

FEATURES

- TrenchFET Power MOSFET
- 100% Rg tested
- High Current and Power handing capability



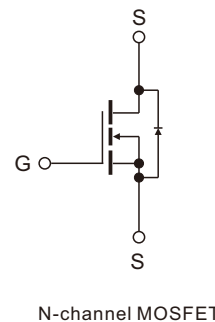
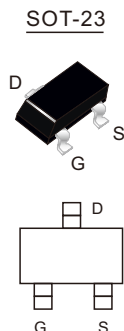
Product Summary			
V _{ds}	R _{DS(on)} (mΩ) Typ	I _D (A)	Q _g (Typ)
20V	13.5 @ 4.5V	6.8	9.2nc
	17.0 @ 2.5V	3.0	
	27.0 @ 2.5V	2.5	

APPLICATIONS

- Load Switch
- Power Management
- PWM Control Circuit

MECHANICAL DATA

- Case: SOT-23(TO-236)
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Mounting Position: Any



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

Parameters	Symbol	Value	Unit
Drain-Source voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±10	V
Continuous Drain Current (T _J = 150°C)	I _D	T _A =25°C	6.8
		T _A =70°C	5.4
Pulsed Drain Current ¹⁾	I _{DM}	27	A
Maximum Power Dissipation @T _A =25°C	P _D	1.2	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}	-	104	°C/W

RATINGS AND CHARACTERISTIC OF JH2312A

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

Parameters	Symbol	Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	20	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V, T _C =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	0.45	0.62	1	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D =6.8A	-	13.5	18	mΩ
		V _{GS} = 2.5V, I _D =3.0A	-	17	22	
		V _{GS} = 1.8V, I _D =2.5A	-	27	39	
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	900	-	pF
Output Capacitance	C _{oss}		-	165	-	
Reverse Transfer Capacitance	C _{rss}		-	75	-	
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =6.8A	-	900	-	nC
Gate-Source Charge	Q _{gs}		-	165	-	
Gate-Drain Charge	Q _{gd}		-	75	-	
Turn-on Delay Time	t _{D(on)}	V _{GS} =4.5V, V _{DD} =10V, R _L =1.5Ω, R _{GEN} =3Ω	-	12	-	ns
Rise Time	t _r		-	52	-	
Turn-off Delay Time	t _{D(off)}		-	17	-	
Fall Time	t _f		-	10	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current	I _S		-	-	6.8	A
Diode Forward Voltage	V _{SD}	I _S =6.8A, 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.

RATINGS AND CHARACTERISTIC OF JH2312A

Typical Performance Characteristics

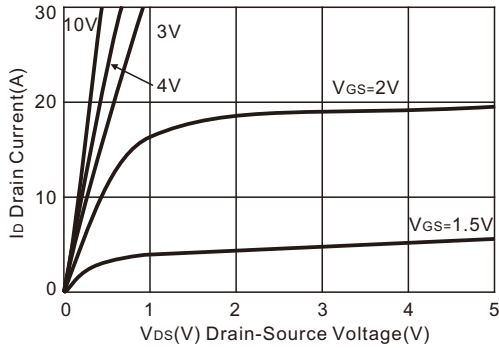


Fig1. Output Characteristics

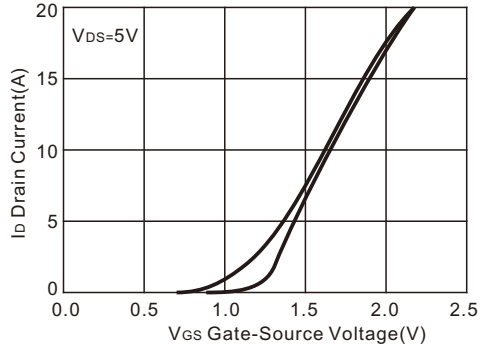


Fig2. Transfer Characteristics

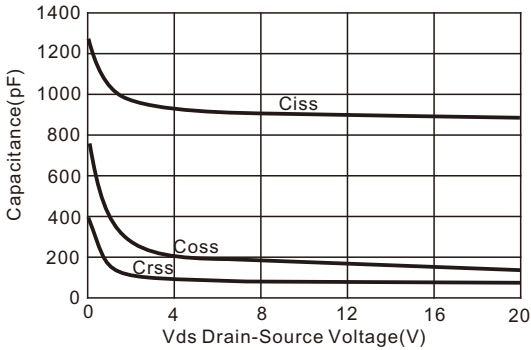


Fig3. Capacitance Characteristics

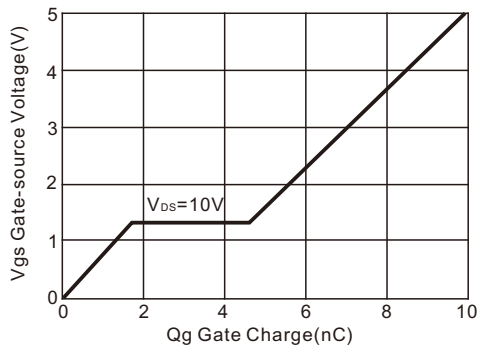


Fig4. Gate Charge

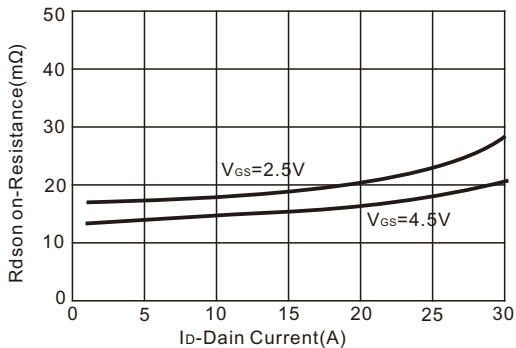


Fig5. Drain-Source on Resistance

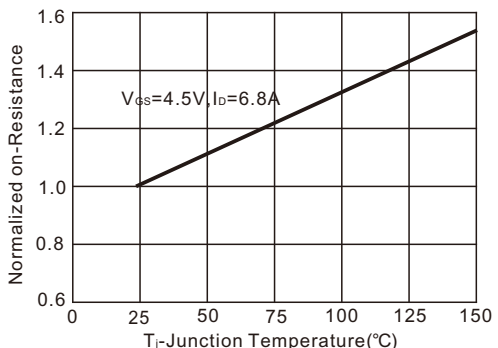


Fig6. Drain-Source on Resistance

RATINGS AND CHARACTERISTIC OF JH2312A

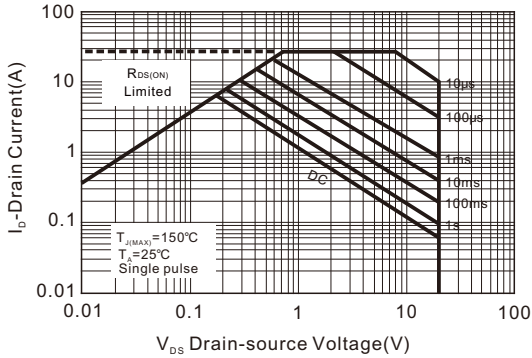


Fig7. Safe Operation Area

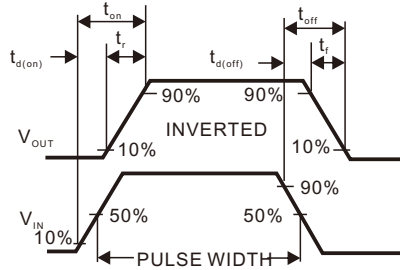
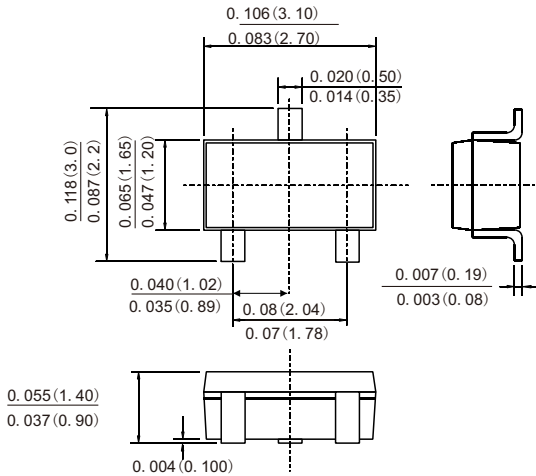


Fig8. Switching wave

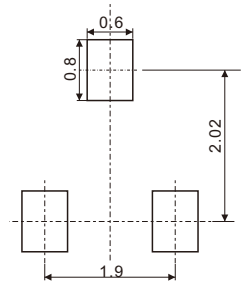
PACKAGE OUTLINE DIMENSIONS

SOT-23



Dimensions in inches and (millimeters)

Suggested Pad Layout



Dimensions in millimeters