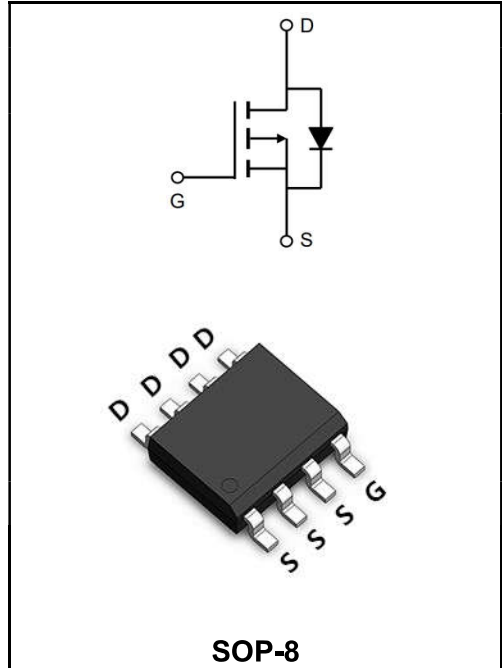


-100V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-8A
V_{DSS}	-100V
R_{DS(on)-typ(@V_{GS}=-10V)}	< 110mΩ (Type:83 mΩ)



Application

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

Product Specification Classification

Part Number	Package	Marking	Pack
YFW8P10S	SOP-8	YFW 8P10S XXXXX	3000PCS/Tape

Maximum Ratings at T_c=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-100	V
Gate - Source Voltage	V_{GS}	±20	V
Continuous Drain Current, V _{GS} @ -10V ¹ @T _c =25°C	I_D	-8	A
Continuous Drain Current, V _{GS} @ -10V ¹ @T _c =100°C	I_D	-3.85	A
Pulsed Drain Current ²	I_{DM}	-18	A
Single Pulse Avalanche Energy ³	E_{AS}	56	mJ
Avalanche Current	I_{AS}	3.1	A
Total Power Dissipation ⁴ @T _A =25°C	P_D	3.1	W
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	-55 to +150	°C
Thermal Resistance Junction-Ambient ¹	R_{θJA}	59	°C/W
Thermal Resistance Junction to Case ¹	R_{θJC}	16	°C/W

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	-110	-	V
Static Drain-Source On-Resistance ²	$V_{GS}=-10V, I_D=-6A$	$R_{DS(ON)}$	-	83	110	mΩ
	$V_{GS}=-4.5V, I_D=-3A$		-	95	120	
Gate -Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	$V_{GS(th)}$	-1.2	-1.8	-2.5	V
Drain-Source Leakage Current	$V_{DS}=-100V, V_{GS}=0V, T_J=25^\circ C$	I_{DSS}	-	-	-50	μA
Gate -Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	I_{GSS}	-	-	±100	nA
Forward Transconductance	$V_{DS}=-10V, I_D=-10A$	g_{fs}	-	24	-	S
Total Gate Charge	$V_{DS}=-50V$ $V_{GS}=-10V$ $I_D=-20A$	Q_g	-	20.1	-	nC
Gate-Source Charge		Q_{gs}	-	3.9	-	
Gate-Drain Charge		Q_{gd}	-	4.3	-	
Turn-on delay time	$V_{DD}=-50V$ $V_{GS}=-10V$ $I_D=-10A$ $R_G=3.3$	$t_{d(on)}$	-	10	-	ns
Rise Time		T_r	-	30	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	77	-	
Fall Time		t_f	-	81	-	
Input Capacitance	$V_{DS}=-20V$ $V_{GS}=0V$ $f=1MHz$	C_{iss}	-	1051	-	pF
Output Capacitance		C_{oss}	-	119	-	
Reverse Transfer Capacitance		C_{rss}	-	25	-	
Continuous Source Current ^{1,5}	$V_G=V_D=0V, \text{Force Current}$	I_S	-	-	-15	A
Diode Forward Voltage ²	$V_{GS}=0V, I_S=-1A, T_J=25^\circ C$	V_{SD}	-	-	-1.2	V
Reverse Recovery Time	$I_F=-8A, dI/dt=100A/\mu s, T_J=25^\circ C$	t_{rr}	-	81	-	ns
Reverse Recovery Charge		Q_{rr}	-	140	-	nC

