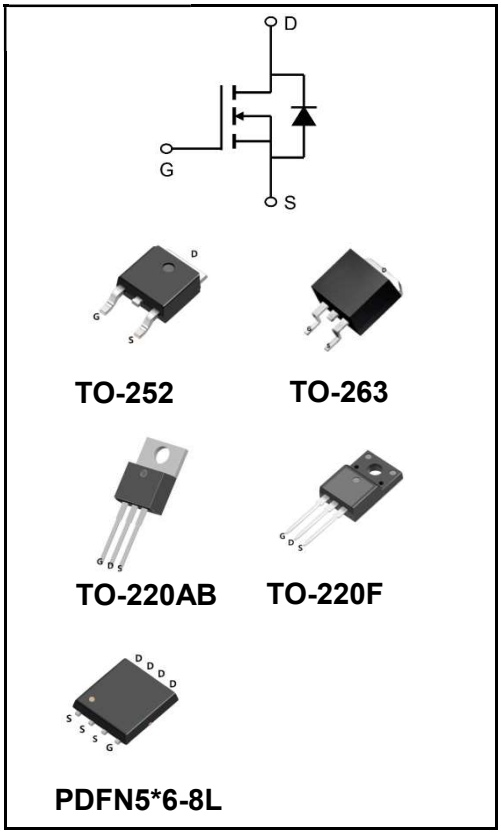
100V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

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



Pb lead-free ROHS

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℃ maximum,10s per JESD 22-B106

Product Specification Classification

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

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

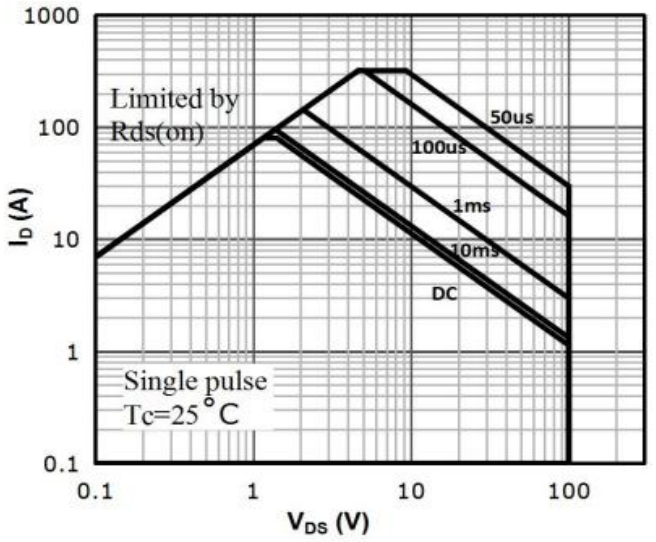
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

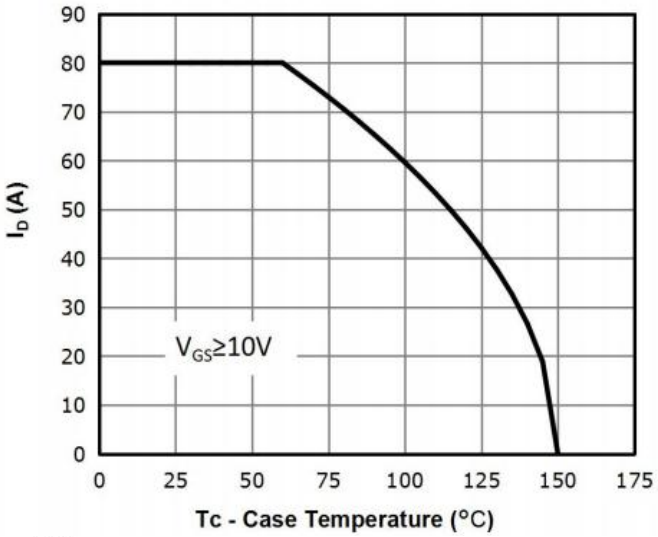
Maximum Ratings at Tc=25°C unless otherwise specified

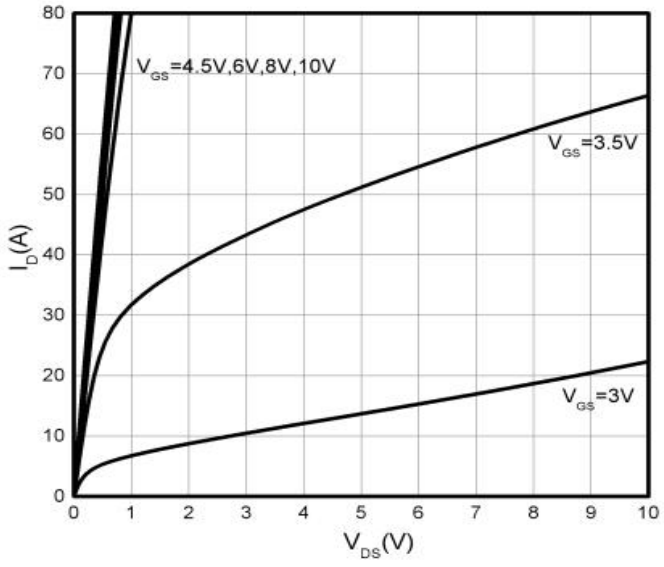
Characteristics	Test Condition		Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA		BV_{DSS}	100	-	-	V
Drain-Source Leakage Current	V_{DS}=100V , V_{GS}=0V		I_{DSS}	-	-	1	μA
Gate-Source Leakage	V_{GS}=±20V, V_{DS}=0V		I_{GSS}	-	-	±100	nA
Gate- Source Threshold Voltage	V_{DS}= V_{GS}, I_D=250μA		$V_{GS(th)}$	1	-	2.5	V
Drain-Source On State Resistance	V_{GS}=10V, I_D=30A	TO-252/PDFN	$R_{DS(ON)}$	-	7.2	8.7	mΩ
		TO-263		-	7.4	8.7	
		TO-220AB/220F		-	7.5	8.7	
Forward Transconductance	V_{DS} = 5 V, 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=3Ω 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°C, I_S = 30A, V_{GS} = 0V		V_{SD}	-	0.85	-	V

