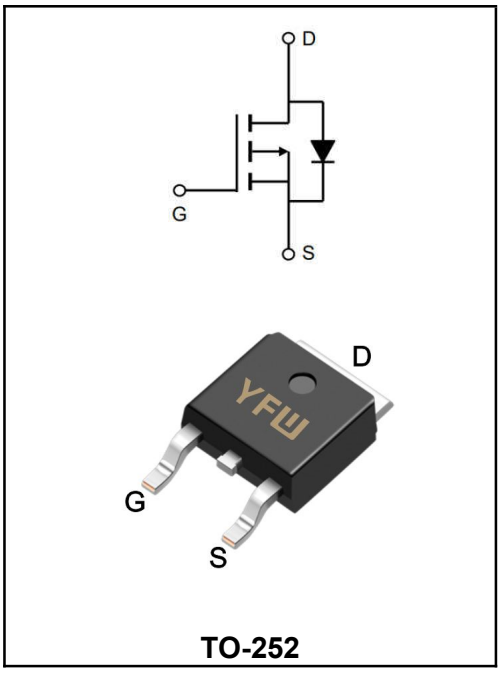
-60V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-80A
V_{DSS}	-60V
R_{DSON}-typ(@V_{GS}=-10V)	＜14mΩ(Typ:9.8mΩ)



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: 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

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DSS}	-60	V
Gate - Source Voltage	V_{GSS}	±20	V
Continuous Drain Current	I_D	-80	A
Pulsed Drain Current (note1)	I_{DM}	-320	A
Single Pulsed Avalanche Energy	E_{AS}	420	mJ
Power Dissipation	P_D	110	W
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	1.1	°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	-	-2	V
Static Drain-Source on-Resistance	V_{GS}= -10V, I_D= -10A	$R_{DS(ON)}$	-	9.8	14	mΩ
	V_{GS}= -4.5V, I_D= -5A		-	11.5	6	mΩ
Input Capacitance	V_{DS}=-15V V_{GS}=0V f=1.0MHz	C_{iss}	-	3350	-	pF
Output Capacitance		C_{oss}	-	600	-	
Reverse Transfer Capacitance		C_{rss}	-	23	-	
Turn-on Delay Time(Note2)	V_{DD}= -30V I_{D0}= -30A V_{GS}= -10V R_{GEN}=3Ω	$t_{d(on)}$	-	4.1		ns
Turn-on Rise Time(Note2)		T_r	-	2.2		ns
Turn-off Delay Time(Note2)		$t_{d(OFF)}$	-	14.3		ns
Turn-off Fall Time(Note2)		t_f	-	3.5		ns
Total Gate Charge(Note2)	V_{DS}= -30V I_D= -20A V_{GS}= -10V	Q_g	-	53		nC
Gate to Source Charge(Note2)		Q_{gs}	-	10		nC
Gate to Drain Charge(Note2)		Q_{gd}	-	9		nC
Maximun Body-Diode Continuous Current		I_S	-	-	-80	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	-320	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

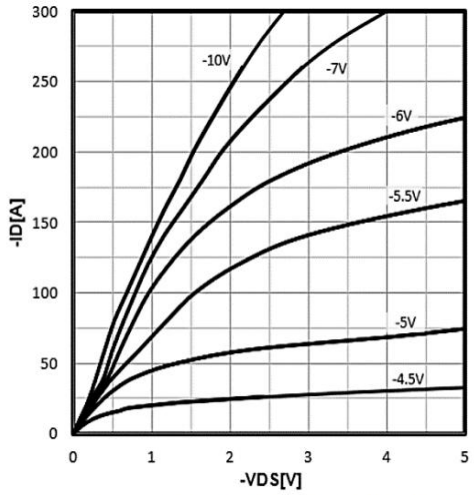


Figure 1. Type. Output Characteristics (Tj=25 ℃)

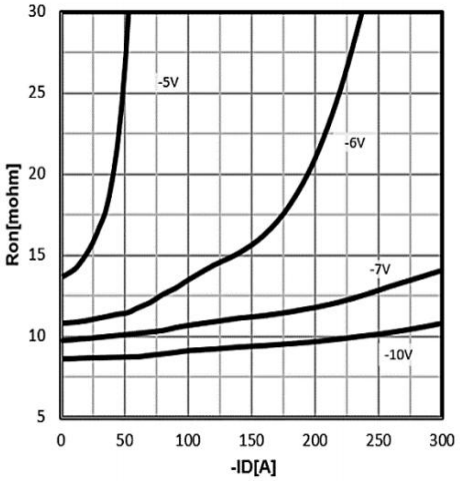


Figure 2. Type. drain-source on resistance

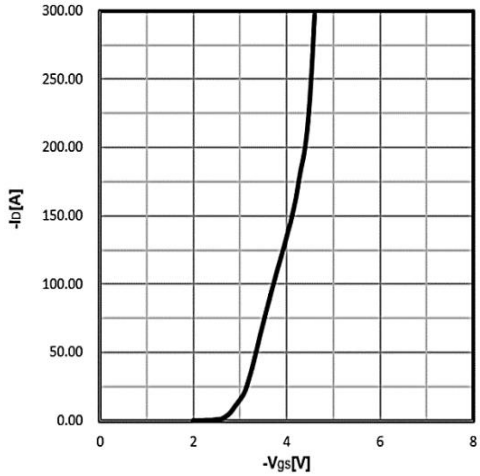


Figure 3. Type. transfer characteristics

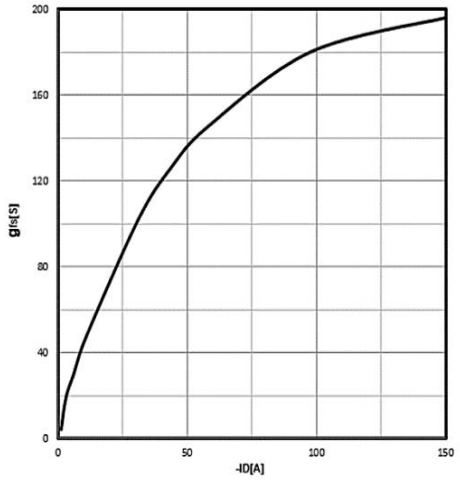


Figure 4. Type. forward transconductance

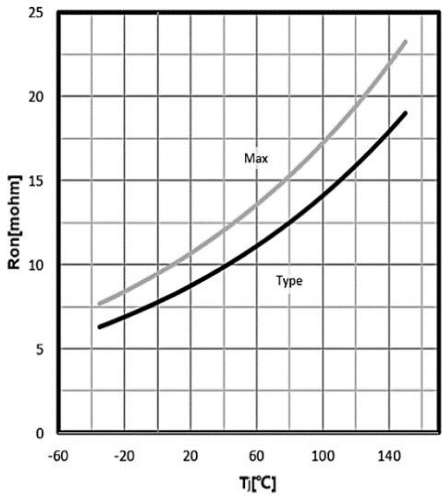


Figure 5. Drain-source on-state resistance
RDS(on) =f(Tj); ID =80A; VGS =10V

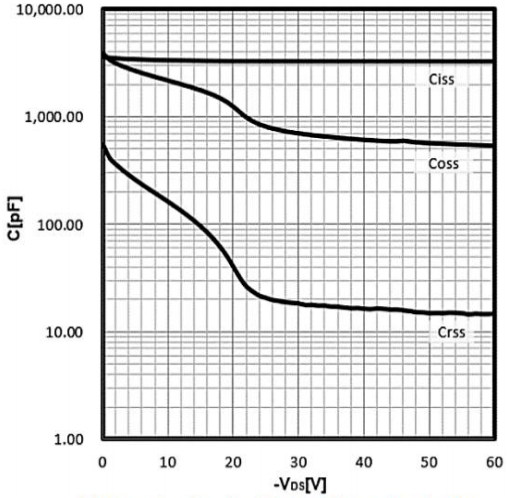


Figure 6 . Body-Diode Characteristics
C=f(VDS); VGS =0V; f=1MHz

RATINGS AND CHARACTERISTIC CURVES

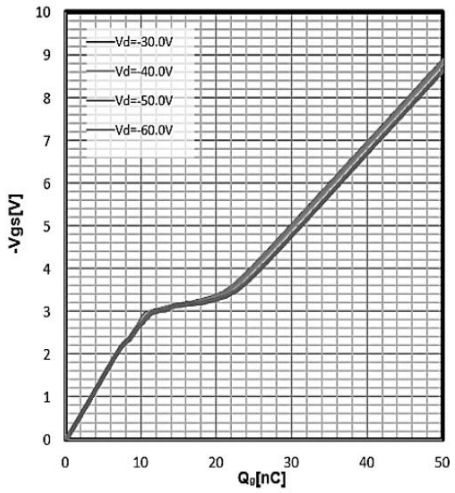


Figure 7. Typ. gate charge
VGS =f(Q gate) ; ID =20A

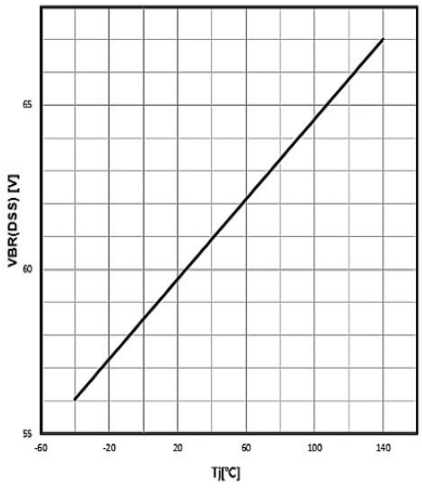


Figure 8. Drain Current Derating
VBR(DSS) =f(T j); I D =250uA

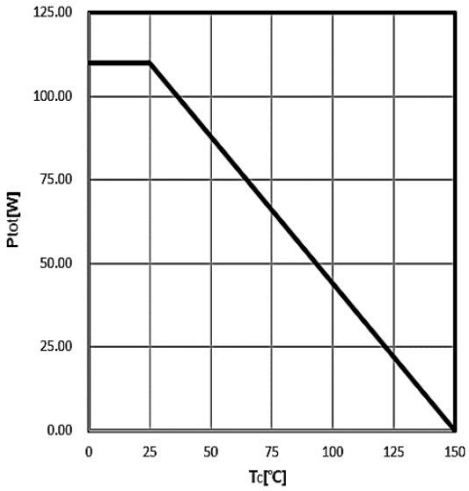


Figure 7. Power Dissipation

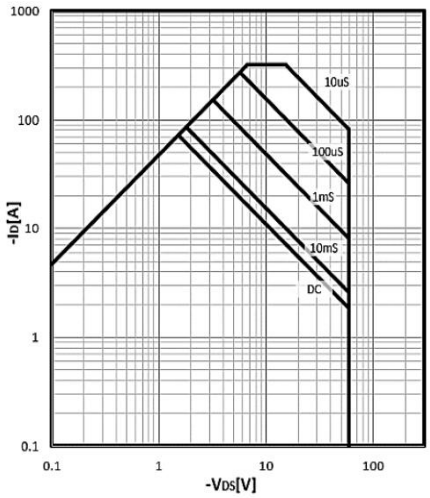


Figure 8. Safe operating area

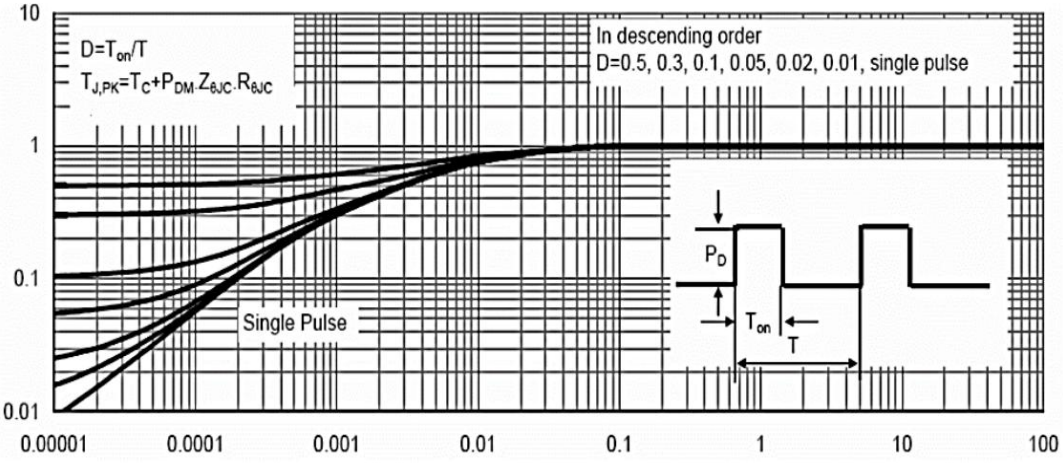
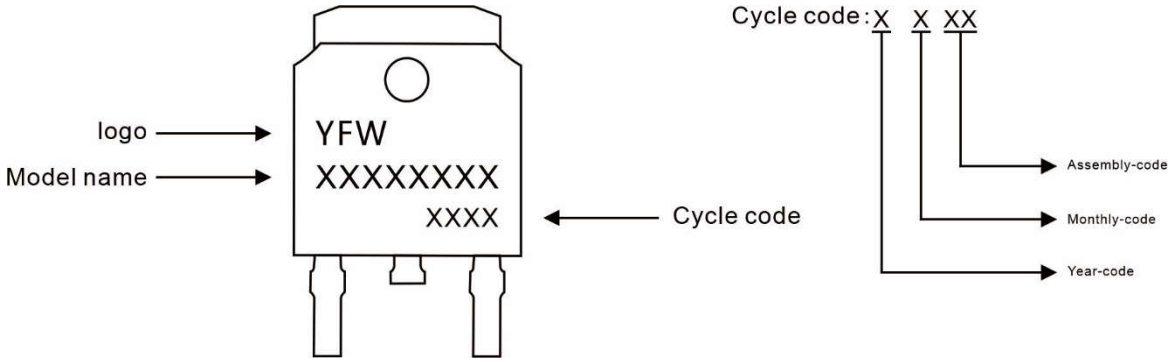


Figure 10. Max. transient thermal impedance

ZthJC =f(tp)

Marking Diagram

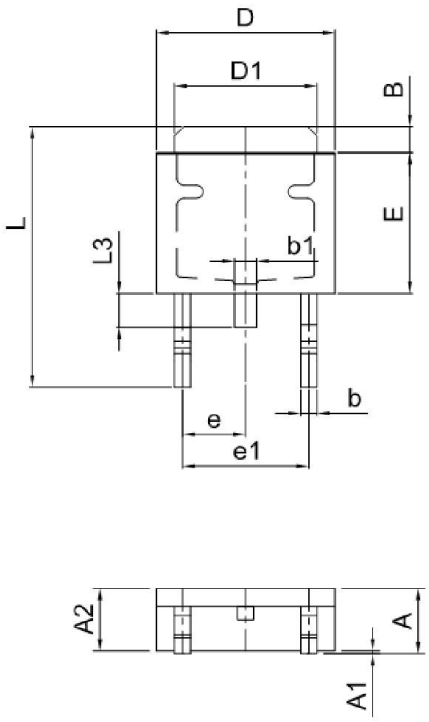


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW80P06AD	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	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	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	5.40	5.70	0.213	0.224
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	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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