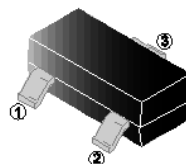


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/ Output Leakage

SOT-23



APPLICATION

- Battery Switch
- DC/DC Converter

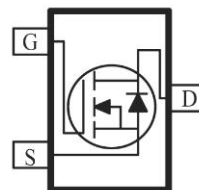
MARKING

S10

S23

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch



ORDER INFORMATION

Part Number	Type
SMS2310J-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	3	A
Pulsed Drain Current ¹	I_{DM}	10	A
Power Dissipation	P_D	0.35	W
Thermal Resistance, Junction-Ambient ²	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

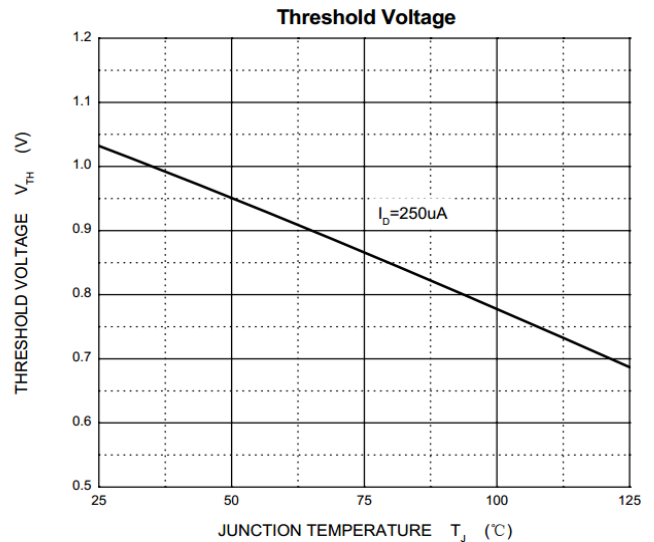
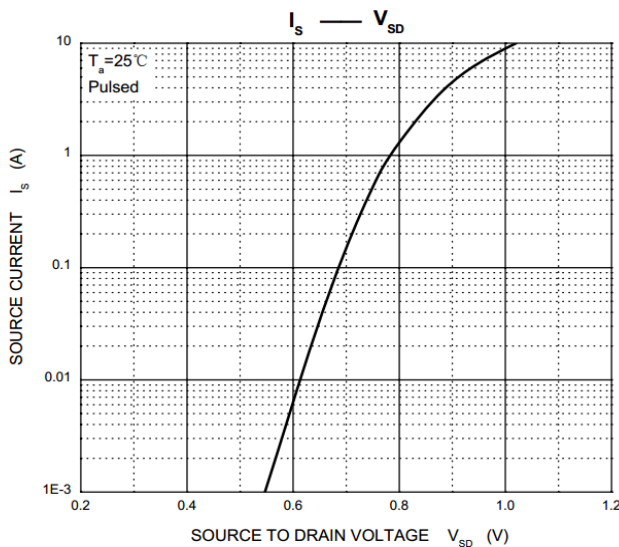
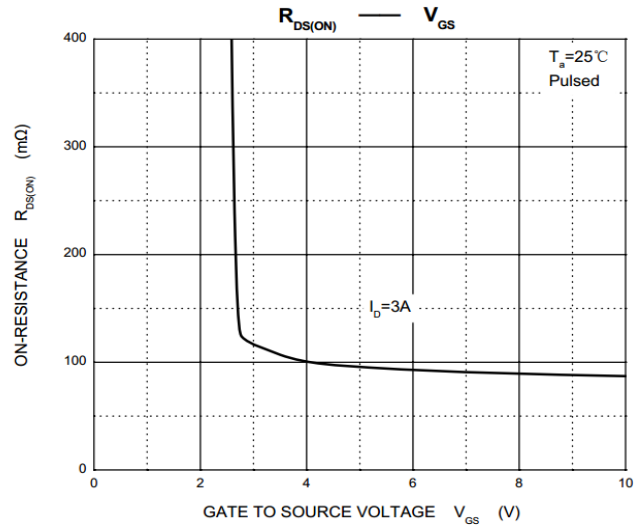
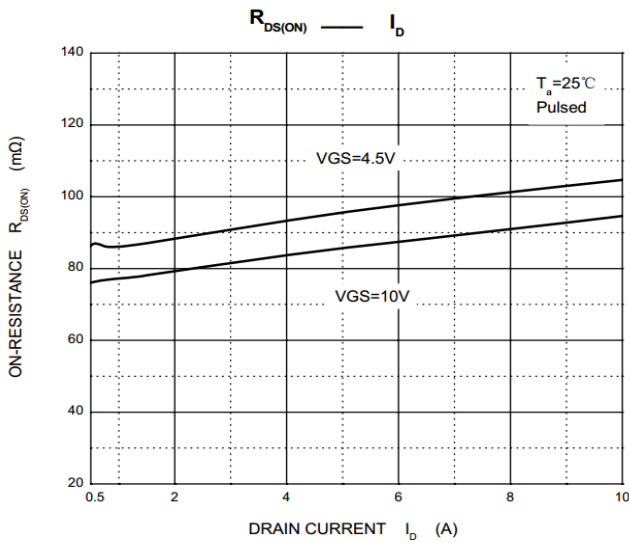
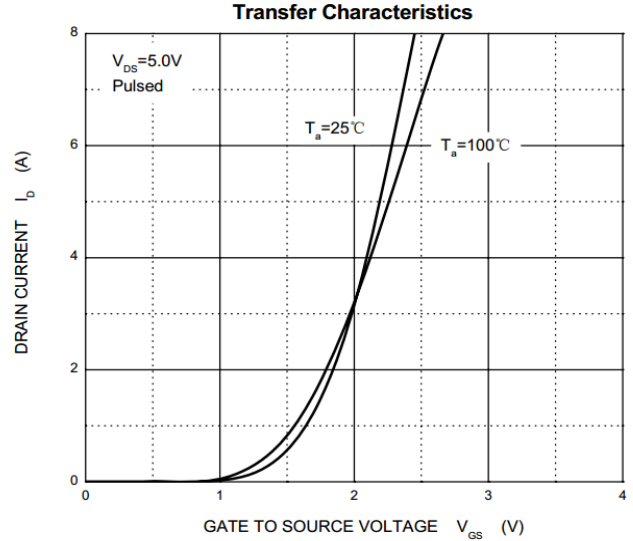
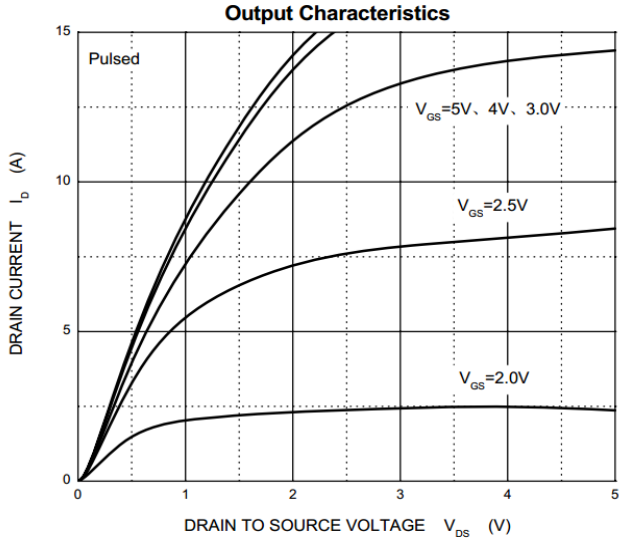
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	V _{(BR)DSS}	60	-	-	V	V _{GS} =0, I _D =250μA
Gate Threshold Voltage ³	V _{GS(th)}	0.5	-	2	V	V _{DS} =V _{GS} , I _D =250μA
Forward Transconductance ³	g _{fs}	1.4	-	-	S	V _{DS} =15V, I _D =2A
Gate-Body Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0
Zero Gate Voltage Drain Current	I _{DSS}	-	-	1	μA	V _{GS} =0, V _{DS} =60V
Static Drain-Source On Resistance ³	R _{DS(ON)}	-	-	105	mΩ	V _{GS} =10V, I _D =3A
		-	-	125		V _{GS} =4.5V, I _D =3A
Total Gate Charge	Q _g	-	6	-	nC	I _D =3A V _{DS} =30V V _{GS} =4.5V
Gate-Source Charge	Q _{gs}	-	1	-		
Gate-Drain Charge	Q _{gd}	-	1.3	-		
Turn-On Delay Time	T _{d(on)}	-	6	-	nS	V _{DD} =30V V _{GS} =10V I _D =1.5A R _{GEN} =1Ω
Rise Time	T _r	-	15	-		
Turn-Off Delay Time	T _{d(off)}	-	15	-		
Fall Time	T _f	-	10	-		
Input Capacitance	C _{iss}	-	247	-	pF	V _{DS} =30V V _{GS} =0 f=1MHz
Output Capacitance	C _{oss}	-	34	-		
Reverse Transfer Capacitance	C _{rss}	-	19.5	-		
Source-Drain Diode						
Body Diode Forward Voltage ³	V _{SD}	-	-	1.2	V	V _{GS} =0, I _S =3A

