

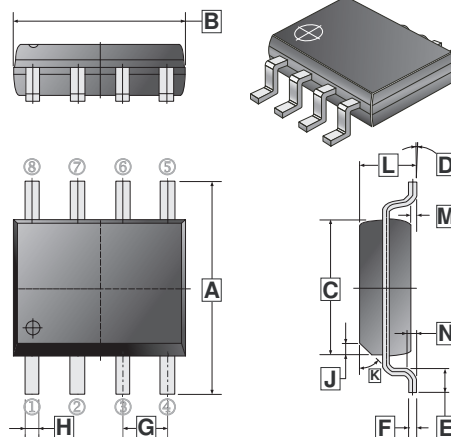
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

SSG4435J-C uses advanced trench technology to provide excellent $R_{DS(ON)}$, shoot-through immunity, body diode characteristics and ultra-low gate resistance.

This device is ideally suited for use as a low side switch in Notebook CPU core power conversion.

SOP-8



APPLICATIONS

- Battery Switch
- Load Switch

MARKING



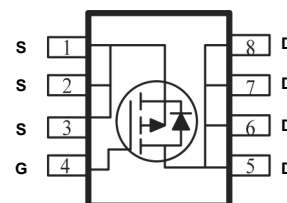
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	4K	13 inch

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	1.30	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
SSG4435J-C	Lead (Pb)-free and Halogen-free



MAXIMUM RATINGS (T_A=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	-7.3	A
Pulsed Drain Current	I_{DM}	-27	A
Single Pulse Avalanche Energy ¹	E_{AS}	20	mJ
Total Power Dissipation	P_D	1.4	W
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	89	$^{\circ}C/W$
Operating Junction & Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^{\circ}C$

Note:

1. E_{AS} condition: $V_{DD} = -20V$, $L = 0.5mH$, $R_G = 25\Omega$, Starting $T_J = 25^{\circ}C$.

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

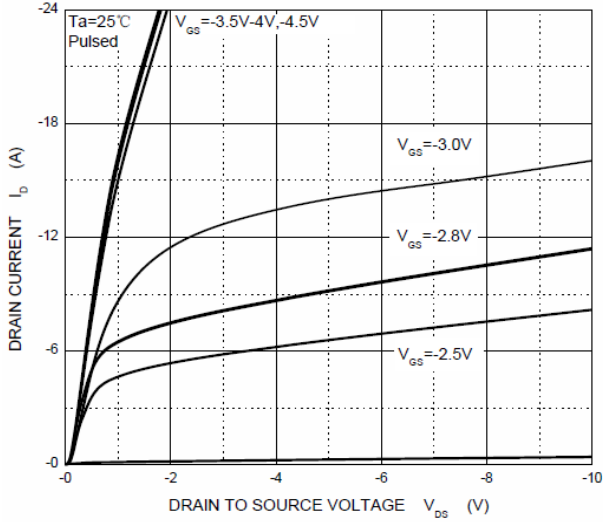
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-30	-	-	V	$V_{GS}=0, I_D = -250\mu A$
Drain-Source Leakage Current	I_{DSS}	-	-	-1	μA	$V_{DS} = -30V, V_{GS}=0$
Gate-Body Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{DS}=0, V_{GS} = \pm 20V$
Gate-Threshold Voltage ¹	$V_{GS(th)}$	-1	-	-3	V	$V_{DS}=V_{GS}, I_D = -250\mu A$
Drain-Source On-Resistance ¹	$R_{DS(ON)}$	-	18	24	m Ω	$V_{GS} = -10V, I_D = -7.3A$
		-	26	35		$V_{GS} = -4.5V, I_D = -6.9A$
Forward Transfer Conductance ¹	g_{fs}	-	12	-	S	$V_{DS} = -10V, I_D = -7.3A$
Total Gate Charge	Q_g	-	25	-	nC	$I_D = -7.3A$ $V_{DS} = -15V$ $V_{GS} = -4.5V$
Gate-Source Charge	Q_{gs}	-	7	-		
Gate-Drain ("Miller") Charge	Q_{gd}	-	12	-		
Turn-on Delay Time	$T_{d(on)}$	-	15	-	nS	$V_{DD} = -15V$ $I_D = -1A$ $V_{GS} = -10V$ $R_G = 1\Omega$ $R_L = 15\Omega$
Rise Time	T_r	-	15	-		
Turn-off Delay Time	$T_{d(off)}$	-	70	-		
Fall Time	T_f	-	25	-		
Input Capacitance	C_{iss}	-	1400	-	pF	$V_{GS}=0$ $V_{DS} = -15V$ $f=1MHz$
Output Capacitance	C_{oss}	-	165	-		
Reverse Transfer Capacitance	C_{rss}	-	145	-		
Source-Drain Diode Characteristics						
Forward on Voltage ¹	V_{SD}	-	-	-1.2	V	$I_S = -2A, V_{GS}=0$
Continuous Source Current	I_S	-	-	-7.3	A	
Pulsed Source Current	I_{SM}	-	-	-27		

