Elektronische Bauelemente

SJP65SN10J-C

65A, 100V, $R_{DS(ON)}$ 11mΩ

N-Channel Enhancement Mode Power MOSFET

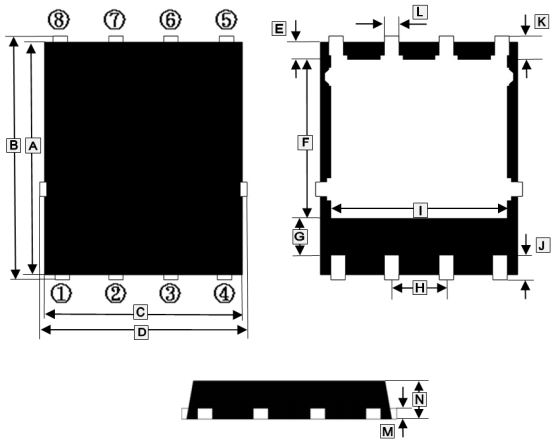
RoHS Compliant Product

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

DESCRIPTION

SJP65SN10J-C uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications.

DFN5x6-8J



FEATURES

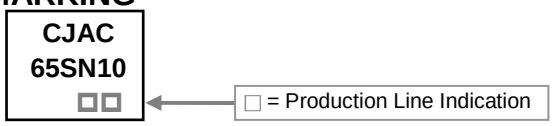
- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Special process technology for high ESD capability

APPLICATIONS

- High side switch in POL DC/DC converter
- Secondary side synchronous rectifier

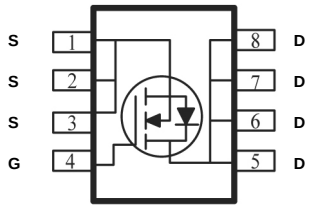
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.65	5.85	H	1.27 TYP.	
B	5.95	6.15	I	4.20 TYP.	
C	4.85	5	J	0.38	0.50
D	4.80	5.40	K	0.38	0.50
E	0.45 TYP.		L	0.34	0.48
F	3.30	3.50	M	0.254 REF.	
G	1.70 TYP.		N	1.03	1.17

MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN5x6-8J	5K	13 inch



ORDER INFORMATION

Part Number	Type
SJP65SN10J-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}	100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [1]		I_D	65	A
Pulsed Drain Current [2]		I_{DM}	200	A
Power Dissipation	T_C=25℃	P_D	100	W
Thermal Resistance from Junction-Ambient [1]		$R_{\theta JA}$	62	℃/W
Thermal Resistance from Junction-Case [1]		$R_{\theta JC}$	1.25	
Junction & Storage Temperature Range		T_J, T_{STG}	150, -55~150	℃

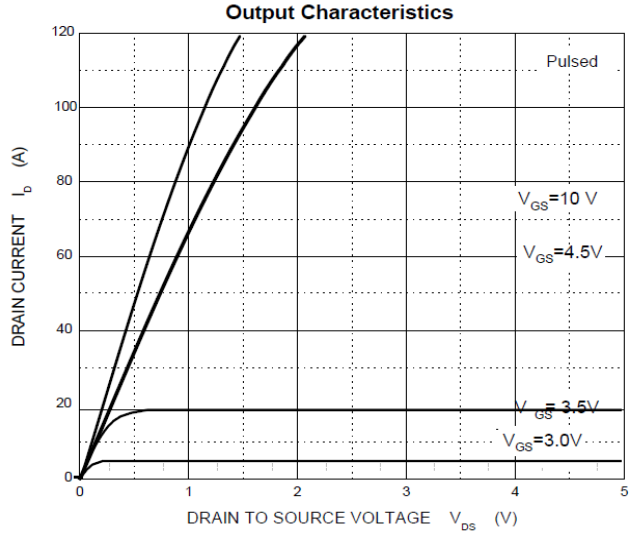
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	100	-	-	V	V_{GS}=0, I_D=250μA
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=80V, V_{GS}=0
Gate-Body Leakage Current	I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}= ±20V
Gate-Threshold Voltage	$V_{GS(th)}$	1	-	2.5	V	V_{DS}=V_{GS}, I_D=250μA
Static Drain-Source On-Resistance [2]	$R_{DS(ON)}$	-	8.9	11	mΩ	V_{GS}=10V, I_D=10A
		-	12.1	17		V_{DS}=4.5V, I_D=10A
Forward Transconductance	g_{fs}	-	45	-	S	V_{DS}=5V, I_D=20A
Input Capacitance	C_{iss}	-	1650	-	pF	V_{DS}=50V V_{GS}=0 f=100KHz
Output Capacitance	C_{oss}	-	281	-		
Reverse Transfer Capacitance	C_{rss}	-	7.91	-		
Total Gate Charge	Q_g	-	45	-	nC	V_{DS}=50V V_{GS}=10V I_D=25A
Gate-Source Charge	Q_{gs}	-	4.8	-		
Gate-Drain Charge	Q_{gd}	-	9.6	-		
Turn-on Delay Time	$T_{d(on)}$	-	16.5	-	nS	V_{DS}=50V V_{GS}=10V R_G=2.2Ω I_D=25A
Rise Time	T_r	-	4.2	-		
Turn-off Delay Time	$T_{d(off)}$	-	46.8	-		
Fall Time	T_f	-	7.6	-		
Drain-Source Diode						
Diode Forward Voltage [2]	V_{SD}	-	-	1.3	V	V_{GS}=0, I_S=15A
Continuous Source Current [1]	I_S	-	-	65	A	
Pulsed Source Current [2]	I_{SM}	-	-	200	A	

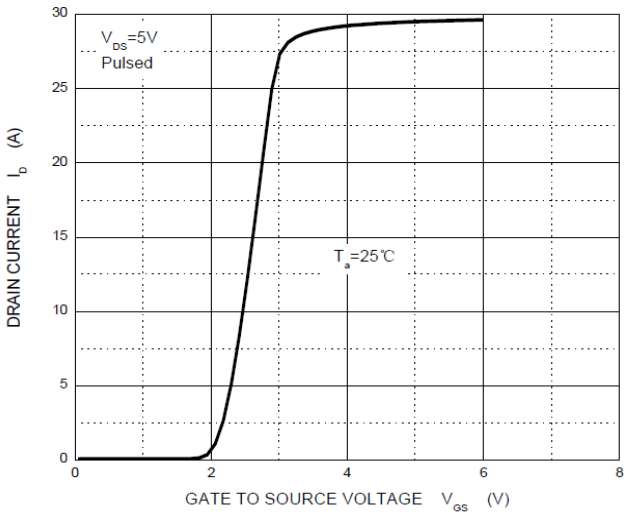
Notes:
1. Mounted on a glass epoxy board of 25.4mm × 25.4mm × 0.8mm.
2. Pulse test: Pulse width≦300μs, duty cycle≦2%.

CHARACTERISTICS CURVE

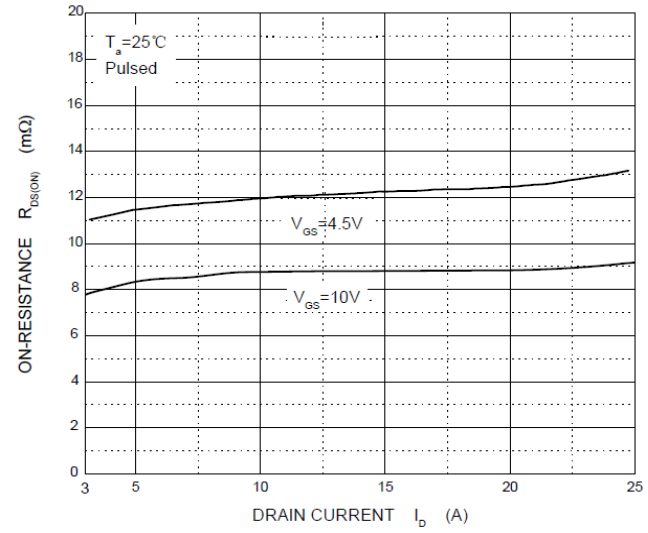
Output Characteristics



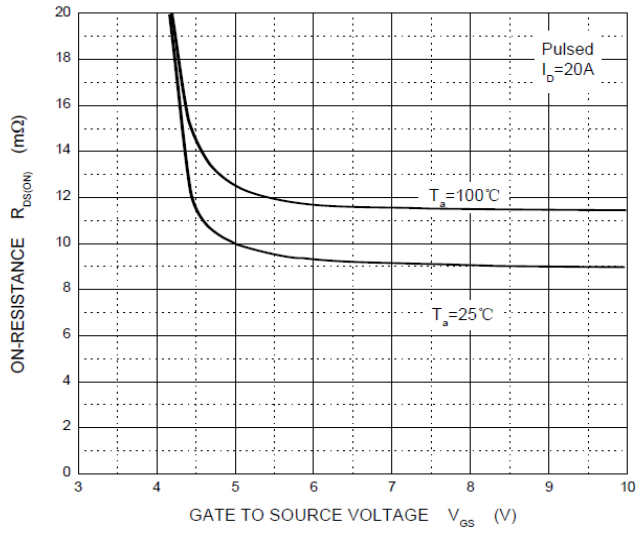
Transfer Characteristics



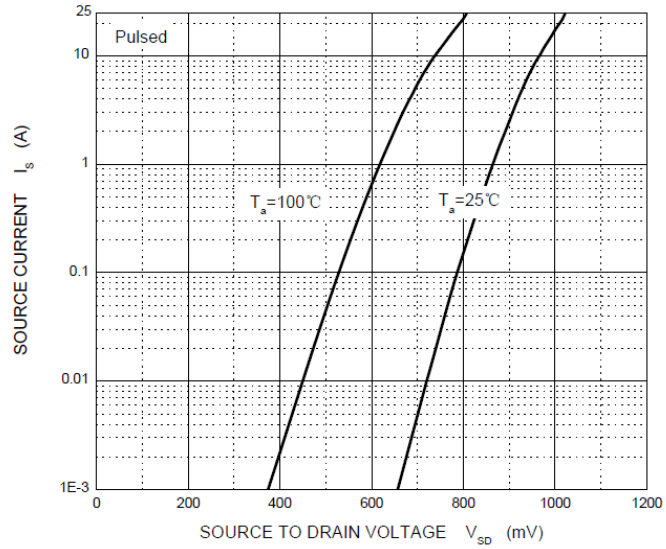
$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage