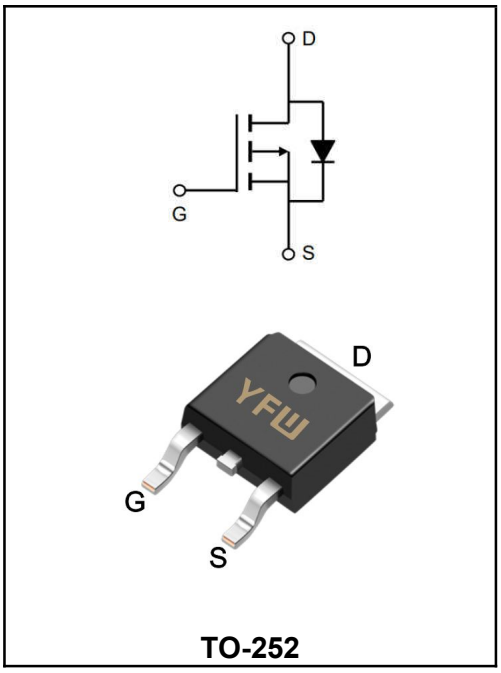
-60V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-100A
V_{DS}	-60V
R_{DSON}-typ(@V_{GS}=-10V)	＜9.8mΩ(Typ:7.5mΩ)



TO-252

FEATURES

- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge

APPLICATIONS

- Lithium battery protection
- Wireless impact
- Mobile phone fast charging

MECHANICAL DATA

- Case: TO-252/AD
- 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

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-60	V
Gate - Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-100	A
Pulsed Drain Current (note1)	I_{DM}	-400	A
Single Pulsed Avalanche Energy	E_{AS}	620	mJ
Power Dissipation	P_D	150	W
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	0.88	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	60	°C/W

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

Electrical Characteristics (T_J=25℃, unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D= -250μA	BV_{DSS}	-60	-	-	V
Zero Gate Voltage Drain Current	V_{DS}= -60V, V_{GS}=0V,	I_{DSS}	-	-	-1	μA
Gate to Body Leakage Current	V_{DS}=0V, V_{GS}= ±20V	I_{GSS}	-	-	±100	nA
Gate Threshold Voltage	V_{DS}=V_{GS}, I_D= -250μA	$V_{GS(th)}$	-1.1	-	-2.4	V
Static Drain-Source on-Resistance	V_{GS}= -10V, I_D= -20A	$R_{DS(ON)}$	-	7.5	9.8	mΩ
	V_{GS}= -4.5V, I_D= -15A		-	9.5	12.4	mΩ
Input Capacitance	V_{DS}=-25V V_{GS}=0V f=1.0MHz	C_{iss}	-	8550	-	pF
Output Capacitance		C_{oss}	-	480	-	
Reverse Transfer Capacitance		C_{rss}	-	285	-	
Turn-on Delay Time(Note2)	V_{DS}=-48V V_{GS}=-10V R_G=6Ω I_D=-1A	$t_{d(on)}$	-	70		ns
Turn-on Rise Time(Note2)		T_r	-	202		ns
Turn-off Delay Time(Note2)		$t_{d(OFF)}$	-	400		ns
Turn-off Fall Time(Note2)		t_f	-	402		ns
Total Gate Charge(Note2)	V_{DS}= -48V V_{GS}= -10V I_D= -5A	Q_g	-	138		nC
Gate to Source Charge(Note2)		Q_{gs}	-	17		nC
Gate to Drain Charge(Note2)		Q_{gd}	-	28		nC
Maximun Body-Diode Continuous Current		I_S	-	-	-100	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	-400	A
Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S= -1A, TJ=25℃	V_{SD}	-	-	-1.2	V