Note:

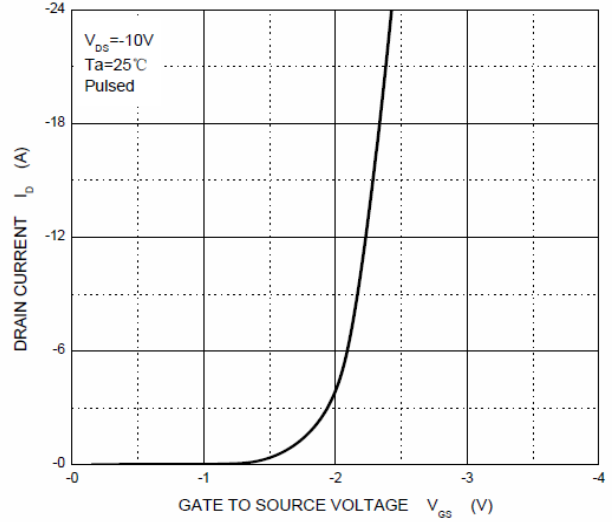
1. Pulse Test: Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.

CHARACTERISTICS CURVE

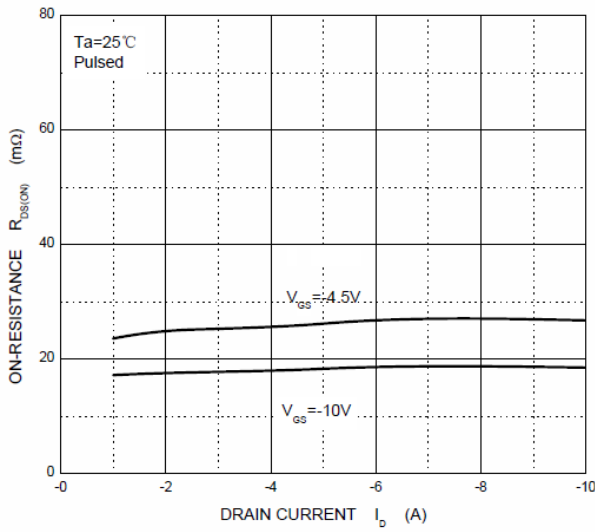
Output Characteristics



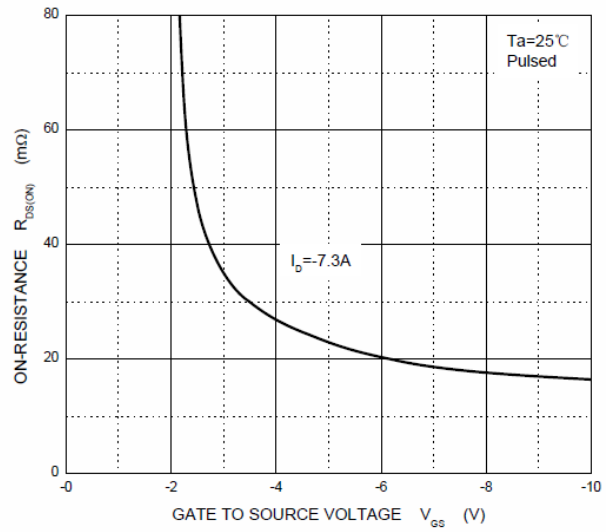
Transfer Characteristics



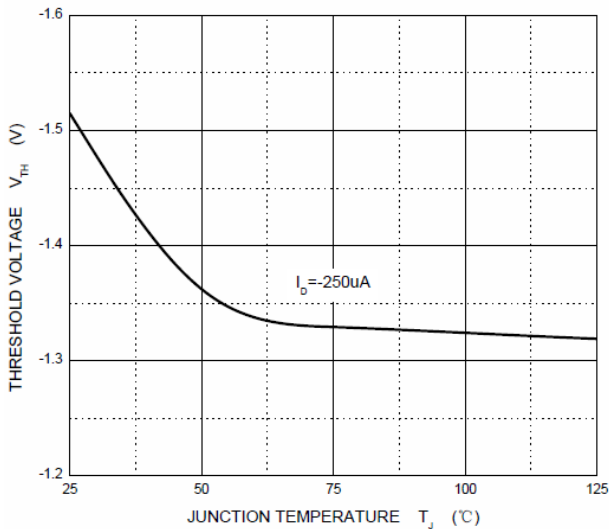
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



Threshold Voltage



I_S — V_{SD}

