SEMICONDUCTOR

JH2305A

P-Channel Enhancement MOSFET

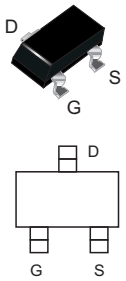
FEATURES

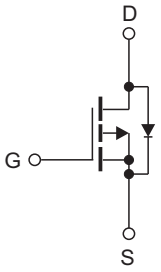
- RDS(ON)<36.4mΩ@VGS=-4.5V
- RDS(ON)<53mΩ@VGS=-2.5V
- RDS(ON)<62mΩ@VGS=-2V

Pb-Free
RoHS COMPLIANT

Product Summary			
V_{DS}	$R_{DS(on)}$ (mΩ) Typ	I_D (A)	Qg (Typ)
-15V	28@ -4. 5V	-5. 6	7. 2nc
	35 @ -2. 5V	-4	

SOT-23





P-channel MOSFET

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℃ unless otherwise noted)

Parameters		Symbol	Value	Unit
Drain-Source voltage		V_{DS}	-15	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current (T_J =150℃)	T_A=25℃	I_D	-5. 6	A
	T_A=70℃		-4. 5	
Pulsed Drain Current [1]		I_{DM}	-23	A
Maximum Power Dissipation @T_A=25℃		P_D	1. 2	W
Junction and Storge Temperature Range		T_J,T_{STG}	-55 to +150	℃

Thermal Resistance Ratings

Parameters	Symbol	Typ	Max	Unit
Junction to Ambient，Steady State [2]	$R_{\theta JA}$	-	104	℃/W

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Electrical Characteristics (T_J=25℃ unless otherwise noted)

Parameters	Symbol	Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=-250μA	-15	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-15V,V_{GS}=0V,T_C=25℃	-	-	-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	-0.4	-0.62	-1.0	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}= -4.5V, I_D=-5.6A	-	28	36.4	mΩ
		V_{GS}= -2.5V, I_D=-4A	-	35	53	
		V_{GS}= -1.8V, I_D=-3A	-	47	62	
Dynamic						
Input Capacitance	C_{iss}	V_{DS}=-9V,V_{GS}=0V,f=1MHz	-	790	-	pF
Output Capacitance	C_{oss}		-	130	-	
Reverse Transfer Capacitance	C_{rss}		-	85	-	
Total Gate Charge	Qg	V_{DS}=-9V,V_{GS}=-4.5V,I_D=-5.6A	-	7.2	-	nc
Gate-Source Charge	QGS		-	1.2	-	
Gate-Drain Charge	QGD		-	1.6	-	
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=-4.5V,V_{DD}=-9V, I_D=-1A, R_{GEN}=2. 5Ω	-	15	-	ns
Turn-On Rise Time	t_r		-	63	-	
Turn-off Delay Time	$t_{D(off)}$		-	21	-	
Turn-Off Fall Time	t_f		-	12	-	
Drain-Source Body Diode Characteristics						
Maximum Body-Diode Continuous Current	I_S		-	-	-5.6	A
Diode Forward Voltage	V_{SD}	I_S=-1A,V_{GS}=0V	-	-0.8	-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.

