS}=100V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Source Leakage	$V_{GS}=\pm 20V, V_{DS}=0V$	I_{GSS}	-	-	±100	nA
Gate- Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	1	-	2.5	V
Drain-Source On State Resistance	$V_{GS}=10V, I_D=30A$	TO-252/PDFN	-	7.2	8.7	mΩ
		TO-263	-	7.4	8.7	
		TO-220AB/220F	-	7.5	8.7	
Forward Transconductance	$V_{DS}=5V, I_D=30A$	g_{fs}	-	50	-	s
Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$	C_{iss}	-	2000	-	pF
Output Capacitance		C_{oss}	-	511	-	
Reverse Transfer Capacitance		C_{rss}	-	12	-	
Turn-on delay time(note2)	$V_{DD}=50V, V_{GS}=10V, R_G=3\Omega, I_D=30A$	$t_{d(on)}$	-	17	-	nS
Rise Time(note2)		T_r	-	20	-	
Turn-Off Delay Time(note2)		$t_{d(OFF)}$	-	60	-	
Fall Time(note2)		t_f	-	18	-	
Total Gate Charge(note2)	$V_{DS}=50V, V_{GS}=10V, I_D=30A$	Q_g	-	10	-	nC
Gate-Source Charge(note2)		Q_{gs}	-	14	-	
Gate-Drain Charge(note2)		Q_{gd}	-	28	-	
Maximun Body-Diode Continuous Current		I_S	-	-	80	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	320	A
Drain-Source Diode Forward Voltage	$T_J=25^\circ C, I_S=30A, V_{GS}=0V$	V_{SD}	-	0.85	-	V

Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

Ratings and Characteristic Curves



Package Outline Dimensions Millimeters

TO-220AB

Dim.	Min.	Max.
A	10.15	10.35
B	2.65	2.95
C	3.70	3.90
D	28.5	29.5
E	1.30	1.45
F	6.35	6.55
G	2.9	3.3
H	15.0	16.0
I	0.38	0.42
J	4.45	4.55
K	1.25	1.35
L	Typ 5.08	
M	Typ 2.54	
N	3.1	3.3
O	0.76	0.84
All Dimensions in millimeter		

TO-220F

Dim.	Min.	Max.
A	9.95	10.25
B	2.95	3.25
C	1.25	1.45
D	12.95	13.25
E	0.50	0.65
F	3.1	3.3
G	1.30	1.45
H	Typ 2.54	
I	Typ 5.08	
J	4.60	4.75
K	2.50	2.65
L	6.35	6.55
M	15.4	16.0
N	2.75	3.05
O	0.48	0.52
P	0.76	0.84
All Dimensions in millimeter		

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			

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				

Package Outline Dimensions Millimeters

PDFN5*6-8L