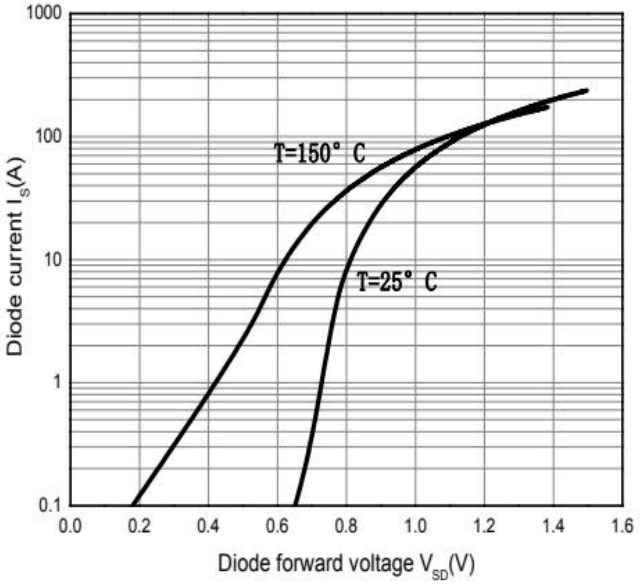
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

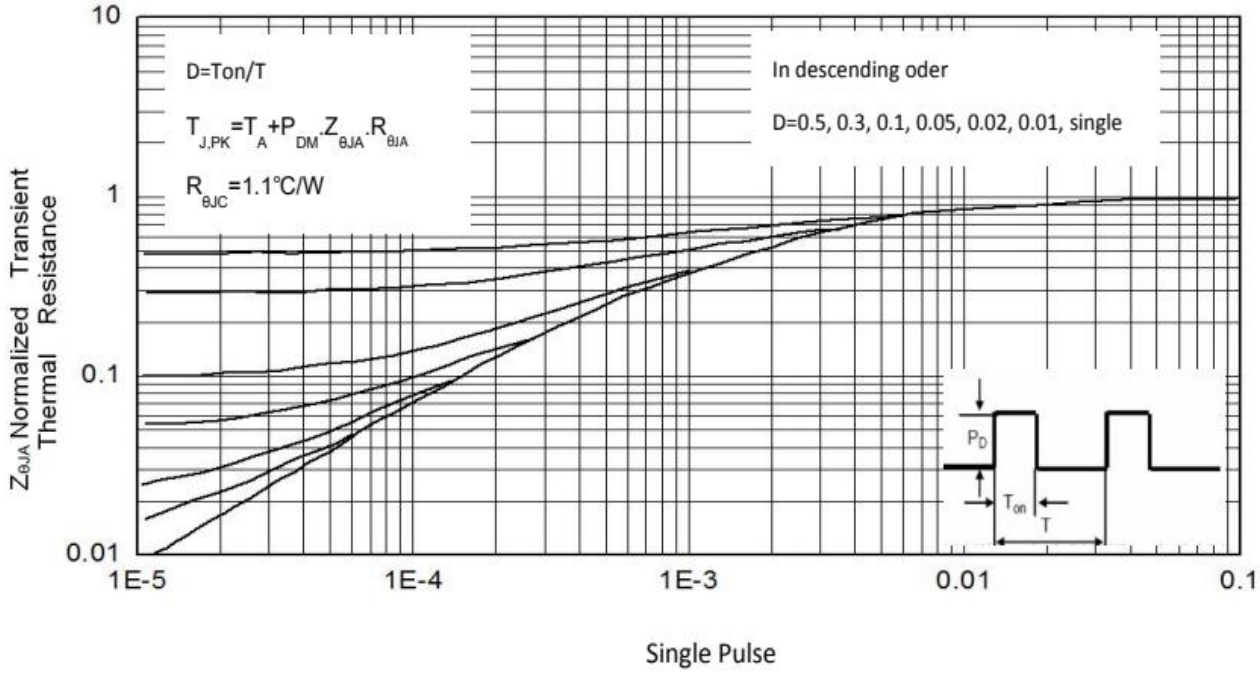
Ratings and Characteristic Curves





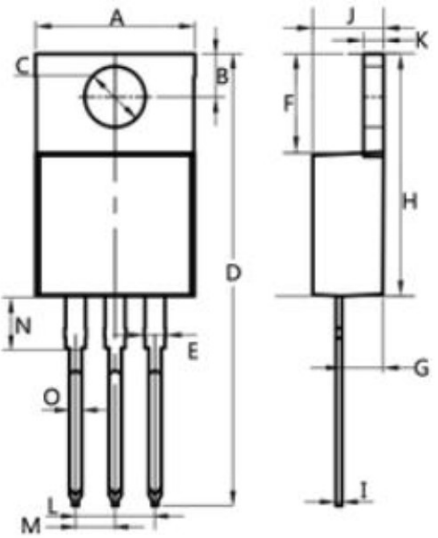






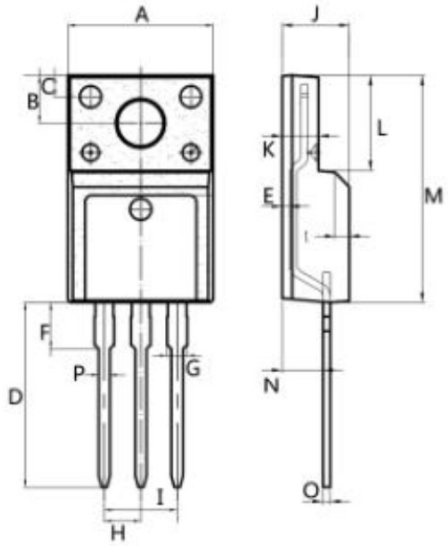
Package Outline Dimensions Millimeters

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		

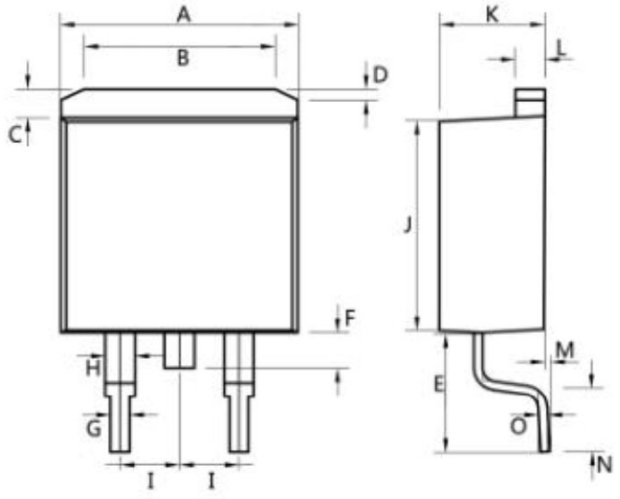
TO-220F



