

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

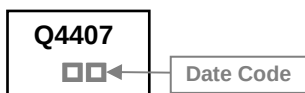
DESCRIPTION

SSG4407J uses advanced trench technology to provide excellent on-resistance, low gate charge and operation with gate voltages as low as 2.5V. The device is suitable for use as a load switch or in PWM applications. It may be used in a common drain arrangement to form a bidirectional blocking switch.

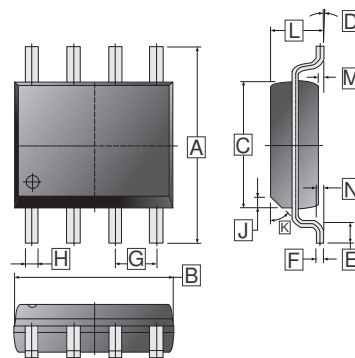
FEATURES

- Simple Drive Requirement
- Lower On-resistance
- Low Gate Charge

MARKING



SOP-8

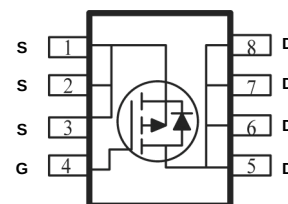


Dimensions in millimeters

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	H	0.33	0.51
B	4.700	5.10	J	0.375	REF.
C	3.80	4.00	K	45°	REF.
D	0°	8°	L	1.35	1.75
E	0.40	1.27	M	0.10	0.25
F	0.17	0.25	N	0.25	REF.
G	1.27	TYP.			

PACKAGE INFORMATION

Package	MPQ	Lead Size
SOP-8	4K	13 inch



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	-30	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	-12	A
Pulsed Drain Current	I _{DM}	-48	A
Single Pulse Avalanche Energy ¹	EAS	115	mJ
Total Power Dissipation	P _D	1.4	W
Thermal Resistance Junction-Ambient	R _{θJA}	89	°C / W
Lead Temperature for Soldering Purposes@1/8" from case for 10s	T _L	260	°C
Operating Junction & Storage Temperature Range	T _J , T _{STG}	150, -55 ~ 150	°C

Notes:

1. Test condition: V_{DD} = -50V, L = 0.5mH, R_G = 25 Ω , Starting T_J = 25°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	-30	-	-	V	V _{GS} = 0V, I _D = -250μA
Drain-Source Leakage Current	I _{DSS}	-	-	-1	μA	V _{DS} = -30V, V _{GS} = 0V
Gate-Body Leakage Current	I _{GSS}	-	-	±100	nA	V _{DS} = 0V, V _{GS} =±20V
On Characteristics ¹						
Gate-Threshold Voltage	V _{GS(th)}	-1	-	-2.2	V	V _{DS} =V _{GS} , I _D = -250μA
Drain-Source On-Resistance	R _{DS(ON)}	-	-	13	mΩ	V _{GS} = -10V, I _D = -12A
		-	-	17		V _{GS} = -6V, I _D = -10A
Forward Transfer Conductance	G _{fs}	25	-	-	S	V _{DS} = -5V, I _D = -15A
Dynamic Characteristics						
Input Capacitance	C _{iss}	-	2900	-	pF	V _{GS} = 0V V _{DS} = -15V f=1.0MHz
Output Capacitance	C _{oss}	-	410	-		
Reverse Transfer Capacitance	C _{rss}	-	280	-		
Switching Characteristics						
Total Gate Charge	Q _g	-	48	-	nC	I _D = -10A V _{DS} = -15V V _{GS} = -10V
Gate-Source Charge	Q _{gs}	-	12	-		
Gate-Drain (“Miller”) Charge	Q _{gd}	-	14	-		
Turn-On Delay Time	T _{d(on)}	-	15	-	nS	V _{DD} = -15V V _{GS} = -10V R _G = 3Ω R _L = 1.25Ω
Rise Time	T _r	-	11	-		
Turn-Off Delay Time	T _{d(off)}	-	44	-		
Fall Time	T _f	-	21	-		
Gate Resistance	R _G	-	-	3.6	Ω	V _{DS} =0V, V _{GS} =0V, f=1.0MHz
Source-Drain Diode Characteristics						
Forward On Voltage ¹	V _{DS}	-	-	-1.2	V	I _S = -2A, V _{GS} =0V
Continuous Source Current	I _S	-	-	-15	A	
Pulsed Source Current	I _{SM}	-	-	-60	A	

Notes:

1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.