Typical Characteristics

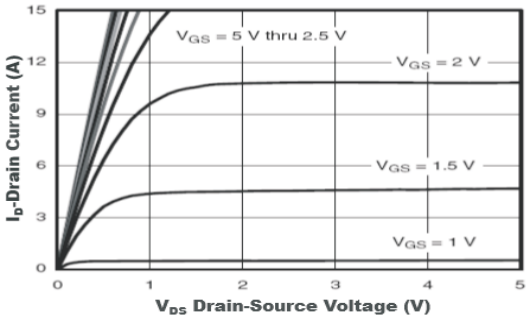


Figure1. Output Characteristics

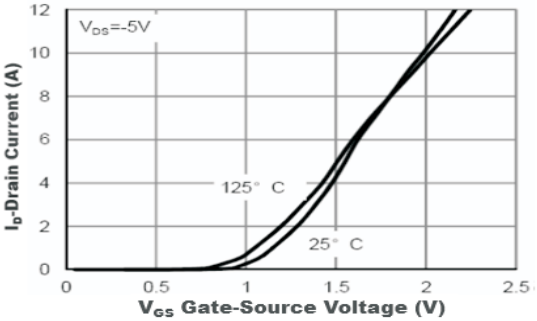


Figure2. Transfer Characteristics

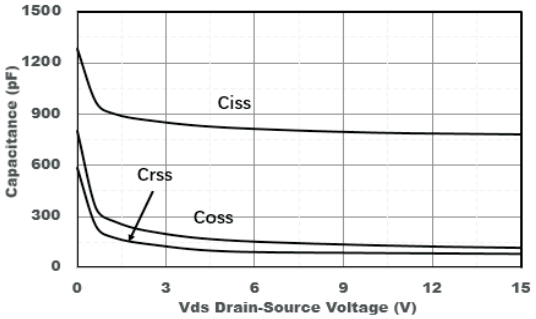


Figure3. Capacitance Characteristics

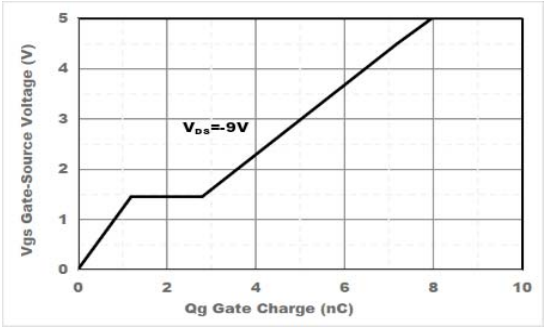


Figure4. Gate Charge

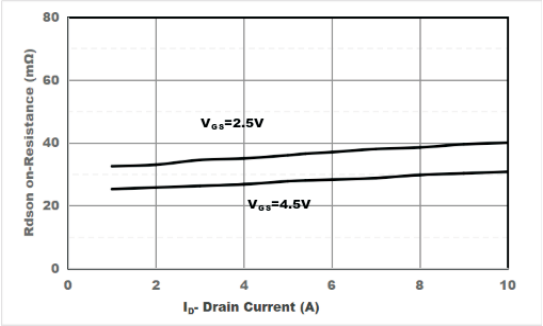


Figure5. Drain-Source on Resistance

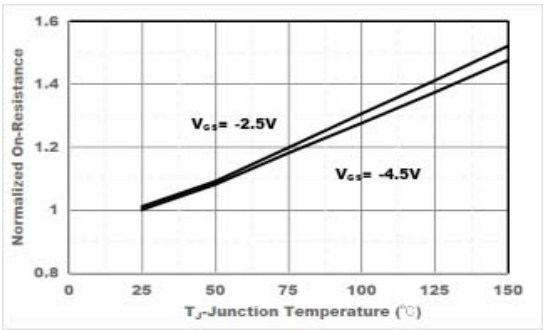


Figure6. Drain-Source on Resistance

Typical Characteristics

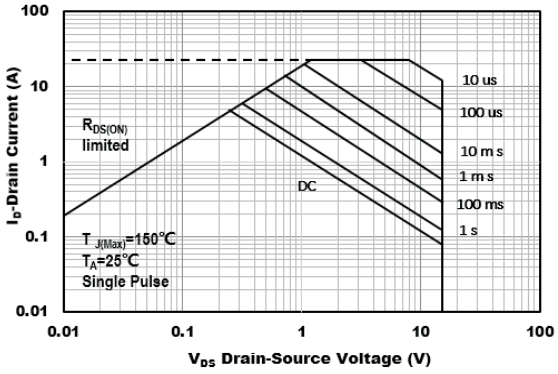


Figure7. Safe Operation Area

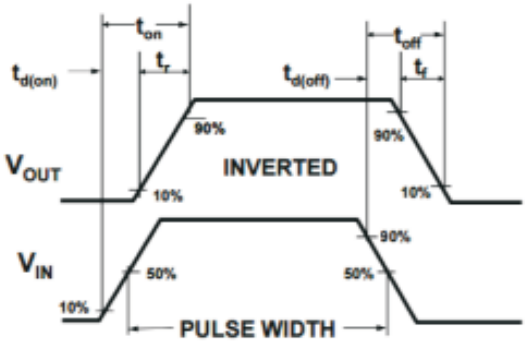
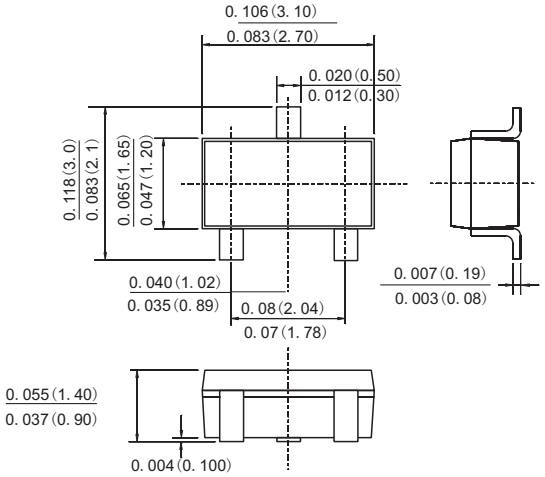


Figure8. Switching wave

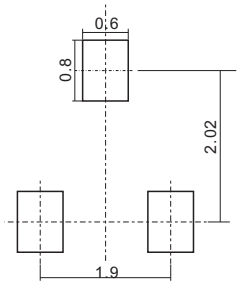
PACKAGE OUTLINE DIMENSIONS

SOT-23



Dimensions in inches and (millimetrers)

Suggested Pad Layout



Dimensions in millimetrers

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