Elektronische Bauelemente

SMS3401J-C

-4.2A, -30V, $R_{DS(ON)}$ 65mΩ

P-Channel Enhancement Mode Power MOSFET

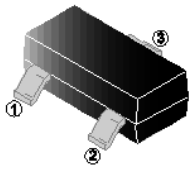
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

FEATURES

- High Dense Cell Design for Extremely Low $R_{DS(on)}$
- Exceptional On-Resistance and Maximum DC Current Capability

SOT-23



APPLICATION

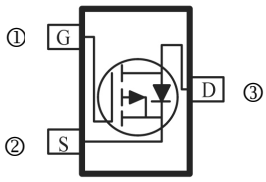
- Interfacing Switching
- Load /Power Switching

MARKING

R1

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch



ORDER INFORMATION

Part Number	Type
SMS3401J-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Continuous Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-4.2	A
Pulsed Drain Current [1]	I_{DM}	-16.8	A
Total Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction-Ambient @t<5s	$R_{\theta JA}$	357	℃/W
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	℃

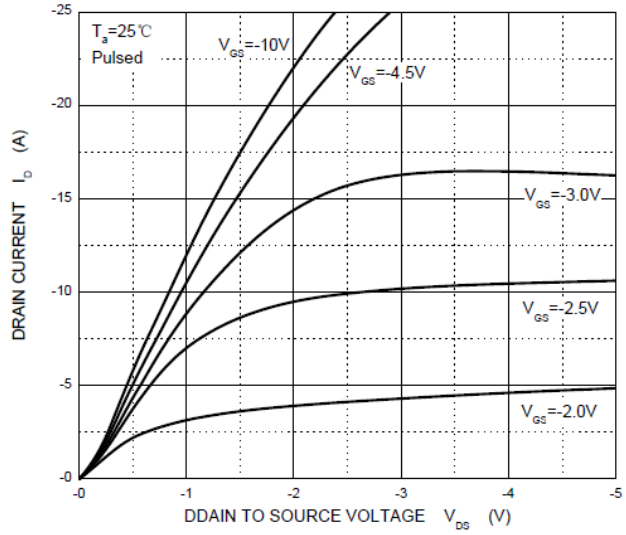
ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-30	-	-	V	V_{GS}=0V, I_D= -250μA
Gate-Source Threshold Voltage	$V_{GS(th)}$	-0.7	-0.9	-1.3	V	V_{DS}=V_{GS}, I_D= -250μA
Forward Transfer Conductance [2]	g_{fs}	-	7	-	S	V_{DS}= -5V, I_D= -5A
Drain-Source Leakage Current	I_{DSS}	-	-	-1	μA	V_{GS}=0V, V_{DS}= -24V
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}= ±12V, V_{DS}=0V
Drain-Source On Resistance [2]	$R_{DS(ON)}$	-	50	65	mΩ	V_{GS}= -10V, I_D= -4.2A
		-	60	75		V_{GS}= -4.5V, I_D= -4A
		-	75	90		V_{GS}= -2.5V, I_D= -1A
Turn-On Delay Time	$T_{d(on)}$	-	6.3	-	nS	V_{DS}= -15V V_{GS}= -10V R_G=6Ω R_L=3.6Ω
Rise Time	T_r	-	3.2	-		
Turn-Off Delay Time	$T_{d(off)}$	-	38.2	-		
Fall Time	T_f	-	12	-		
Input Capacitance	C_{iss}	-	954	-	pF	V_{DS}= -15V V_{GS}=0V f=1MHz
Output Capacitance	C_{oss}	-	115	-		
Reverse Transfer Capacitance	C_{rss}	-	77	-		
Source Drain Diode						
Forward On Voltage [2]	V_{SD}	-	-	-1	V	I_S= -1A, V_{GS}=0

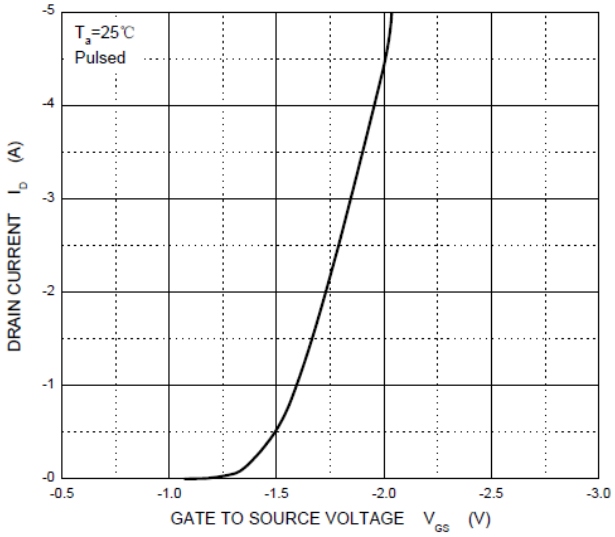
Note:
1. T_C=25℃, Pw≤10μs, Duty cycle≤1%.
2. The data tested by pulsed, pulse width≦300μs, duty cycle≦2%.