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

RATINGS AND CHARACTERISTIC CURVES

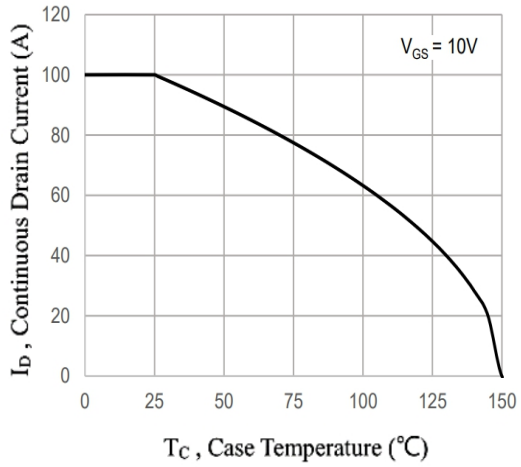


Fig.1Typical Output Characteristics

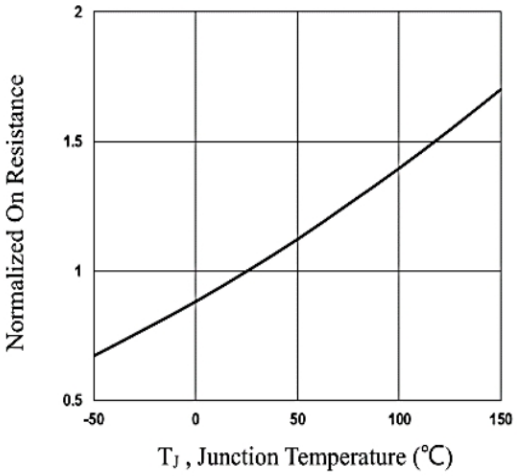


Fig.2 Normalized RDSON vs. TJ

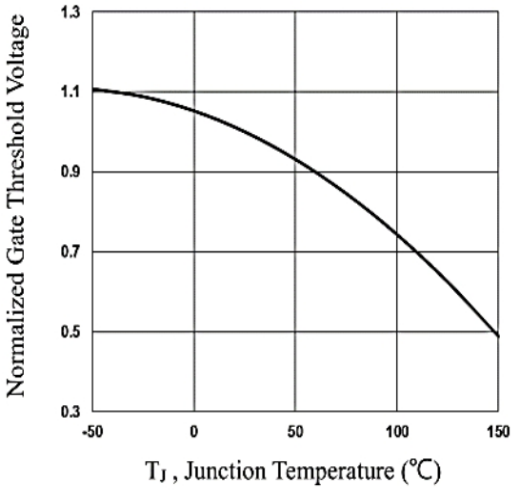


Fig.3 Normalized RDSON vs. TJ

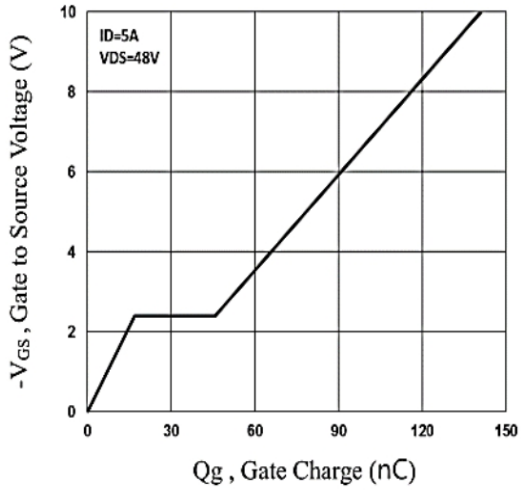


Fig.4 Normalized Vth vs. TJ

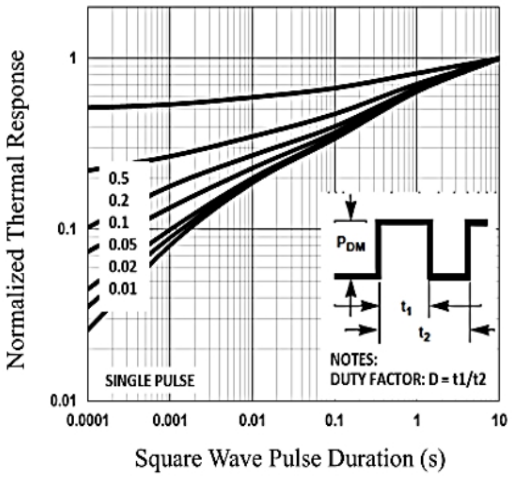


Fig.5 Normalized Transient Impedance

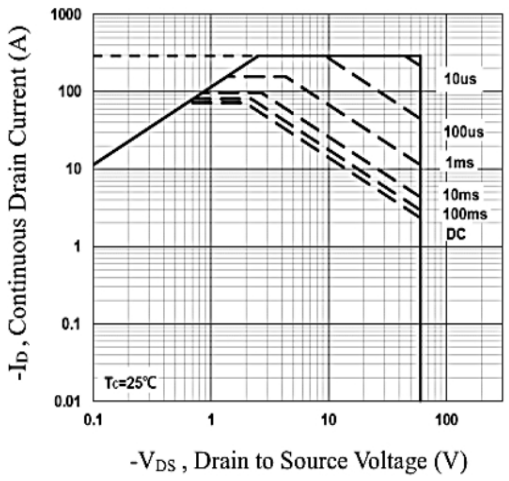
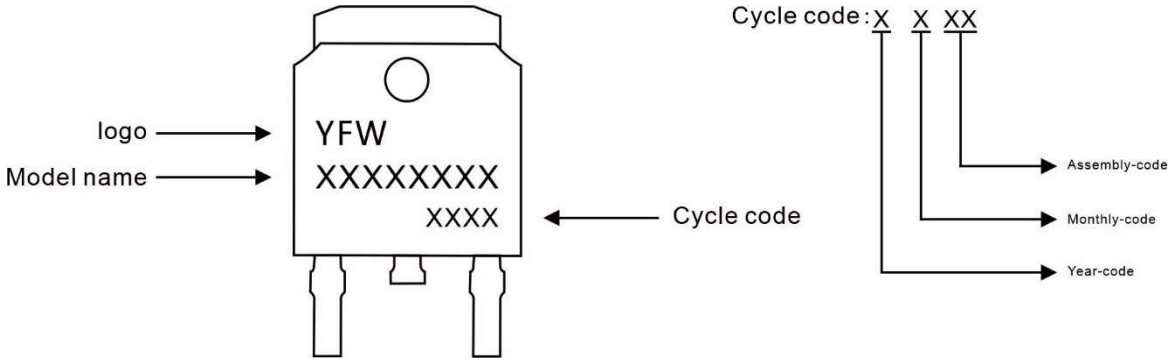


