Elektronische Bauelemente

SSG4842N

23A , 40V , $R_{DS(ON)}$ 9 mΩ
N-Ch Enhancement Mode Power MOSFET

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

DESCRIPTION

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $R_{DS(on)}$ and to ensure minimal power loss and heat dissipation.

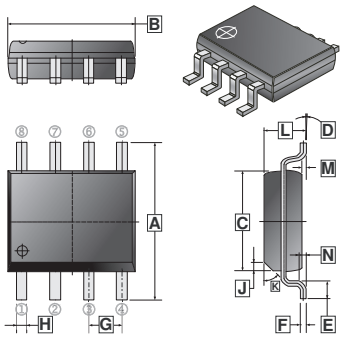
FEATURES

- Low $R_{DS(on)}$ Provides Higher Efficiency And Extends Battery Life.
- Low Thermal Impedance Copper Leadframe SOIC-8 Saves Board Space
- Fast Switching Speed
- High Performance Trench Technology

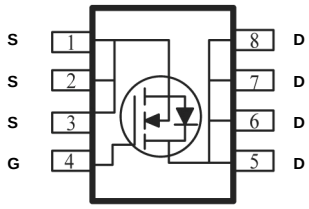
APPLICATION

DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

SOP-8



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	H	0.35	0.49
B	4.80	5.00	J	0.375 REF.	
C	3.80	4.00	K	45°	
D	0°	8°	L	1.35	1.75
E	0.40	0.90	M	0.10	0.25
F	0.19	0.25	N	0.25 REF.	
G	1.27 TYP.				



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	2.5K	13 inch

MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	40	V
Gate-Source Voltage		V_{GS}	20	V
Continuous Drain Current [1]	T_A= 25℃	I_D	23	A
	T_A= 70℃		19	A
Pulsed Drain Current [2]		I_{DM}	60	A
Continuous Source Current (Diode Conduction) [1]		I_S	2.9	A
Total Power Dissipation[1]	T_A= 25℃	P_D	3.1	W
	T_A= 70℃		2.2	W
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55~150	℃
Thermal Resistance Rating				
Thermal Resistance Junction-Ambient (Max.) [1]	t ≦ 10 sec	$R_{\theta JA}$	40	℃ / W
	Steady State		80	℃ / W

Notes:
1. Surface Mounted on 1" x 1" FR4 Board.
2. Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Gate Threshold Voltage	$V_{GS(th)}$	1	-	-	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage	I_{GSS}	-	-	100	nA	V_{DS}=0, V_{GS}=20V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=24V, V_{GS}=0
		-	-	5		V_{DS}=24V, V_{GS}=0, T_J=55℃
On-State Drain Current [1]	$I_{D(on)}$	30	-	-	A	V_{DS}=5V, V_{GS}=10V
Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	-	9	mΩ	V_{GS}=10V, I_D=23A
		-	-	12		V_{GS}=4.5V, I_D=20A
Forward Transconductance [1]	g_{fs}	-	90	-	S	V_{DS}=15V, I_D=23A
Diode Forward Voltage	V_{SD}	-	0.7	-	V	I_S=2.3A, V_{GS}=0
Dynamic [2]						
Total Gate Charge	Q_g	-	25	-	nC	I_D=23A V_{DS}=15V V_{GS}=4.5V
Gate-Source Charge	Q_{gs}	-	6	-		
Gate-Drain Charge	Q_{gd}	-	9	-		
Turn-On Delay Time	$T_{d(on)}$	-	20	-	nS	V_{DD}=15V I_D=1A V_{GEN}=10V R_L=6Ω
Rise Time	T_r	-	13	-		
Turn-Off Delay Time	$T_{d(off)}$	-	82	-		
Fall Time	T_f	-	43	-		

Notes:
1. Pulse test：PW≦300μs duty cycle≦2%.
2. Guaranteed by design, not subject to production testing.