TYPICAL CHARACTERISTIC CURVE

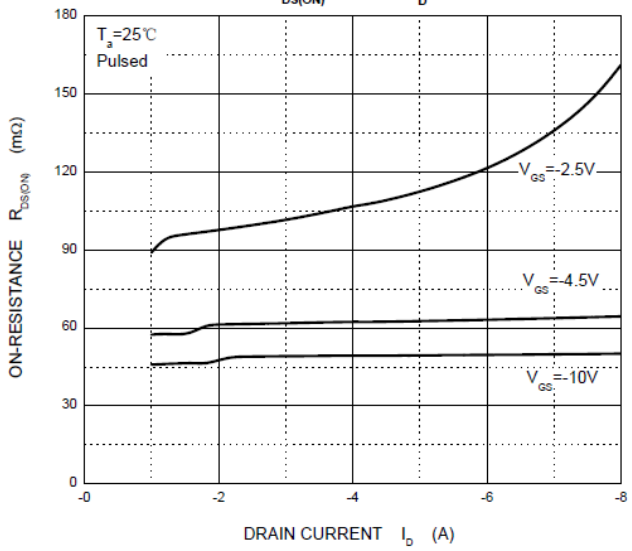
Output Characteristics



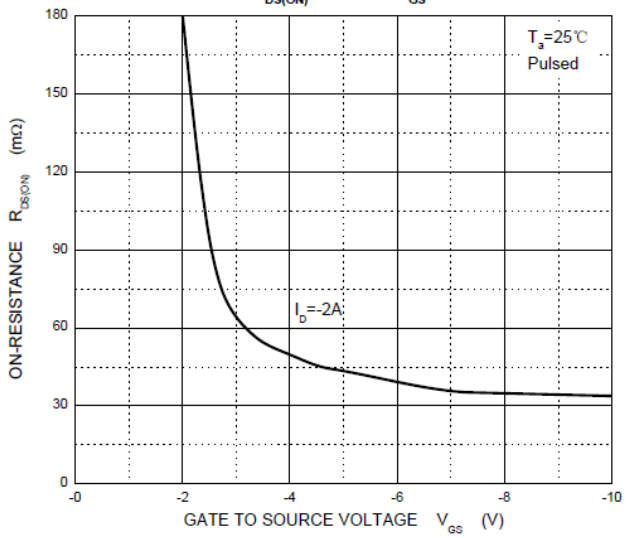
Transfer Characteristics



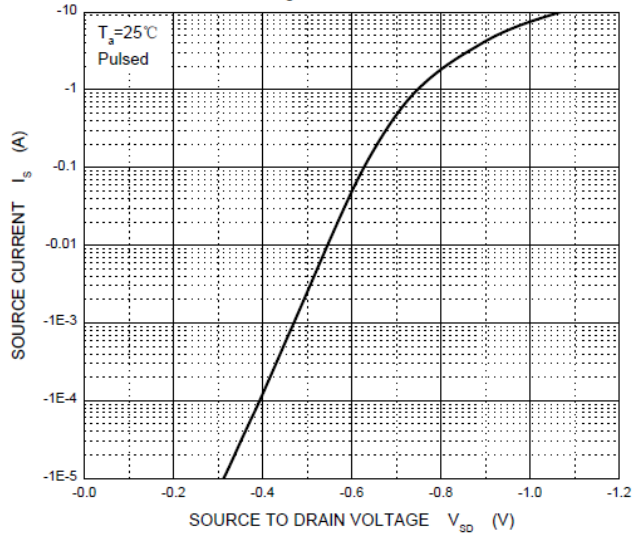
RDS(ON) — ID



RDS(ON) — VGS

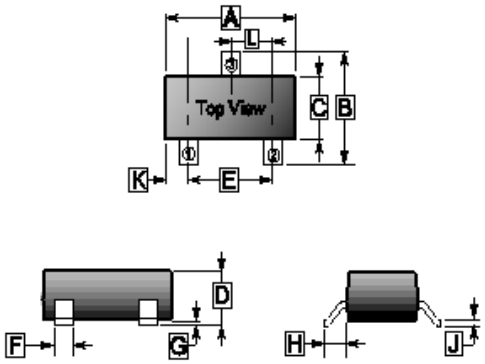


IS — VSD



PACKAGE OUTLINE DIMENSIONS

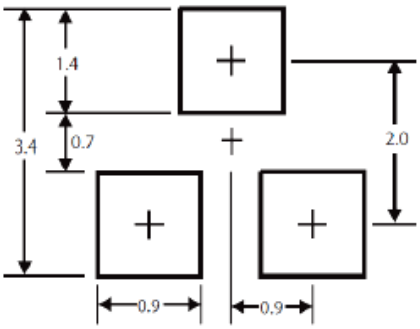
SOT-23



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	-	0.18
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