Fig.6 Maximum Safe Operation Area

Marking Diagram

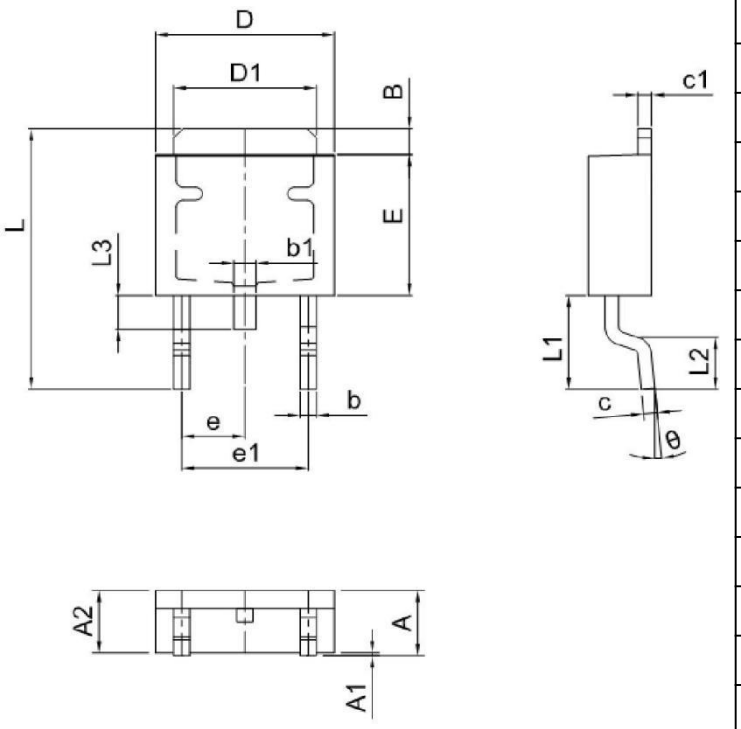


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW100P06AD	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	0.95	1.55	0.037	0.061
b	0.50	0.80	0.020	0.031
b1	0.60	0.90	0.024	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.80	6.40	0.228	0.252
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.50	0.106	0.138
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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