Notes:

- 1、Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
- 2、The test condition is, $V_{DD}=80V, V_G=10V, R_G=25\Omega, L=0.1mH$.
- 3、The data tested by pulsed Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 0.5\%$
- 4、The power dissipation is limited by 150°C junction temperature

Ratings and Characteristic Curves

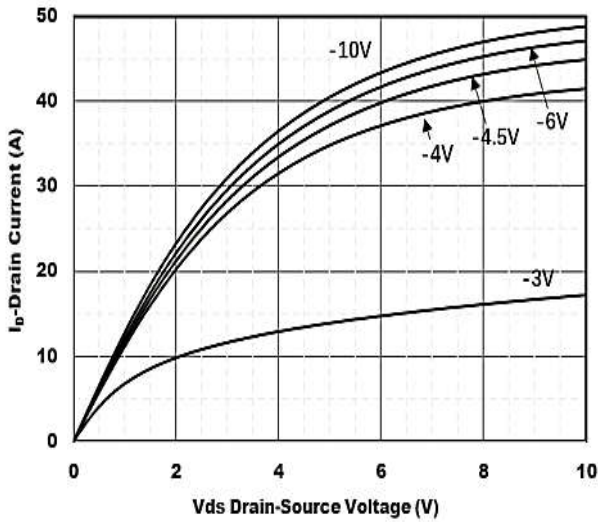


Figure1. Output Characteristics

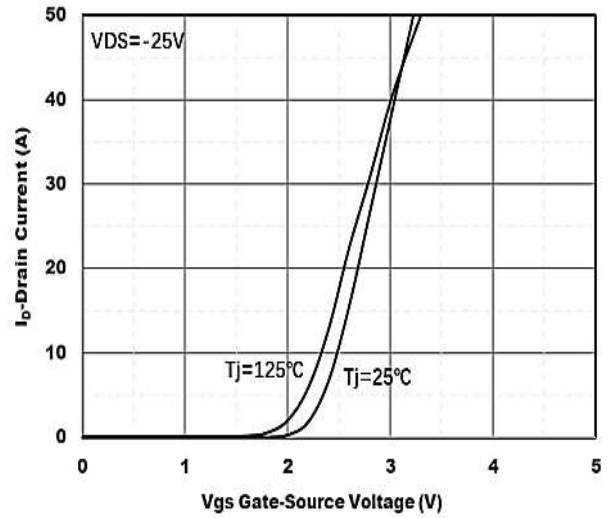


Figure2. Transfer Characteristics

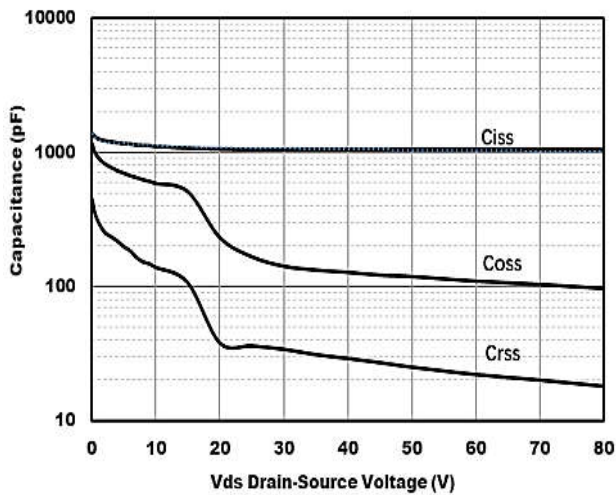


Figure3. Capacitance Characteristics

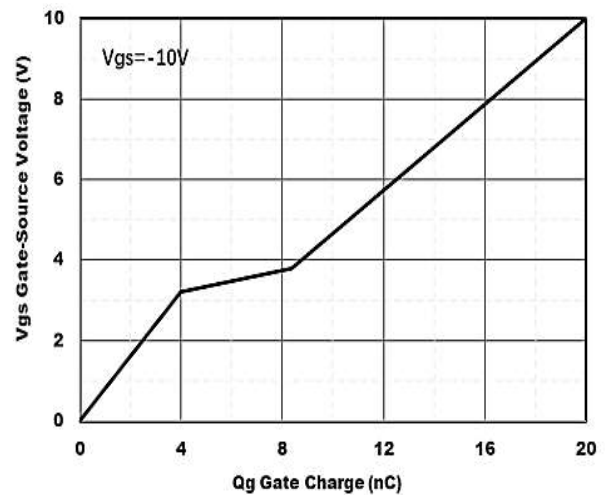


Figure4. Gate Charge

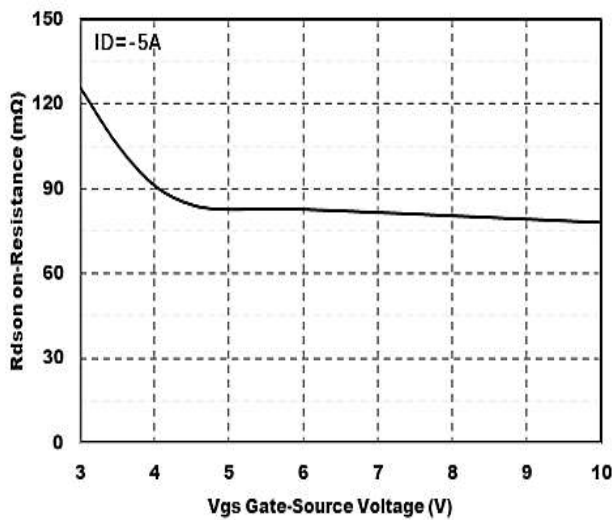


Figure5. : On-Resistance vs. Gate to Source Voltage

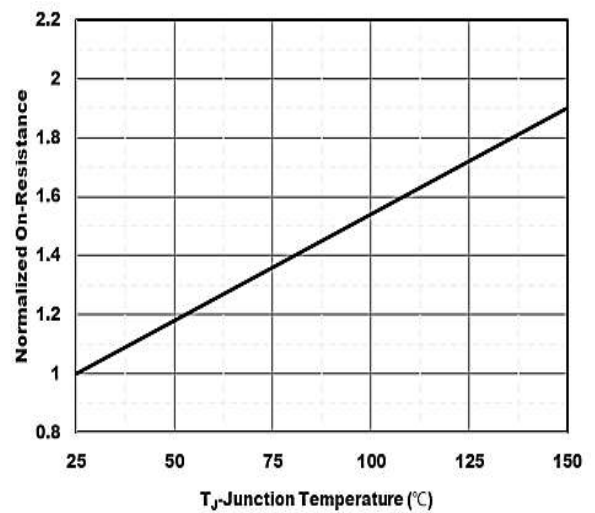


Figure6. Normalized On-Resistance

Ratings and Characteristic Curves

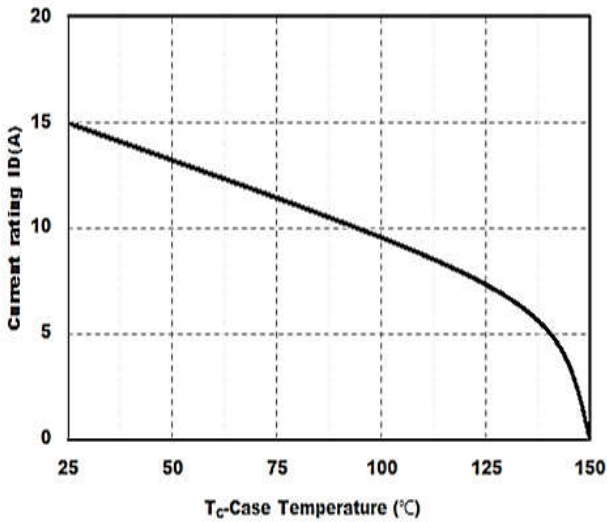


Figure7. Drain current

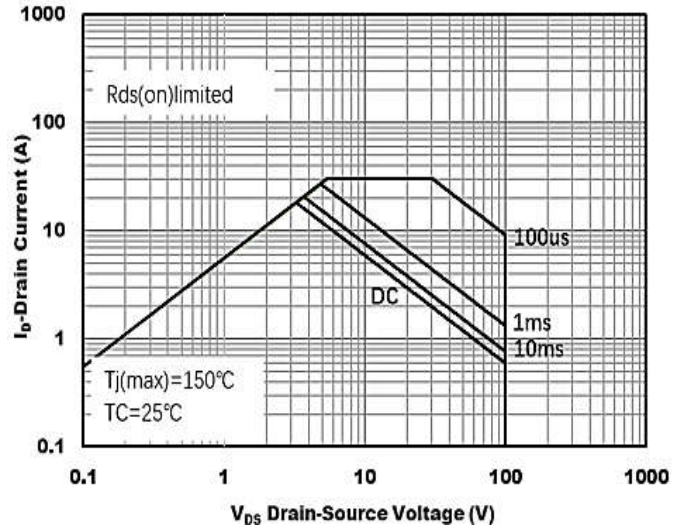


Figure8.Safe Operation Area

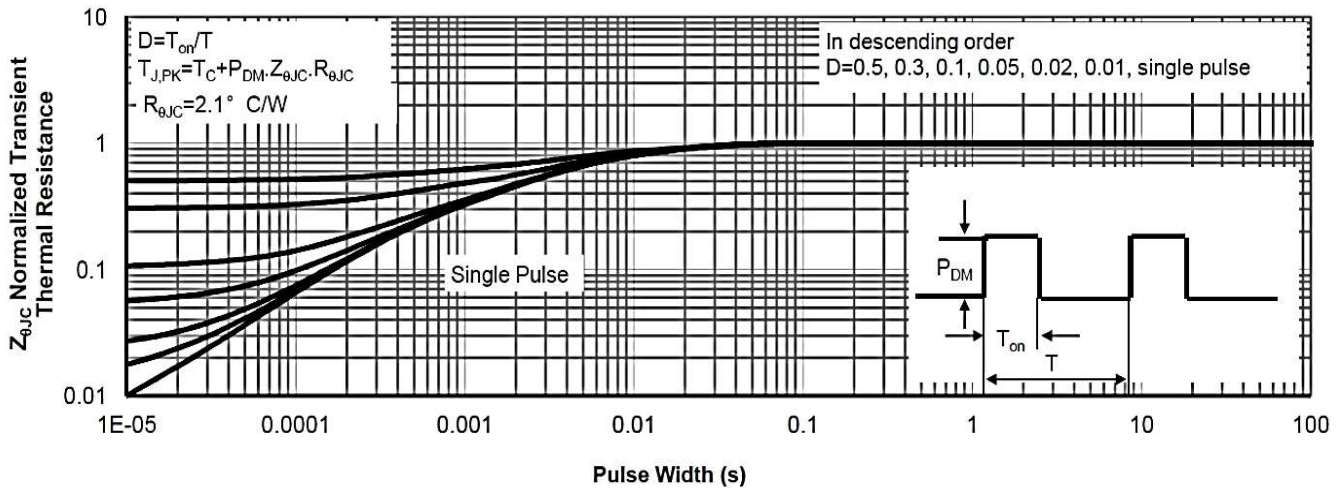


Figure9.Normalized Maximum Transient thermal impedance

