

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

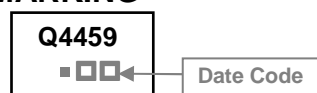
## DESCRIPTION

SSG4459J-C combines advanced trench MOSFET technology with a low resistance package to provide extremely low  $R_{DS(ON)}$ . This device is ideal for load switch and battery protection applications.

## APPLICATIONS

- Battery Switch
- Load Switch

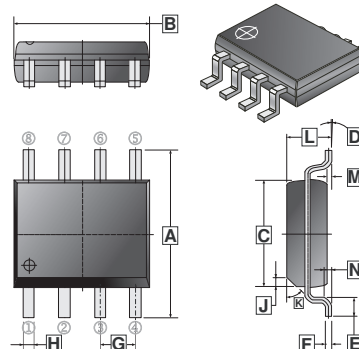
## MARKING



## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	4K	13 inch

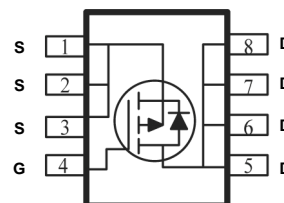
## SOP-8



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.79	6.20	H	0.33	0.51
B	4.70	5.11	J	0.375 REF.	
C	3.80	4.00	K	45° REF.	
D	0°	8°	L	1.3	1.752
E	0.40	1.27	M	0	0.25
F	0.10	0.25	N	0.25 REF.	
G	1.27 TYP.				

## ORDER INFORMATION

Part Number	Type
SSG4459J-C	Lead (Pb)-free and Halogen-free



## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	-6.5	A
Pulsed Drain Current	$I_{DM}$	-26	A
Single Pulsed Avalanche Energy <sup>1</sup>	$E_{AS}$	14	mJ
Power Dissipation	$P_D$	1.4	W
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	89	°C/W
Lead Temperature for Soldering Purposes @ 1/8" from case for 10s	$T_L$	260	°C
Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	°C

Note:

1. Test condition:  $V_{DD} = -50V$ ,  $L = 0.1mH$ ,  $R_G = 25\Omega$ , Starting  $T_J = 25^\circ C$ .

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	-30	-	-	V	$V_{GS}=0, I_D = -250\mu\text{A}$
Drain-Source Leakage Current	$I_{DSS}$	-	-	-1	$\mu\text{A}$	$V_{DS} = -30\text{V}, V_{GS}=0$
Gate-Body Leakage Current	$I_{GSS}$	-	-	$\pm 100$	nA	$V_{DS}=0, V_{GS} = \pm 20\text{V}$
Gate-Threshold Voltage <sup>1</sup>	$V_{GS(th)}$	-1.4	-	-2.4	V	$V_{DS}=V_{GS}, I_D = -250\mu\text{A}$
Static Drain-Source On-Resistance <sup>1</sup>	$R_{DS(ON)}$	-	-	46	m $\Omega$	$V_{GS} = -10\text{V}, I_D = -6.5\text{A}$
		-	-	72		$V_{GS} = -4.5\text{V}, I_D = -5\text{A}$
Forward Transfer Conductance <sup>1</sup>	$g_{fs}$	6	-	-	S	$V_{DS} = -5\text{V}, I_D = -6.5\text{A}$
Total Gate Charge	$Q_g$	-	9.2	-	nC	$V_{DS} = -15\text{V}$ $V_{GS} = -10\text{V}$ $I_D = -6.5\text{A}$
Gate-Source Charge	$Q_{gs}$	-	1.6	-		
Gate-Drain ("Miller") Charge	$Q_{gd}$	-	2.2	-		
Turn-on Delay Time	$T_{d(on)}$	-	7.5	-	nS	$V_{DD} = -15\text{V}$ $V_{GS} = -10\text{V}$ $R_G = 3\Omega$ $R_L = 2.5\Omega$ $I_D = -1\text{A}$
Rise Time	$T_r$	-	5.5	-		
Turn-off Delay Time	$T_{d(off)}$	-	19	-		
Fall Time	$T_f$	-	7	-		
Input Capacitance	$C_{iss}$	-	520	-	pF	$V_{DS} = -15\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$
Output Capacitance	$C_{oss}$	-	100	-		
Reverse Transfer Capacitance	$C_{rss}$	-	65	-		
Gate Resistance	$R_g$	3.5	7.5	11.5	$\Omega$	$V_{DS}=0, V_{GS}=0, f=1\text{MHz}$
<b>Source-Drain Diode Characteristics</b>						
Forward On Voltage <sup>1</sup>	$V_{DS}$	-	-	-1	V	$I_S = -1\text{A}, V_{GS}=0$
Continuous Source Current	$I_S$	-	-	-6.5	A	
Pulsed Source Current	$I_{SM}$	-	-	-26		

Note:

1. Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

**CHARACTERISTIC CURVES**

