

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

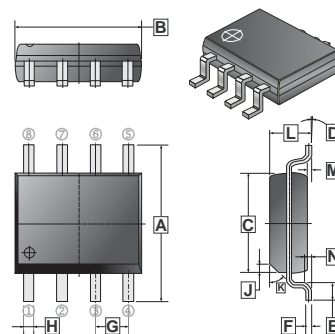
DESCRIPTION

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.

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.

SOP-8



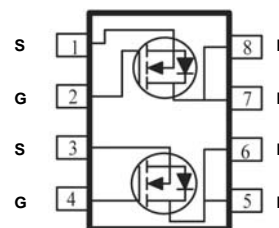
PRODUCT SUMMARY

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

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	LeaderSize
SOP-8	2.5K	13' inch



MAXIMUM RATINGS ($T_A = 25^\circ C$ 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	$I_D @ T_A = 25^\circ C$	± 6.4	A	
	$I_D @ T_A = 70^\circ C$	± 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	$P_D @ T_A = 25^\circ C$	2.1	W	
	$P_D @ T_A = 70^\circ C$	1.3	W	
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	°C	
THERMAL RESISTANCE RATINGS				
Thermal Resistance Junction-Ambient (Max.) ¹	$t \leq 10$ 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 ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
STATIC						
Gate Threshold Voltage	$V_{GS(th)}$	1	-	-	V	$V_{DS} = V_{GS}$, $I_D = 250\mu\text{A}$
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 20\text{V}$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS} = 60\text{V}$, $V_{GS} = 0\text{V}$
		-	-	10	μA	$V_{DS} = 60\text{V}$, $V_{GS} = 0\text{V}$, $T_J = 55^\circ\text{C}$
On-State Drain Current ¹	$I_{D(on)}$	20	-	-	A	$V_{DS} = 5\text{V}$, $V_{GS} = 10\text{V}$
Drain-Source On-Resistance ¹	$R_{DS(ON)}$	-	-	35	m Ω	$V_{GS} = 10\text{V}$, $I_D = 6.4\text{A}$
		-	-	45		$V_{GS} = 4.5\text{V}$, $I_D = 5.6\text{A}$
Forward Transconductance ¹	g_{fs}	-	11	-	S	$V_{DS} = 15\text{V}$, $I_D = 6.4\text{A}$
Diode Forward Voltage	V_{SD}	-	-	1.2	V	$I_S = 2.0\text{A}$, $V_{GS} = 0\text{V}$
DYNAMIC ²						
Total Gate Charge	Q_g	-	12.5	-	nC	$I_D = 6.4\text{A}$ $V_{DS} = 30\text{V}$ $V_{GS} = 4.5\text{V}$
Gate-Source Charge	Q_{gs}	-	2.4	-		
Gate-Drain Charge	Q_{gd}	-	2.6	-		
SWITCHING						
Turn-On Delay Time	$T_{d(on)}$	-	11	-	nS	$V_{DD} = 30\text{V}$ $I_D = 1\text{A}$ $V_{GEN} = 10\text{V}$ $R_L = 30\Omega$
Rise Time	T_r	-	8	-		
Turn-Off Delay Time	$T_{d(off)}$	-	19	-		
Fall Time	T_f	-	6	-		

Notes

- Pulse test : $PW \leq 300\mu\text{s}$ duty cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.