Elektronische Bauelemente

SSPR62N08S-C

62A, 80V, $R_{DS(ON)}$ 5.9mΩ

N-Channel Shielded Gate Trench Power MOSFET

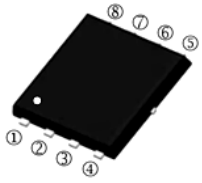
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The SSPR62N08S-C is the Shielded Gate Technology N-Ch MOSFETs with extreme high cell density, which provide excellent $R_{DS(ON)}$ and gate charge for most of the synchronous buck converter applications.

The SSPR62N08S-C meet the RoHS and Green Product requirement with full function reliability approved.

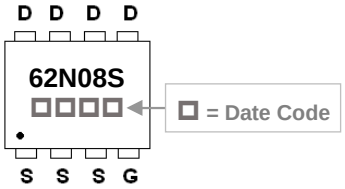
SPR-8PP

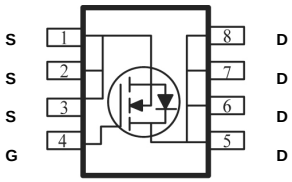


FEATURES

- Shielded Gate Trench Technology
- Lower Gate Charge
- Green Device Available

MARKING





PACKAGE INFORMATION

Package	MPQ	Leader Size
SPR-8PP	3K	13 inch

ORDER INFORMATION

Part Number	Type
SSPR62N08S-C	Lead (Pb)-free and Halogen-free

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

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	80	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current (Silicon Limited) [1]	T_C=25℃	I_D	62	A
	T_C=100℃		39	
Continuous Drain Current (Package Limited) [1]	T_C=25℃		36	
Pulsed Drain Current [2]		I_{DM}	230	A
Power Dissipation [3]	T_C=25℃	P_D	42	W
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55~150	℃
Thermal Resistance Ratings				
Thermal Resistance Junction-Ambient [1]		$R_{\theta JA}$	50	℃/W
Thermal Resistance Junction-Case [1]		$R_{\theta JC}$	3	

ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	80	-	-	V	V_{GS}=0, I_D=250μA
Gate-Threshold Voltage		$V_{GS(th)}$	1.4	-	2.4	V	V_{DS}=V_{GS}, I_D=250μA
Forward Transconductance		g_{fs}	-	45	-	S	V_{DS}=5V, I_D=20A
Zero Gate Voltage Drain Current	T_J=25℃	I_{DSS}	-	-	1	μA	V_{DS}=80V, V_{GS}=0
	T_J=100℃		-	-	100		
Gate-Body Leakage Current		I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}=±20V
Static Drain-Source On-Resistance [3]		$R_{DS(ON)}$	-	5.2	5.9	mΩ	V_{GS}=10V, I_D=20A
			-	7.5	9.5		V_{GS}=4.5V, I_D=20A
Gate Resistance		R_g	-	1.1	-	Ω	V_{GS}=0V, V_{DS} Open, f=1MHz
Total Gate Charge (4.5V)		Q_g	-	22	-	nC	V_{DD}=40V V_{GS}=10V I_D=20A
Total Gate Charge			-	43	-		
Gate-Source Charge		Q_{gs}	-	5	-		
Gate-Drain Charge		Q_{gd}	-	14	-		
Turn-on Delay Time		$T_{d(on)}$	-	10	-	nS	V_{DS}=40V V_{GS}=10V I_D=20A R_G=10Ω
Rise Time		T_r	-	8	-		
Turn-off Delay Time		$T_{d(off)}$	-	32	-		
Fall Time		T_f	-	10	-		
Input Capacitance		C_{iss}	-	2164	-	pF	V_{DS}=40V V_{GS}=0 f=1MHz
Output Capacitance		C_{oss}	-	540	-		
Reverse Transfer Capacitance		C_{rss}	-	17	-		
Drain-Source Diode							
Diode Forward Voltage [3]		V_{SD}	-	0.9	1.2	V	V_{GS}=0, I_F=20A
Reverse Recovery Time		T_{rr}	-	33	-	nS	I_F=20A, V_R=40V, dI_F/dt=400A/μS
Reverse Recovery Charge		Q_{rr}	-	99	-	nC	

Notes:

1. The data tested by surface mounted on a 1 inch^2 FR-4 board with 2oz copper.
2. The Pulse width limited by maximum junction temperature, Pulse Width≤300μs, Duty Cycle≤2%.
3. The Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.