Notes:

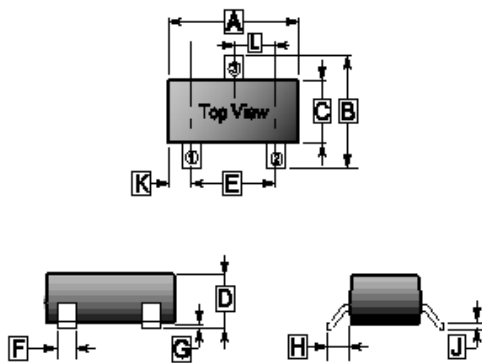
1. Repetitive rating: Pulse width limited by junction temperature.
2. Surface mounted on FR-4 board, t_s≤10s.
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

CHARACTERISTIC CURVES



PACKAGE OUTLINE DIMENSIONS

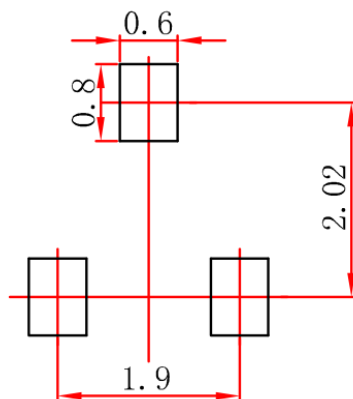
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REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	0	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

MOUNTING PAD LAYOUT

SOT-23



*Dimensions in millimeters