Elektronische Bauelemente

SSD01N65J

1A, 650V, $R_{DS(ON)}$ 14 Ω

N-Ch Enhancement Mode Power MOSFET

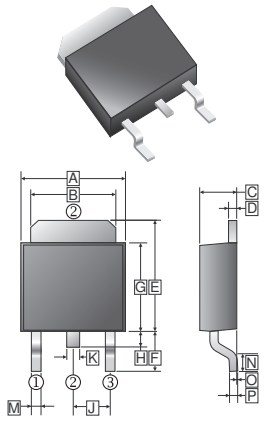
RoHS Compliant Product

A suffix of "-C" specifies halogen free

DESCRIPTION

This advanced high voltage MOSFET is designed to stand high energy in the avalanche mode and switch efficiently. This new high device also offers a drain-to-source diode fast recovery time. Designed for high voltage, high speed switching applications such as power supplies, converters power motor control and bridge circuits.

TO-252



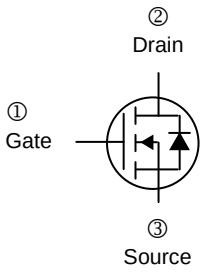
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.90	J	2.186	2.386
B	4.95	5.50	K	0.64	1.14
C	2.10	2.50	M	0.50	1.14
D	0.43	0.9	N	1.3	1.8
E	6.0	7.5	O	0	0.13
F	2.90 REF		P	0.58REF.	
G	5.40	6.40			
H	0.60	1.20			

FEATURES

- High Current Rating
- Lower $R_{DS(on)}$
- Lower Capacitance
- Lower Total Gate Charge
- Tighter VSD Specifications
- Avalanche Energy Specified

PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	1	A
Pulsed Drain Current	I_{DM}	4	A
Single Pulsed Avalanche Energy [1]	E_{AS}	5	mJ
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	℃/ W
Maximum Lead Temperature for Soldering Purposes@1/8'' from case for 5 seconds	T_L	260	℃
Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	℃

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	650	-	-	V	V_{GS}=0, I_D=250μA
Diode Forward Voltage [2]	V_{SD}	-	-	1.5	V	V_{GS}=0, I_S=1A
Zero Gate Voltage Drain Current	I_{DSS}	-	-	100	μA	V_{DS}=600V, V_{GS}=0
Gate-Body Leakage Current [2]	I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}= ±20V
On Characteristics [2]						
Gate-Threshold Voltage	$V_{GS(th)}$	2	-	4	V	V_{DS}=V_{GS}, I_D=250μA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	-	-	14	Ω	V_{GS}=10V, I_D=0.6A
Dynamic Characteristics						
Input Capacitance	C_{iss}	-	210	-	pF	V_{DS}=25V V_{GS}=0 f=1MHz
Output Capacitance	C_{oss}	-	28	-		
Reverse Transfer Capacitance	C_{rss}	-	4.2	-		
Switching Characteristics						
Total Gate Charge	Q_g	-	5	-	nC	V_{DS}=480V V_{GS}=10V I_D=4A
Gate-Source Charge	Q_{gs}	-	2.7	-		
Gate-Drain Charge	Q_{gd}	-	2	-		
Turn-on Delay Time	$T_{d(on)}$	-	8	-	nS	V_{DD}=300V V_{GS}=10V R_G=18Ω I_D=1A
Rise Time	T_r	-	21	-		
Turn-off Delay Time	$T_{d(off)}$	-	18	-		
Fall Time	T_f	-	24	-		

Notes:
1. E_{AS} condition: L=10mH, I_L=1A, V_{DD}=50V, V_{GS}=10V, R_G=25Ω, Starting T_J=25℃.
2. Pulse test：Pulse width≦300μs, duty cycle≦2%.

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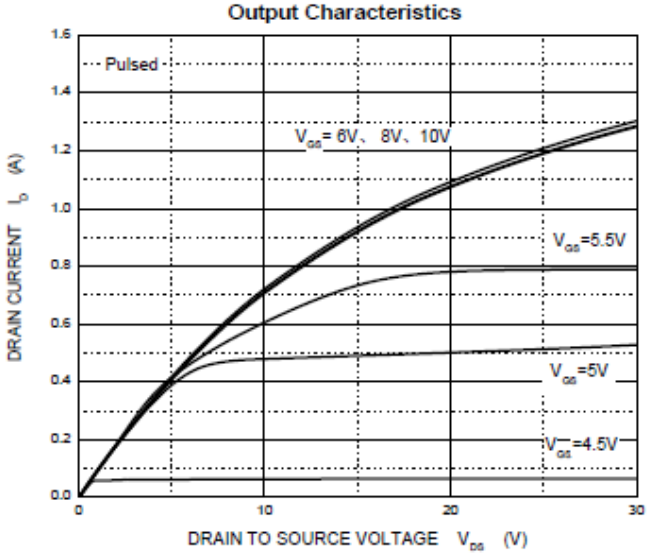
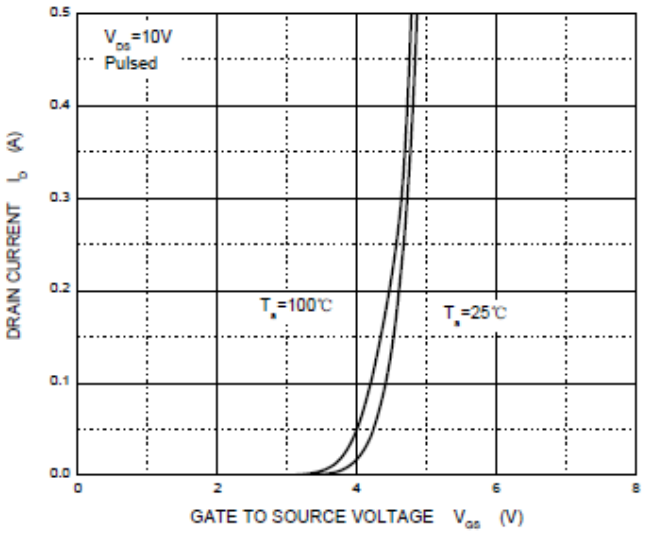
CHARACTERISTIC CURVES

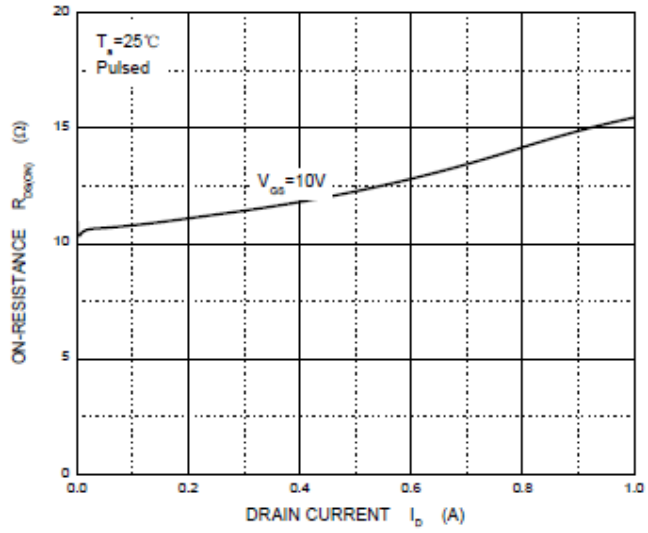
Output Characteristics



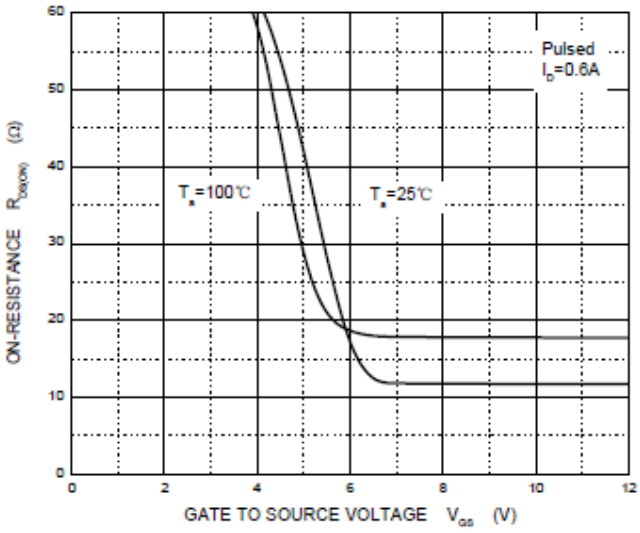
Transfer Characteristics



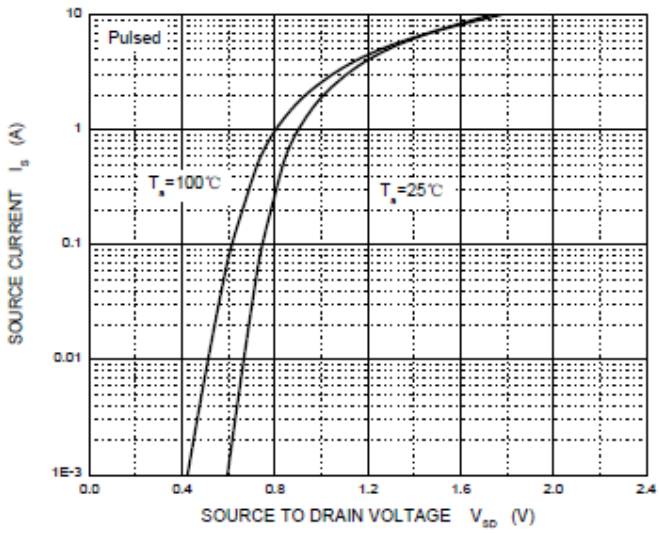
$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage