

FEATURES

- TrenchFET Power MOSFET
- 100% Rg tested
- High Current and Power handing capability
- AEC-Q101 qualified and PPAP capable



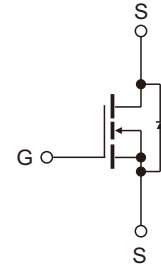
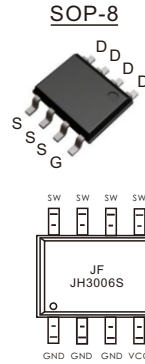
Product Summary			
V _{DS}	R _{DS(on)} (mΩ) Typ	I _D (A)	Q _g (Typ)
30V	5.4 @ 10V	18	21nc
	8.0 @ 4.5V	16	

APPLICATIONS

- Load Switch
- Power Management
- PWM Control Circuit

MECHANICAL DATA

- Case: SOP-8
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Mounting Position: Any



N-channel MOSFET

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameters	Symbol	Value	Unit
Drain-Source voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current (T _J = 150°C) ²⁾	I _D	T _A =25°C	18
		T _A =70°C	14
Pulsed Drain Current ¹⁾	I _{DM}	65	A
Maximum Power Dissipation @T _A =25°C	P _D	2.5	W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Thermal Resistance Ratings

Parameters	Symbol	Typ	Max	Unit
Junction to Ambient, Steady State ²⁾	R _{θJA}	-	50	°C/W

RATINGS AND CHARACTERISTICS OF JH3006S

Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameters	Symbol	Conditions	Min	Typ	Max	Unit
Static ¹⁾						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	30	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V, T _J =25°C	-	-	1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±10V, V _{DS} =0V	-	-	±100	nA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	1.2	-	2.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = 10V, I _D =18A	-	5.4	6.5	mΩ
		V _{GS} = 4.5V, I _D =16A	-	8	9.5	
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} =0V, f=1MHz	-	3.2	-	Ω
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz	-	1680	-	pF
Output Capacitance	C _{oss}		-	240	-	
Reverse Transfer Capacitance	C _{rss}		-	145	-	
Total Gate Charge	Q _g	V _{DS} =15V, V _{GS} =10V, I _D =18A	-	30	-	nC
Gate-Source Charge	Q _{gs}		-	5.2	-	
Gate-Drain Charge	Q _{gd}		-	7.8	-	
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DS} =15V, I _D =18A, R _{GEN} =3Ω	-	6.7	-	ns
Rise Time	t _r		-	3.5	-	
Turn-off Delay Time	t _{D(off)}		-	22.5	-	
Fall Time	t _f		-	4	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current ^{2),3)}	I _S		-	-	18	A
Diode Forward Voltage ¹⁾	V _{SD}	I _S =1A, V _{GS} =0V	-	-	1.2	V

Notes: 1. Pulse Test: Pulse Width≤300us, Duty cycle ≤2%.

2. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

3. The data is theoretically the same as I_D, in real applications, should be limited by total power dissipation.

RATINGS AND CHARACTERISTICS OF JH3006S

Typical Performance Characteristics

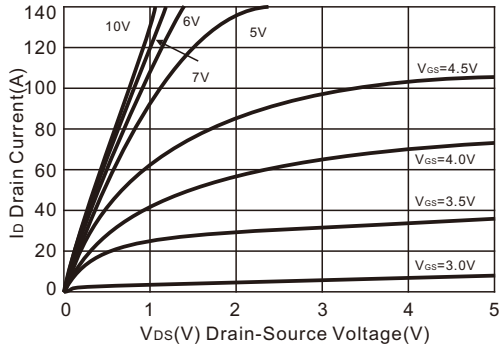


Fig1. Output Characteristics

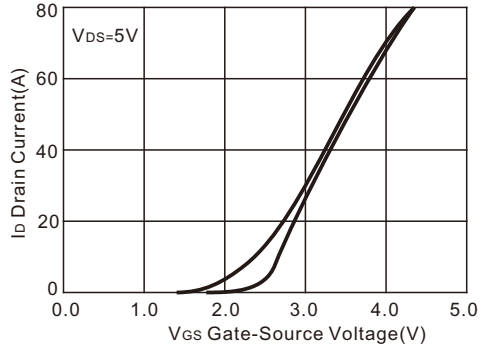


Fig2. Transfer Characteristics

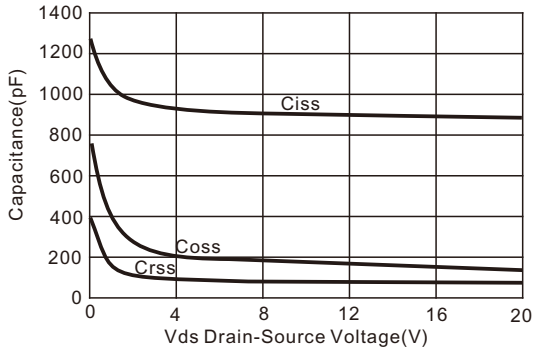


Fig3. Capacitance Characteristics

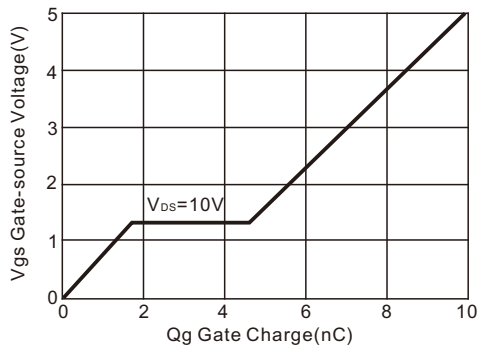


Fig4. Gate Charge

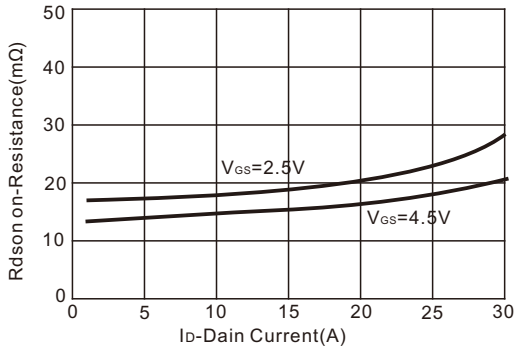


Fig5. Drain-Source on Resistance

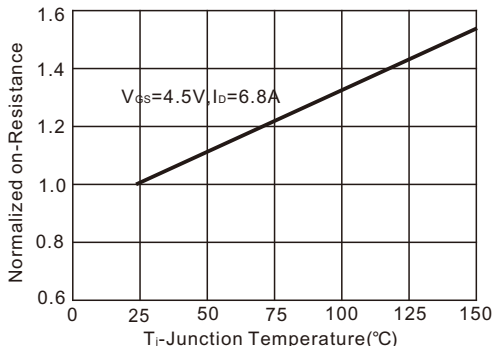


Fig6. Drain-Source on Resistance

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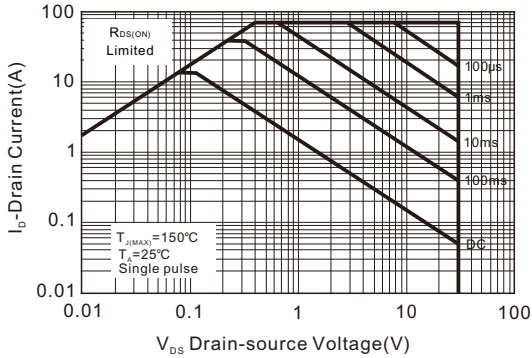


Fig7. Safe Operation Area

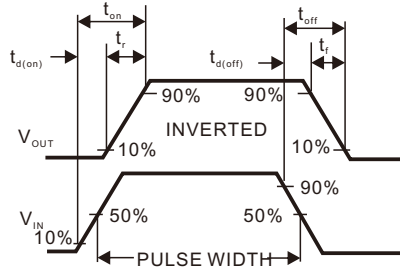
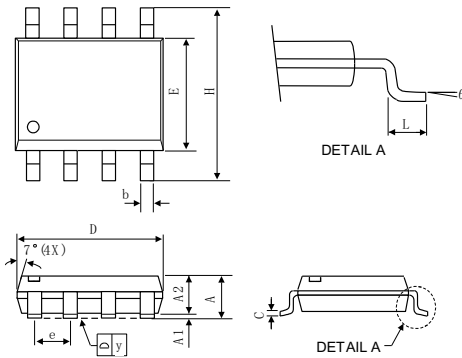


Fig8. Switching wave

PACKAGE OUTLINE DIMENSIONS

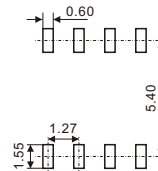
SOP-8 封装



Unit: mm/inch

SYMBOL	MILLIMETER			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	-	-	1.75	-	-	0.069
A1	0.1	-	0.25	0.04	-	0.1
A2	1.25	-	-	0.049	-	-
C	0.1	0.2	0.25	0.0075	0.008	0.01
D	4.7	4.9	5.1	0.185	0.193	0.2
E	3.7	3.9	4.1	0.146	0.154	0.161
H	5.8	6	6.2	0.228	0.236	0.244
L	0.4	-	1.27	0.015	-	0.05
b	0.31	0.41	0.51	0.012	0.016	0.02
e	1.27 BSC			0.050 BSC		
y	-	-	0.1	-	-	0.004
θ	0°	-	8°	0°	-	8°

Suggested Pad Layout



Unit: mm