Elektronische Bauelemente

SCP35N03J-C

35A, 30V, $R_{DS(ON)}$ 7mΩ

N-Channel Enhancement Mode Power MOSFET

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

DESCRIPTION

SCP35N03J-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

FEATURES

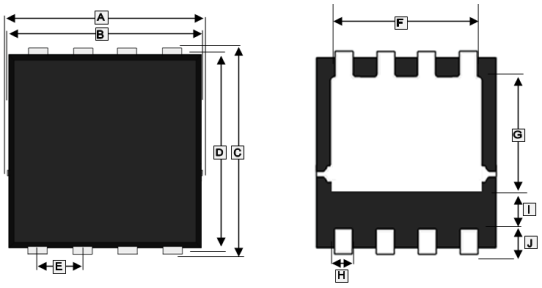
- High density cell design for ultra low $R_{DS(ON)}$
- Fully Characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Special processing technology for high ESD capability

APPLICATIONS

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

MARKING

DFN3x3-8J



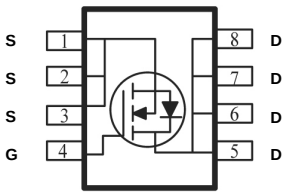
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.00	3.40	G	1.78	1.98
B	3.00	3.20	H	0.25	0.35
C	3.25	3.45	I	0.35 TYP.	
D	3.00	3.20	J	0.60 TYP.	
E	0.65 BSC.		K	0.10	0.25
F	2.39	2.59	L	0.70	0.80

PACKAGE INFORMATION

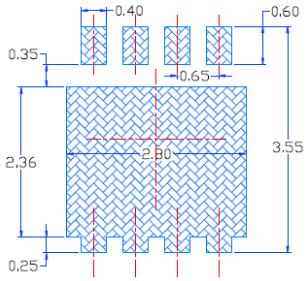
Package	MPQ	Leader Size
DFN3x3-8J	3K	13 inch

ORDER INFORMATION

Part Number	Type
SCP35N03J-C	Lead (Pb)-free and Halogen-free



Mounting Pad Layout



*Dimensions in millimeters

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current [1]	I_D	35	A
Pulsed Drain Current	I_{DM}	120	A
Single Pulse Avalanche Energy [2]	E_{AS}	150	mJ
Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient [1]	$R_{\theta JA}$	83.3	℃/W
Lead Temperature for Soldering Purposes @1/8'' from case for 10s	T_L	260	℃
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55~150	

Notes:

1. Mounted on a 25.4mm × 25.4mm × 0.8mm glass epoxy board.
2. Test condition: V_{DD}=15V, L=0.1mH, R_G=25Ω, Starting T_J=25℃.

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	30	-	-	V	V_{GS}=0, I_D=250μA
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=30V, V_{GS}=0
Gate-Body Leakage Current	I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}=±20V
Gate-Threshold Voltage	$V_{GS(th)}$	1	1.6	3	V	V_{DS}=V_{GS}, I_D=250μA
Static Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	5.5	7	mΩ	V_{GS}=10V, I_D=12A
		-	8.2	9.5		V_{GS}=4.5V, I_D=10A
Forward Transconductance	g_{fs}	30	-	-	S	V_{DS}=10V, I_D=12A
Input Capacitance	C_{iss}	-	1265	-	pF	V_{DS}=15V V_{GS}=0 f=1MHz
Output Capacitance	C_{oss}	-	600	-		
Reverse Transfer Capacitance	C_{rss}	-	130	-		
Total Gate Charge	Q_g	-	19	-	nC	V_{DS}=15V V_{GS}=10V I_D=12A
Gate-Source Charge	Q_{gs}	-	2.7	-		
Gate-Drain Charge	Q_{gd}	-	2.5	-		
Turn-on Delay Time	$T_{d(on)}$	-	18	-	nS	V_{DD}=15V V_{GS}=10V R_G=6Ω I_D=12A
Rise Time	T_r	-	10	-		
Turn-off Delay Time	$T_{d(off)}$	-	34	-		
Fall Time	T_f	-	10	-		
Drain-Source Diode						
Diode Forward Voltage [1]	V_{SD}	-	0.85	1.2	V	V_{GS}=0, I_S=12A
Continuous Source Current [2]	I_S	-	-	35	A	
Pulsed Source Current	I_{SM}	-	-	120	A	

Notes:
1. Pulse test: Pulse width≦300μs, duty cycle≦2%.
2. The surface of the device is mounted on a FR-4 board, t≦10sec.

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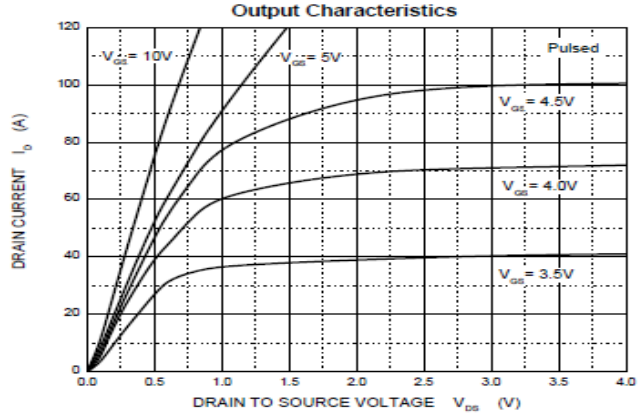
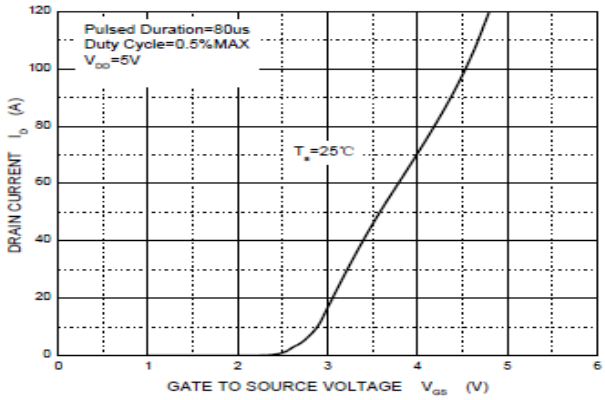
CHARACTERISTICS CURVE

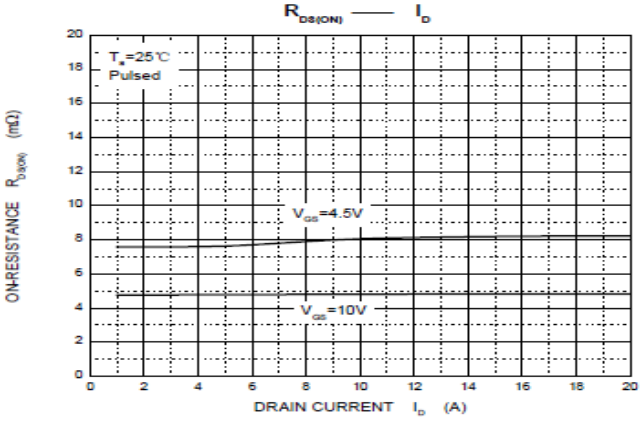
Output Characteristics



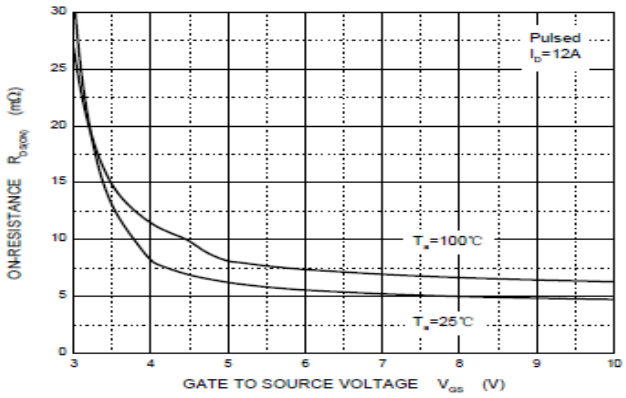
Transfer Characteristics



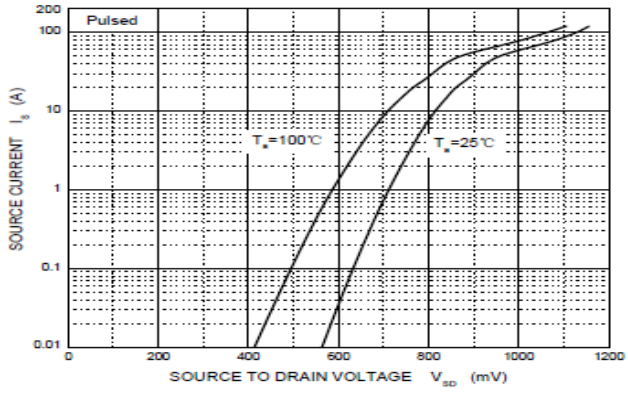
$R_{DS(ON)}$ —— I_D



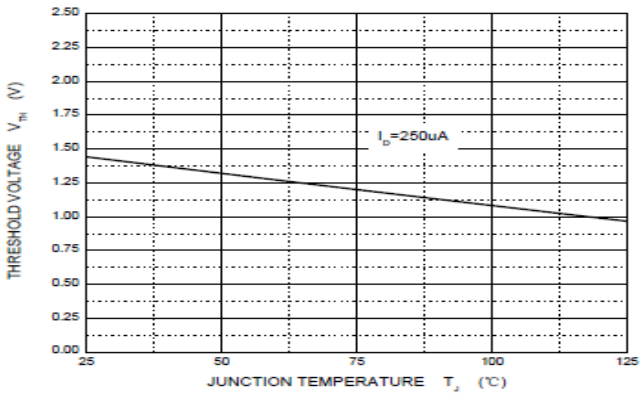
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage



Safe Operation Area