

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

DESCRIPTION

SJP130SN06-C uses shielded gate trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. It can be used in a wide variety of applications.

FEATURES

- High density cell design for ultra low $R_{DS(ON)}$
- High Power and current handing capability
- Load switch
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Lead free product is acquired

APPLICATIONS

- SMPS and general purpose applications
- Hard switched and high frequency circuits
- Uninterruptible Power Supply
- Power management

MARKING



□ = Production Line Indication

PACKAGE INFORMATION

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

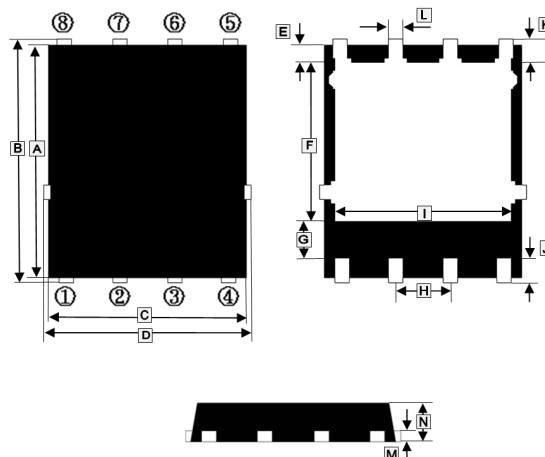
ORDER INFORMATION

Part Number	Type
SJP130SN06-C	Lead (Pb)-free and Halogen-free

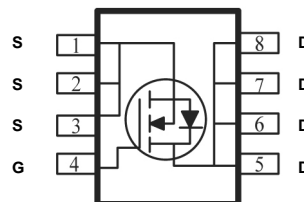
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	130	A
Pulsed Drain Current ¹	I_{DM}	390	A
Power Dissipation	P_D	140	W
Avalanche Energy ³	E_{AS}	80	mJ
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	62	°C/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	0.89	
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55~150	°C

DFN5x6-8J



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.65	5.85	H	1.27 TYP.	
B	5.90	6.15	I	3.85	4.15
C	4.80	5.00	J	0.51	0.86
D	5.02 TYP.		K	0.55	0.85
E	0.38	0.576	L	0.33	0.50
F	3.25	3.58	M	0.254 REF.	
G	1.10	1.39	N	0.90	1.17



ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	$V_{GS}=0V, I_D=250\mu A$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS}=60V, V_{GS}=0V$
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{DS}=0V, V_{GS}=\pm 20V$
Gate-Threshold Voltage ¹	$V_{GS(th)}$	1	-	2.5	V	$V_{DS}=V_{GS}, I_D=250\mu A$
Static Drain-Source On-Resistance ¹	$R_{DS(ON)}$	-	2.2	3	m Ω	$V_{GS}=10V, I_D=12A$
		-	3	4.5		$V_{GS}=4.5V, I_D=12A$
Gate Resistance	R_g	-	2.5	-	Ω	$V_{DS}=0V, V_{GS}=15mV, f=1MHz$
Total Gate Charge	Q_g	-	63.7	-	nC	$V_{DS}=30V, V_{GS}=10V, I_D=25A$
Gate-Source Charge	Q_{gs}	-	10.3	-		
Gate-Drain Charge	Q_{gd}	-	11.4	-		
Turn-on Delay Time	$T_{d(on)}$	-	21.8	-	nS	$V_{DS}=30V, V_{GS}=10V, R_G=2\Omega, I_D=25A$
Rise Time	T_r	-	6.3	-		
Turn-off Delay Time	$T_{d(off)}$	-	78.5	-		
Fall Time	T_f	-	27.1	-		
Input Capacitance	C_{iss}	-	5298	-	pF	$V_{DS}=25V, V_{GS}=0V, f=100kHz$
Output Capacitance	C_{oss}	-	1635	-		
Reverse Transfer Capacitance	C_{rss}	-	74.8	-		
Drain-Source Diode Characteristics						
Diode Forward Voltage ¹	V_{SD}	-	-	1.3	V	$V_{GS}=0V, I_S=20A$

Notes:

1. Pulse test: Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 1.5oz.Copper, in a still air environment with $T_A=25^\circ\text{C}$.
3. E_{AS} test condition $V_{DD}=50V, R_G=25\Omega, L=0.3mH$, starting $T_J=25^\circ\text{C}$.

CHARACTERISTICS CURVE

