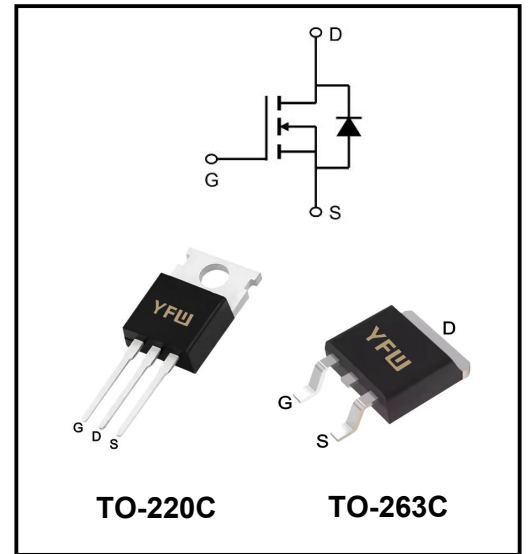


30V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	150A
V_{DSS}	30V
R_{DS(on)-typ}(@V_{GS}=10V)	<3mΩ(Typ:2.65mΩ)



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

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

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	30	V
Gate - Source Voltage	V_{GS}	±20	V
Continuous drain current	I_D	150	A
Pulsed Drain Current (Note1)	I_{DM}	600	A
Power dissipation	P_D	110	W
Single Pulse Avalanche Energy(Note1)	E_{AS}	360	mJ
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C
Thermal Resistance, Junction-case	R_{θJC}	1.5	°C/W
Thermal Resistance, Junction to Ambient	R_{θJA}	62	°C/W

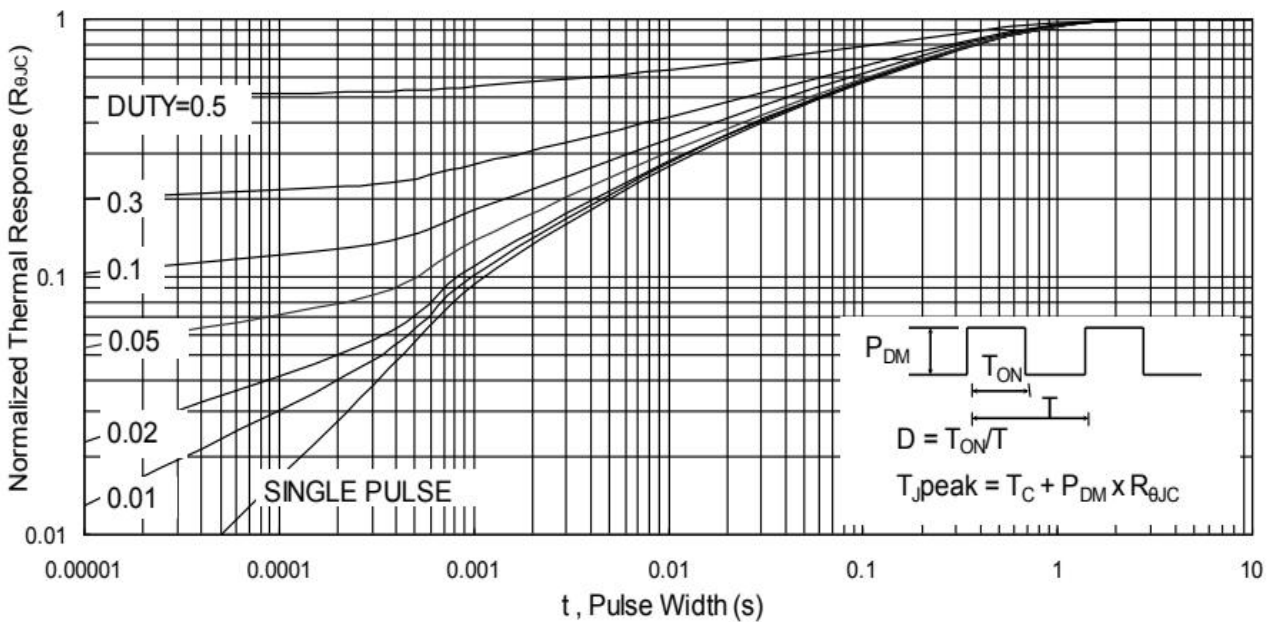
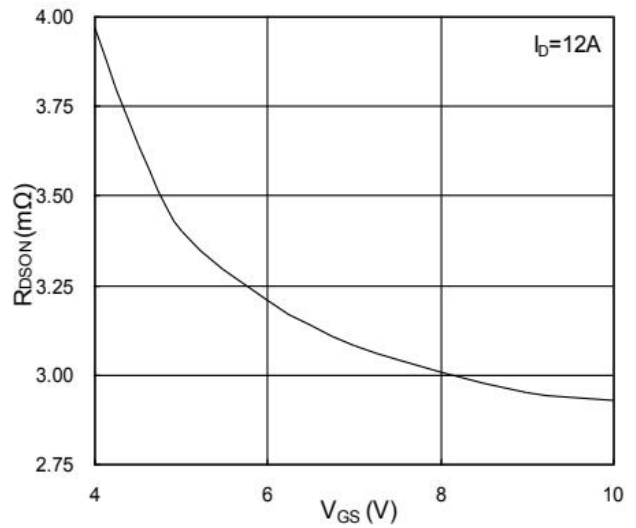
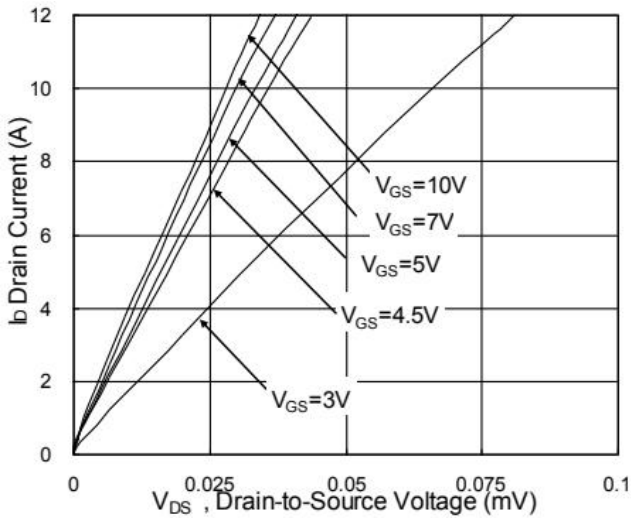
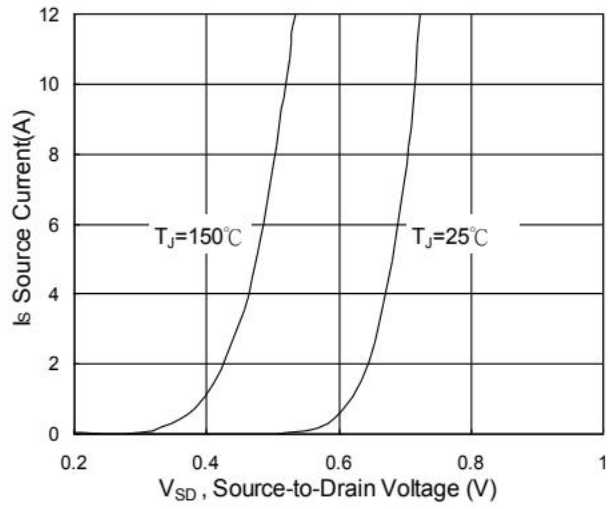
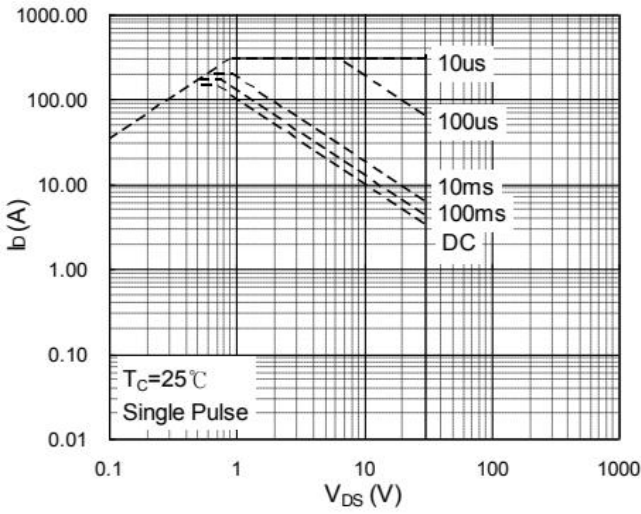
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

Maximum Ratings at Tc=25°C unless otherwise specified

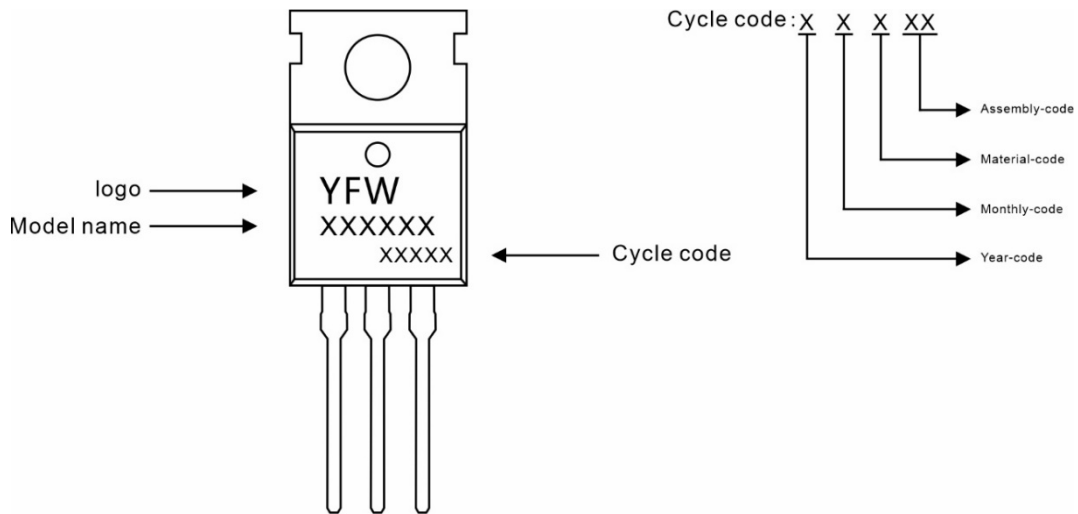
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	30	-	-	V
Drain-Source Leakage Current	$V_{DS}=100V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Source Leakage Current	$V_{DS}=30V, V_{GS}=0V$	I_{GSS}	-	-	± 100	nA
Gate -Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	2.0	-	4	V
Drain-Source On-State Resistance	$V_{GS}=10V, I_D=20A$	$R_{DS(on)}$	-	2.65	3	mΩ
	$V_{GS}=4.5V, I_D=20A$		-	4.1	6	mΩ
Forward Transconductance	$V_{DS}=5V, I_D=30A$	g_{fs}	30	-	--	S
Input Capacitance	$V_{GS}=0V$ $V_{DS}=15V$ $f=1MHz$	C_{iss}	-	5100	-	pF
Output Capacitance		C_{oss}	-	1086	-	
Reverse Transfer Capacitance		C_{rss}	-	612	-	
Turn-on delay time	$V_{DD}=15V$ $V_{GS}=10V$ $R_G=3\Omega$ $I_D=30A$	$t_{d(on)}$	-	22	-	ns
Rise Time		T_r	-	150	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	73	-	
Fall Time		t_f	-	35	-	
Total Gate Charge	$V_{DS}=15V$ $V_{GS}=10V$ $I_D=30A$	Q_g	-	48	-	nC
Gate-Source Charge		Q_{gs}	-	11	-	
Gate-Drain Charge		Q_{gd}	-	21	-	
Diode forward current		I_s	-	-	150	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	600	A
Diode Forward Voltage	$V_{GS}=0V, I_s=1A, T_J=25^\circ C$	V_{SD}	-	-	1.2	V

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

Ratings and Characteristic Curves



Marking Diagram



Ordering information

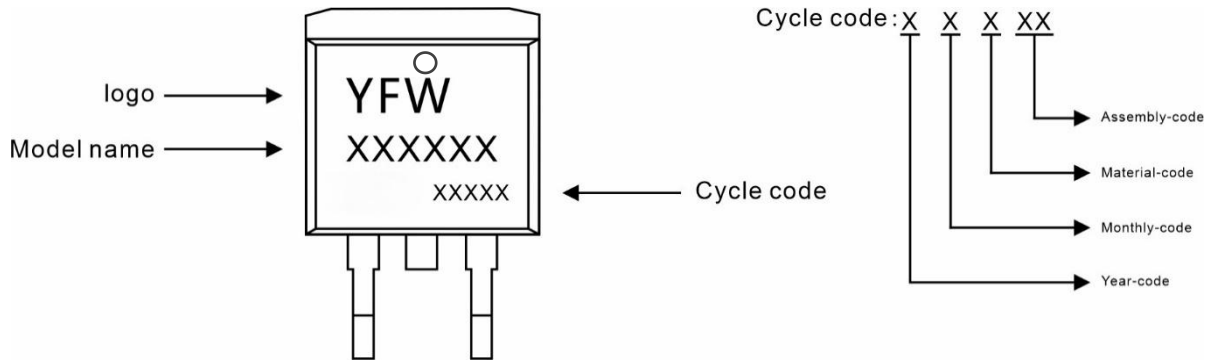
Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW150N03AC	TO-220C	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220C

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.34	4.67	0.171	0.184
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW150N03ASC	TO-263C	0.04oz(1.16g)	800pcs/reel	1600pcs/box 8000pcs/Cartron

Package Dimensions

TO-263C

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071

Disclaimer

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