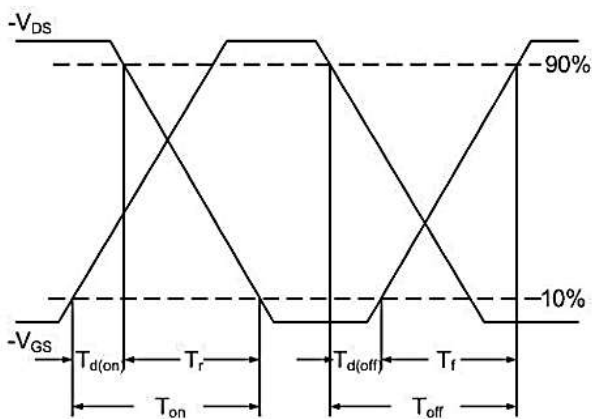


Figure10 Switching Time Waveform

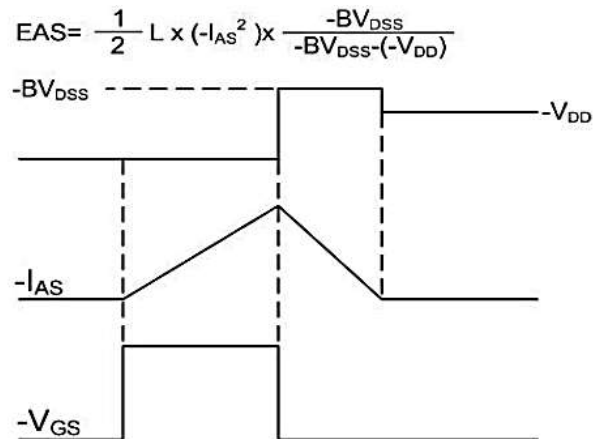
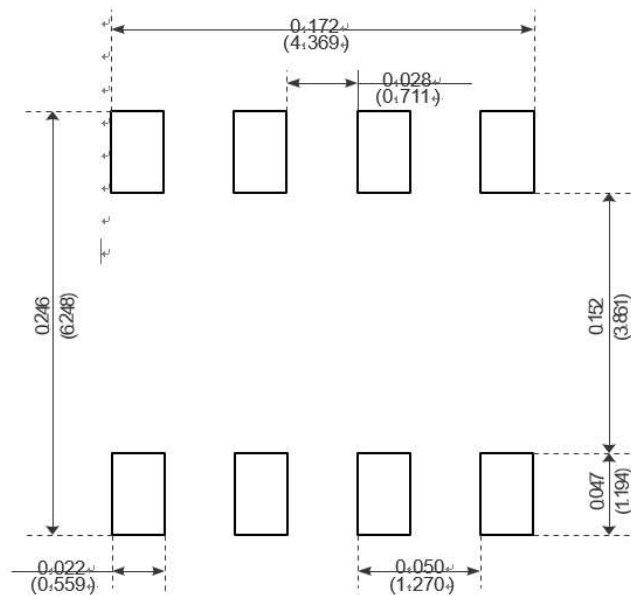
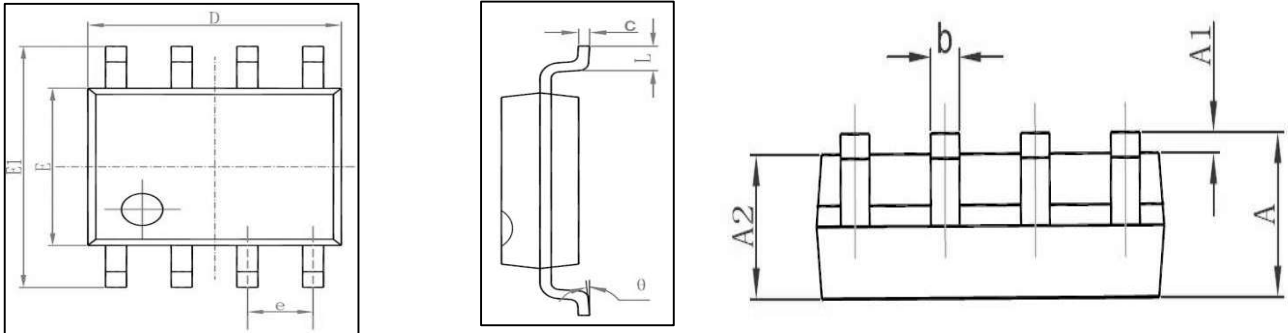


Figure11 Unclamped Inductive Waveform

SOP-8



Recommended Minimum Pads

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°