CHARACTERISTICS CURVE

Fig 1. Typical Output Characteristics

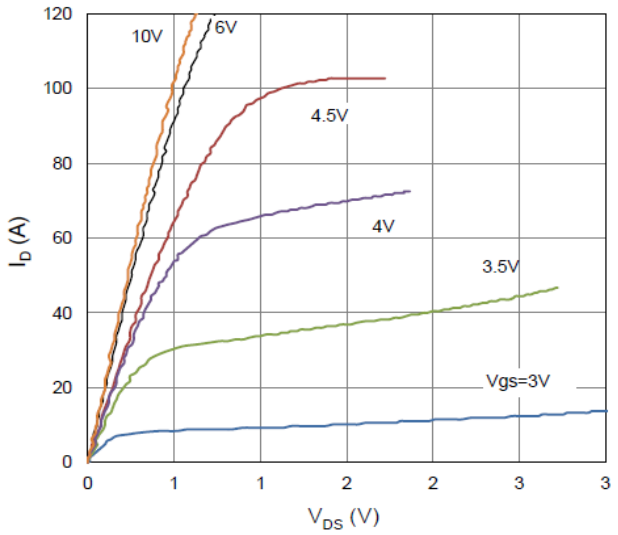


Figure 2. On-Resistance vs. Gate-Source Voltage

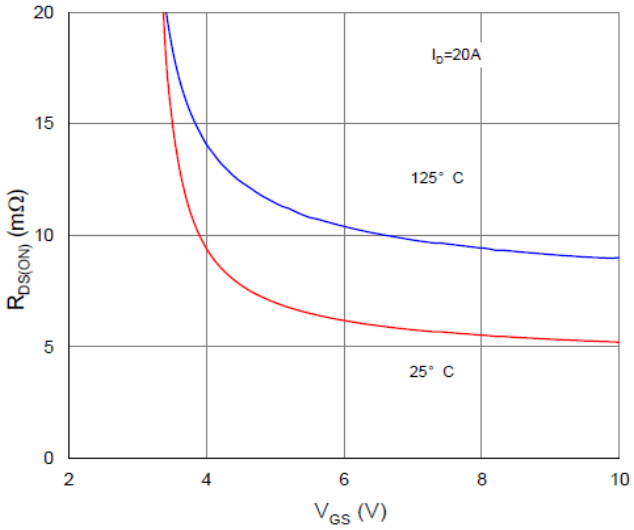


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

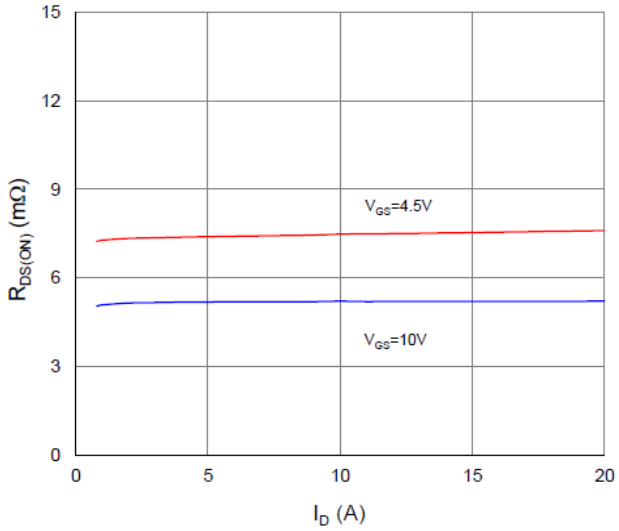


Figure 4. Normalized On-Resistance vs. Junction Temperature

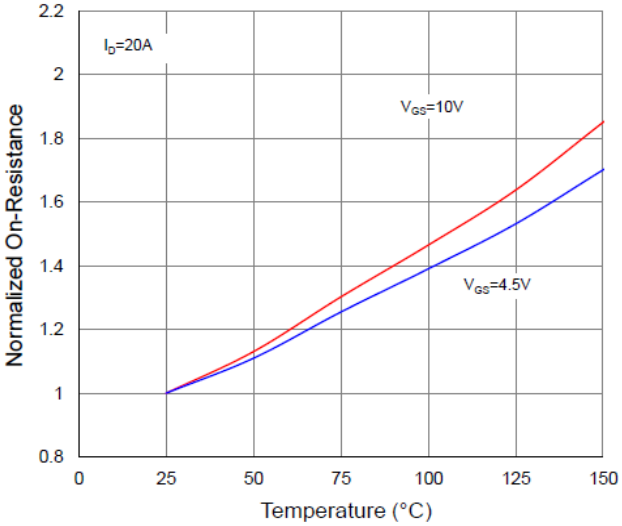


Figure 5. Typical Transfer Characteristics

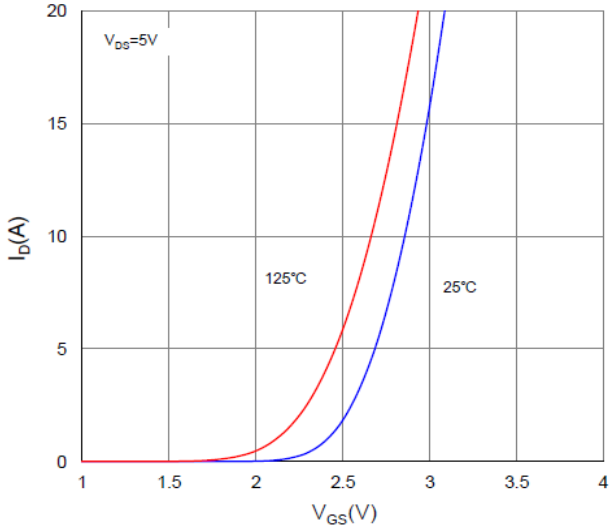
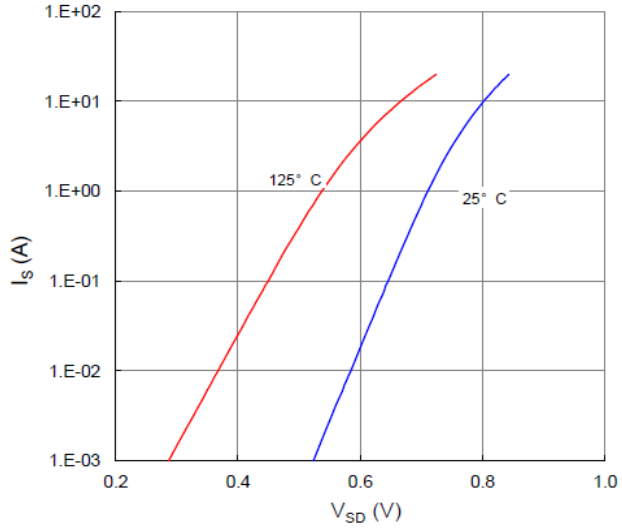


Figure 6. Typical Source-Drain Diode Forward Voltage



CHARACTERISTICS CURVE

Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

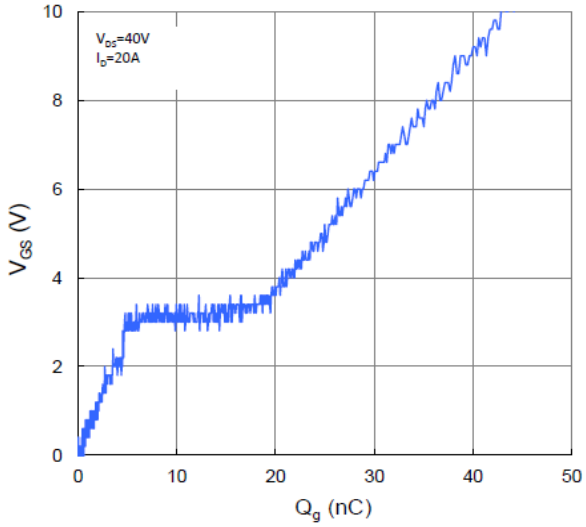


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

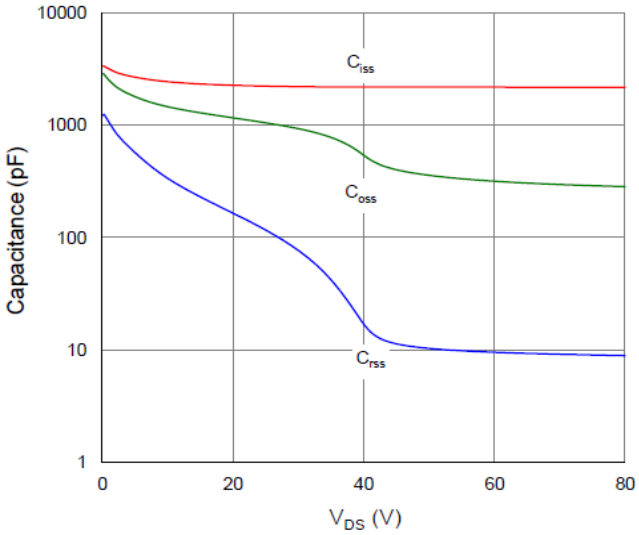


Figure 9. Maximum Safe Operating Area

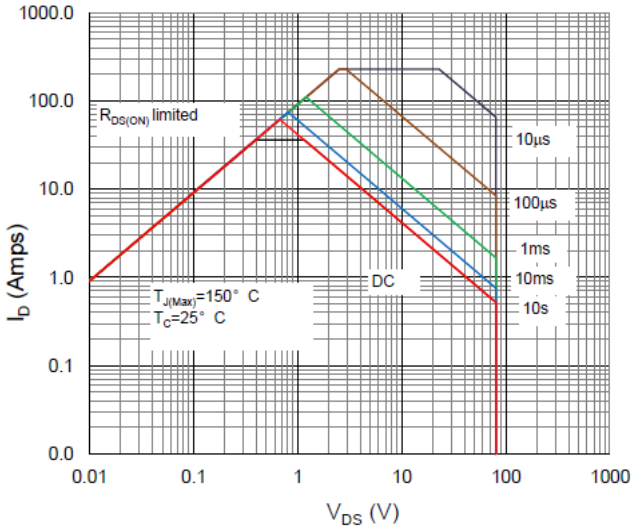


Figure 10. Maximun Drain Current vs. Case Temperature

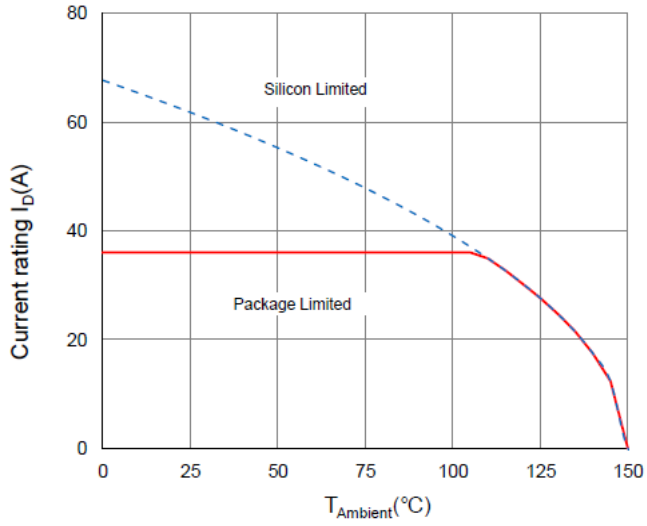
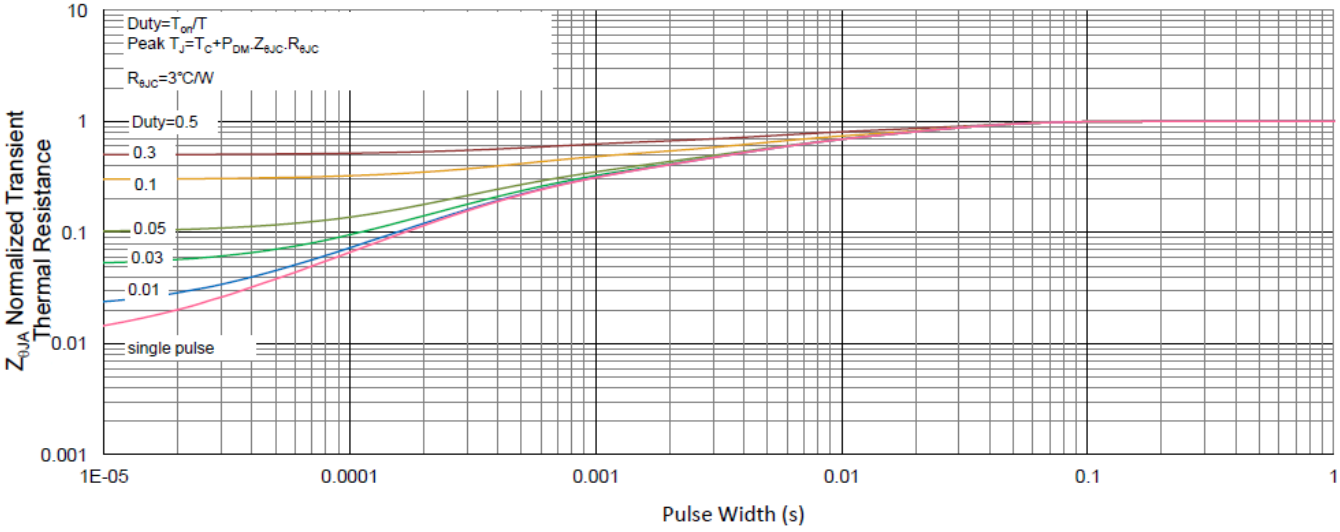
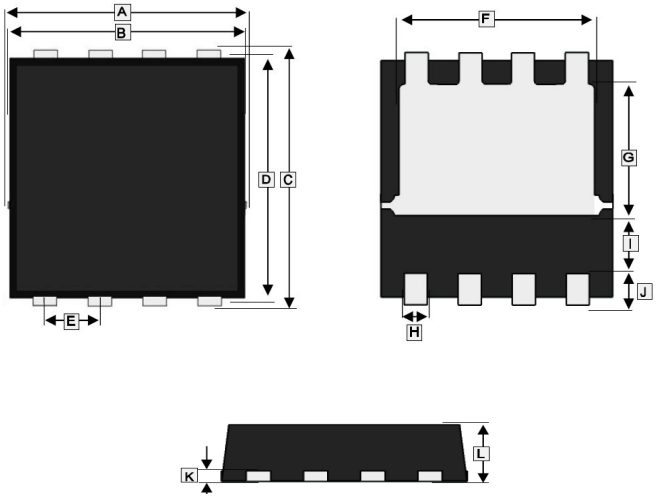


Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



PACKAGE OUTLINE DIMENSIONS

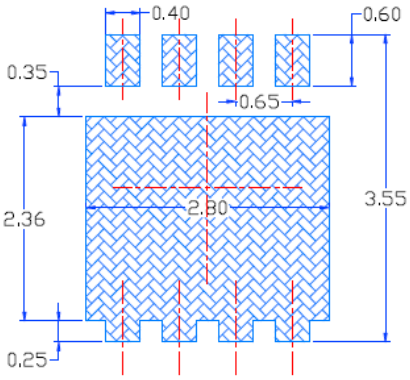
SPR-8PP



REF.	Millimeter	
	Min.	Max.
A	3.00	3.40
B	3.00	3.25
C	3.20	3.45
D	3.00	3.20
E	0.65 BSC.	
F	2.39	2.60
G	1.35	1.98
H	0.24	0.35
I	0.35 TYP.	
J	0.60 TYP.	
K	0.10	0.25
L	0.70	0.90

MOUNTING PAD LAYOUT

SPR-8PP



*Dimensions in millimeters