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		

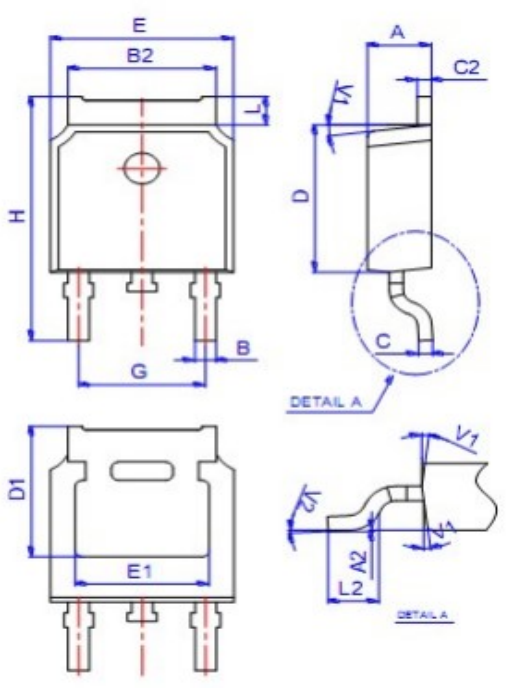
Package Outline Dimensions Millimeters

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		

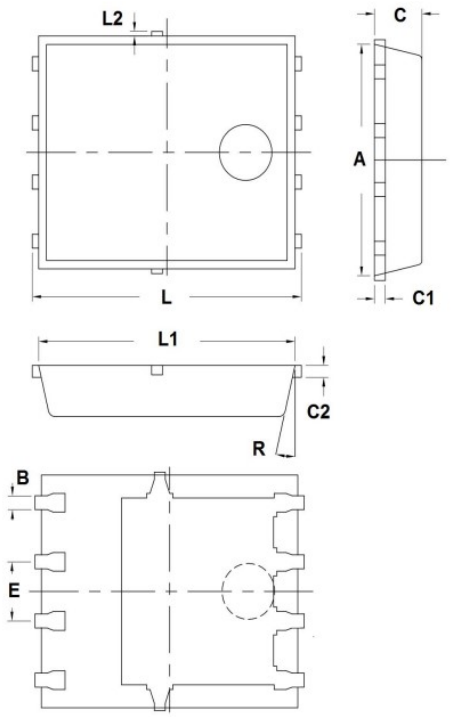
TO-252



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



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

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