

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

DESCRIPTION

The SSG11P06-C is the highest performance trench P-ch MOSFETs with extreme high cell density, which provide excellent $R_{DS(ON)}$ and gate charge for most of the synchronous buck converter applications.

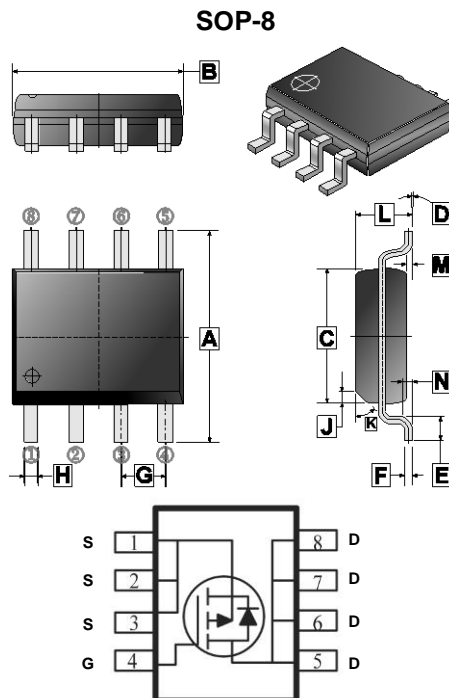
The SSG11P06-C meet the RoHS and Green Product requirement with full function reliability approved.

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	2.5K	13' inch

ORDER INFORMATION

Part Number	Type
SSG11P06-C	Lead (Pb)-free and Halogen-free



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.				

MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit	
Drain-Source Voltage	V_{DS}	-60	V	
Gate-Source Voltage	V_{GS}	± 20	V	
Continuous Drain Current, $V_{GS} @ -4.5V$ ¹	I_D	$T_C = 25^\circ C$	-11	A
		$T_C = 100^\circ C$	-8.5	A
Pulsed Drain Current ²	I_{DM}	-22	A	
Total Power Dissipation ³	P_D	5.2	W	
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55 ~ 150	$^\circ C$	
Thermal Resistance Ratings				
Thermal Resistance Junction-Ambient ¹ (Max.)	$R_{\theta JA}$	85	$^\circ C / W$	
Thermal Resistance Junction-Case ¹ (Max.)	$R_{\theta JC}$	24		

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-60	-	-	V	$V_{GS}=0, I_D=-250\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	-1	-	-2.5	V	$V_{DS}=V_{GS}, I_D=-250\mu A$
Gate-Body Leakage	I_{GSS}	-	-	± 100	nA	$V_{DS}=0V, V_{GS}=\pm 16V$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	$V_{DS}=-48V, V_{GS}=0V, T_J=25^\circ C$
Drain-Source On-Resistance ²	$R_{DS(ON)}$	-	-	28	m Ω	$V_{GS}=-10V, I_D=-10A$
		-	-	33		$V_{GS}=-4.5V, I_D=-8A$
Forward Transconductance	g_{fs}	-	23	-	S	$V_{DS}=-10V, I_D=-18A$
Total Gate Charge	Q_g	-	25	-	nC	$I_D=-10A$ $V_{DS}=-20V$ $V_{GS}=-4.5V$
Gate-Source Charge	Q_{gs}	-	6.7	-		
Gate-Drain Charge	Q_{gd}	-	5.5	-		
Turn-On Delay Time	$T_{d(on)}$	-	38	-	nS	$V_{DD}=-15V,$ $I_D=-1A$ $V_{GS}=-10V,$ $R_G=3.3\Omega$
Rise Time	T_r	-	23.6	-		
Turn-Off Delay Time	$T_{d(off)}$	-	100	-		
Fall Time	T_f	-	6.8	-		
Input Capacitance	C_{iss}	-	3635	-	pF	$V_{DS}=-15V$ $V_{GS}=0$ $f=1MHz$
Output Capacitance	C_{oss}	-	224	-		
Reverse Transfer Capacitance	C_{rss}	-	141	-		
Source-Drain Diode						
Continuous Source Current ¹	I_S	-	-	-11	A	$V_G=V_D=0V, \text{Force current}$
Pulsed Source Current ²	I_{SM}	-	-	-22	A	
Diode Forward Voltage ²	V_{SD}	-	-	-1	V	$V_{GS}=0V, I_S=-1A, T_J=25^\circ C$

