Elektronische Bauelemente

SSG4902N

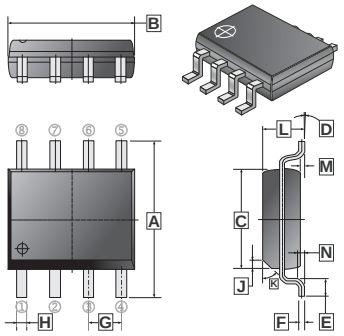
6.4 A, 60 V, $R_{DS(ON)}$ 35 mΩ
Dual N-Channel Mode Power MOSFET

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

DESCRIPTION

These miniature surface mount MOSFETs utilize a high cell density process to provide Low $R_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

SOP-8



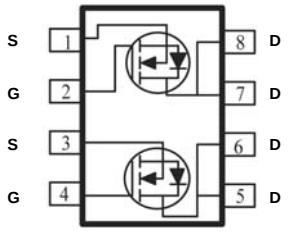
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	H	0.35	0.49
B	4.80	5.00	J	0.375 REF.	
C	3.80	4.00	K	45°	
D	0°	8°	L	1.35	1.75
E	0.40	0.90	M	0.10	0.25
F	0.19	0.25	N	0.25 REF.	
G	1.27 TYP.				

FEATURES

- Low $R_{DS(on)}$ provides higher efficiency and extends battery life.
- Low thermal impedance copper leadframe SOP-8 saves board space.
- Fast switching speed.
- High performance trench technology.

PRODUCT SUMMARY

SSG4902N		
V_{DS}(V)	R_{DS}(on) (mΩ)	I_D(A)
60	35@V_{GS}=10V	±6.4
	45@V_{GS}=4.5V	±5.6



PACKAGE INFORMATION

Package	MPQ	LeaderSize
SOP-8	2.5K	13' inch

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

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current [1]	I_D @ T_A = 25°C	±6.4	A
	I_D @ T_A = 70°C	±5.2	A
Pulsed Drain Current [2]	I_{DM}	±40	A
Continuous Source Current (Diode Conduction) [1]	I_S	2	A
Total Power Dissipation [1]	P_D @ T_A = 25°C	2.1	W
	P_D @ T_A = 70°C	1.3	W
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	°C
THERMAL RESISTANCE RATINGS			
Thermal Resistance Junction-Ambient (Max.) [1]	t ≦ 10 sec	$R_{\theta JA}$	62.5 °C / W
	Steady State		110 °C / 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	TEST CONDITIONS
STATIC						
Gate Threshold Voltage	$V_{GS(th)}$	1	-	-	V	V_{DS}= V_{GS}, I_D= 250μA
Gate-Body Leakage Current	I_{GSS}	-	-	±100	nA	V_{DS}= 0V, V_{GS}= ±20V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}= 60V, V_{GS}= 0V
		-	-	10	μA	V_{DS}= 60V, V_{GS}= 0V, T_J= 55°C
On-State Drain Current [1]	$I_{D(on)}$	20	-	-	A	V_{DS}= 5V, V_{GS}= 10V
Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	-	35	mΩ	V_{GS}= 10V, I_D= 6.4A
		-	-	45		V_{GS}= 4.5V, I_D= 5.6A
Forward Transconductance [1]	g_{fs}	-	11	-	S	V_{DS}= 15V, I_D= 6.4A
Diode Forward Voltage	V_{SD}	-	-	1.2	V	I_S= 2.0A, V_{GS}= 0V
DYNAMIC [2]						
Total Gate Charge	Q_g	-	12.5	-	nC	I_D= 6.4A V_{DS}= 30V V_{GS}= 4.5V
Gate-Source Charge	Q_{gs}	-	2.4	-		
Gate-Drain Charge	Q_{gd}	-	2.6	-		
SWITCHING						
Turn-On Delay Time	$T_{d(on)}$	-	11	-	nS	V_{DD}= 30V I_D= 1A V_{GEN}= 10V R_L= 30Ω
Rise Time	T_r	-	8	-		
Turn-Off Delay Time	$T_{d(off)}$	-	19	-		
Fall Time	T_f	-	6	-		

Notes

1 Pulse test : PW ≦ 300μs duty cycle ≦ 2%.

2 Guaranteed by design, not subject to production testing.