

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

## DESCRIPTION

SSG05N10J-C uses advanced trench technology and design to provide excellent  $R_{DS(ON)}$  with low gate charge. This device is suitable for the use in a wide variety of applications.

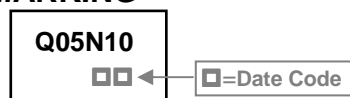
## FEATURES

- Special Processing Technology for High ESD Capability
- High Density Cell Design for Ultra Low  $R_{DS(ON)}$
- Good Stability and Uniformity with High  $E_{AS}$
- Excellent Package for Good Heat Dissipation

## APPLICATIONS

- Power Switching Application
- Hard Switching and High Frequency Circuits
- Uninterruptible Power Supply

## MARKING



## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	4K	13 inch

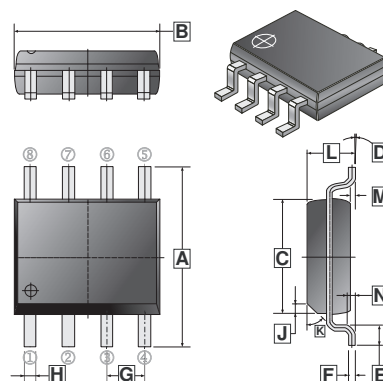
## ORDER INFORMATION

Part Number	Type
SSG05N10J-C	Lead (Pb)-free and Halogen-free

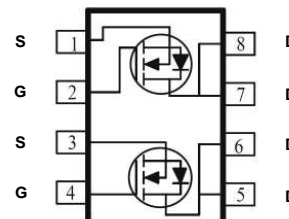
## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	$V_{DS}$	100	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	5	A
Pulsed Drain Current <sup>1</sup>	$I_{DM}$	24	A
Power Dissipation <sup>1</sup>	$P_D$	1.4	W
Thermal Resistance from Junction-Ambient <sup>2</sup>	$R_{\theta JA}$	89	$^{\circ}\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^{\circ}\text{C}$

## 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.			



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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	100	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Drain-Source Leakage Current	$I_{DSS}$	-	-	1	$\mu\text{A}$	$V_{DS}=100\text{V}, V_{GS}=0$
Gate-Source Leakage Current	$I_{GSS}$	-	-	$\pm 100$	nA	$V_{DS}=0, V_{GS}=\pm 20\text{V}$
Gate-Threshold Voltage <sup>3</sup>	$V_{GS(th)}$	1	-	2	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Static Drain-Source On-Resistance <sup>3</sup>	$R_{DS(ON)}$	-	-	140	m $\Omega$	$V_{GS}=10\text{V}, I_D=5\text{A}$
Forward Transconductance <sup>3</sup>	$g_{fs}$	-	8	-	S	$V_{DS}=5\text{V}, I_D=2.9\text{A}$
Diode Forward Voltage <sup>3</sup>	$V_{SD}$	-	-	1.2	V	$I_S=5\text{A}, V_{GS}=0$
Total Gate Charge	$Q_g$	-	15.5	-	nC	$V_{DS}=30\text{V}$ $V_{GS}=10\text{V}$ $I_D=3\text{A}$
Gate-Source Charge	$Q_{gs}$	-	3.2	-		
Gate-Drain ("Miller") Charge	$Q_{gd}$	-	4.7	-		
Turn-on Delay Time	$T_{d(on)}$	-	11	-	nS	$V_{DS}=30\text{V}$ $V_{GS}=10\text{V}$ $R_{GEN}=2.5\Omega$ $R_L=15\Omega$ $I_D=2\text{A}$
Rise Time	$T_r$	-	7.4	-		
Turn-off Delay Time	$T_{d(off)}$	-	35	-		
Fall Time	$T_f$	-	9.1	-		
Input Capacitance	$C_{iss}$	-	690	-		
Output Capacitance	$C_{oss}$	-	120	-		
Reverse Transfer Capacitance	$C_{rss}$	-	90	-		

Notes:

1. Repetitive rating: Pulse width limited by the junction temperature.
2. Surface mounted on FR4 board,  $t \leq 10\text{s}$ .
3. Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

**CHARACTERISTIC CURVES**