Notes:

1. Surface mounted on a 1 inch² FR-4 board with 2OZ copper.
2. The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. The power dissipation is limited by 150^oC junction temperature.

CHARACTERISTIC CURVES

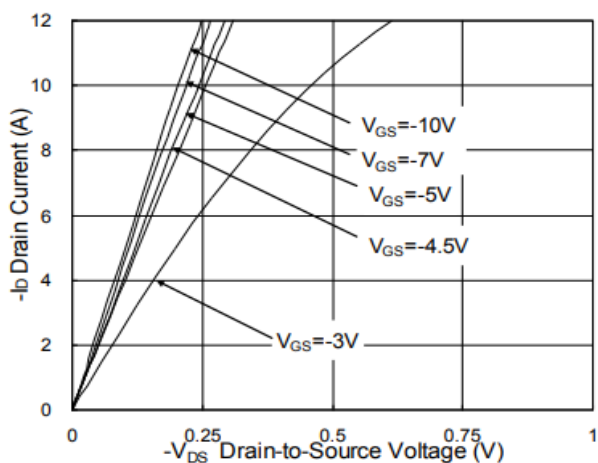


Fig.1 Typical Output Characteristics

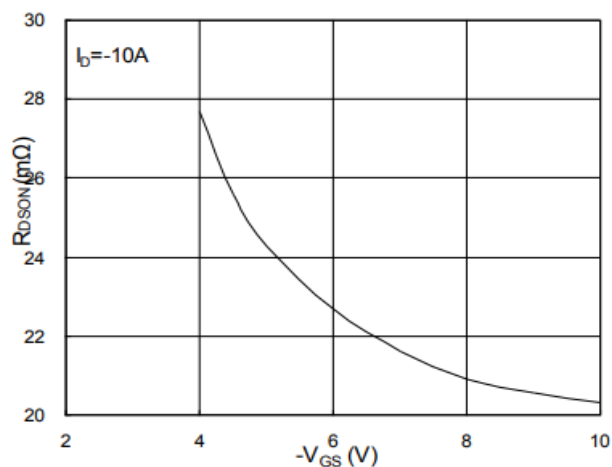


Fig.2 On-Resistance v.s Gate-Source

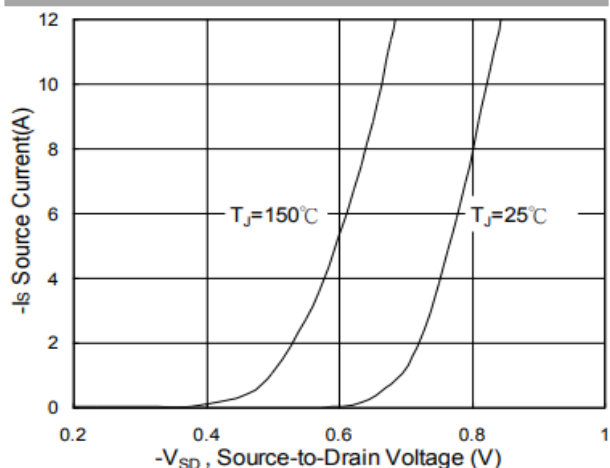


Fig.3 Forward Characteristics Of Reverse

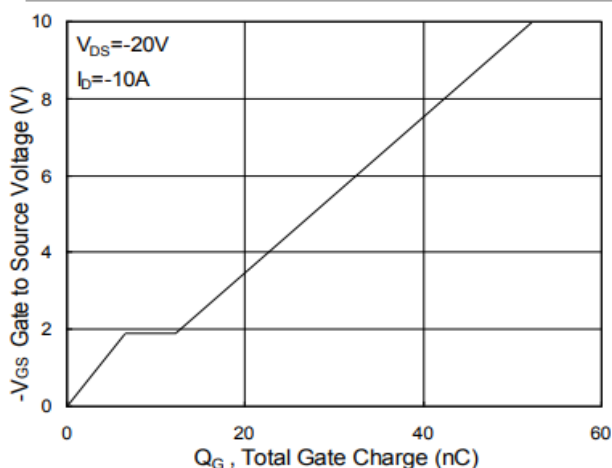


Fig.4 Gate-Charge Characteristics

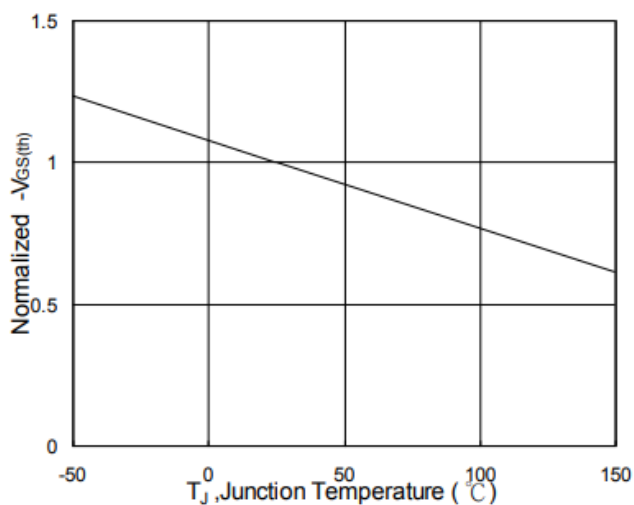


Fig.5 Normalized $V_{GS(th)}$ v.s T_J

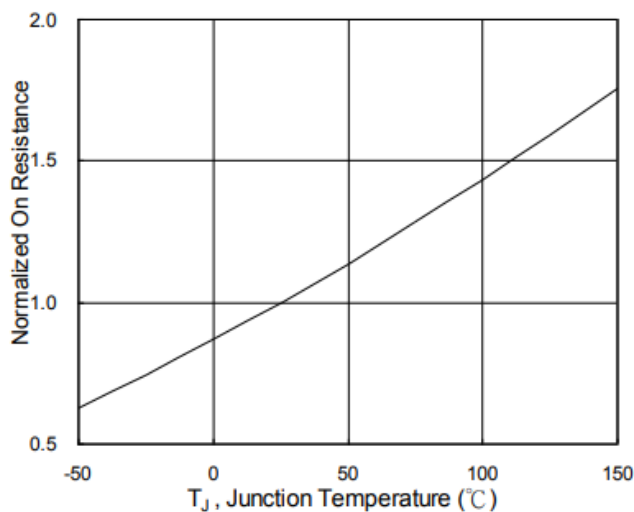


Fig.6 Normalized $R_{DS(ON)}$ v.s T_J

CHARACTERISTIC CURVES

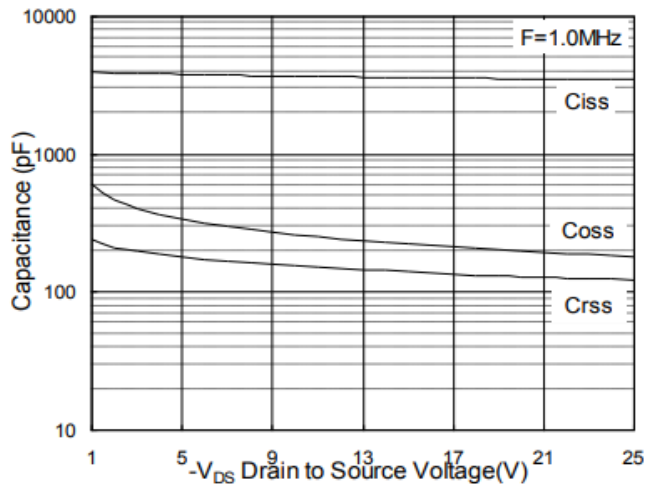


Fig.7 Capacitance

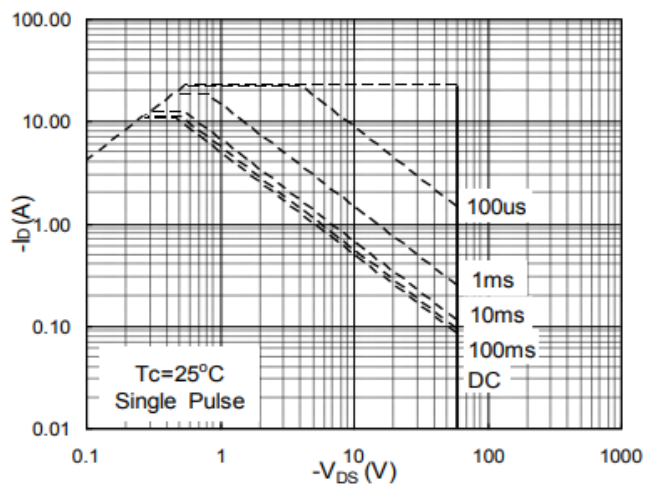


Fig.8 Safe Operating Area

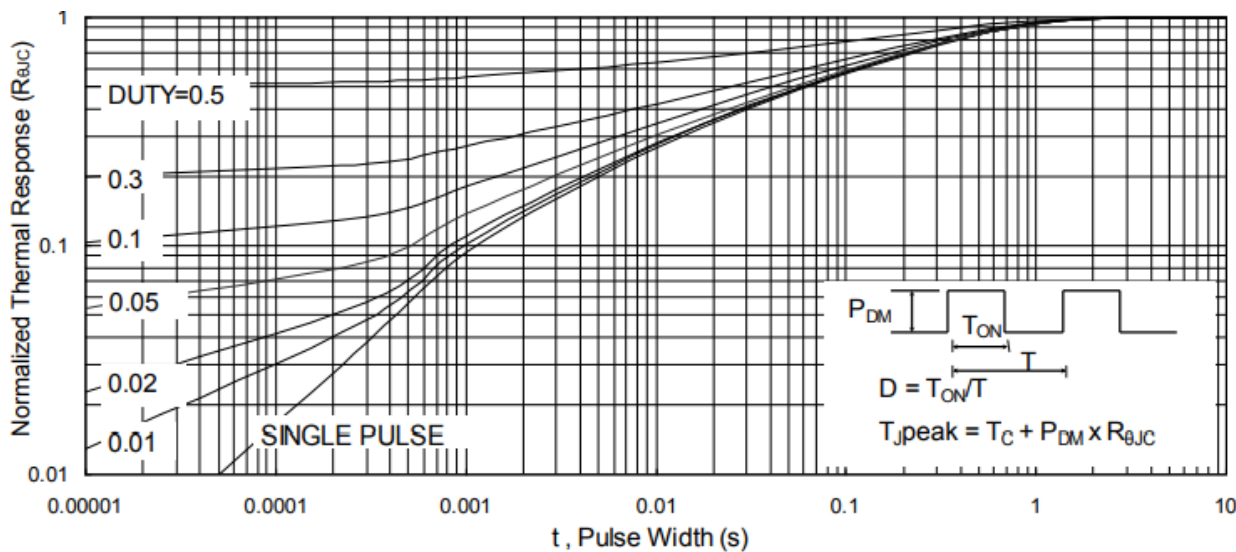


Fig.9 Normalized Maximum Transient Thermal Impedance

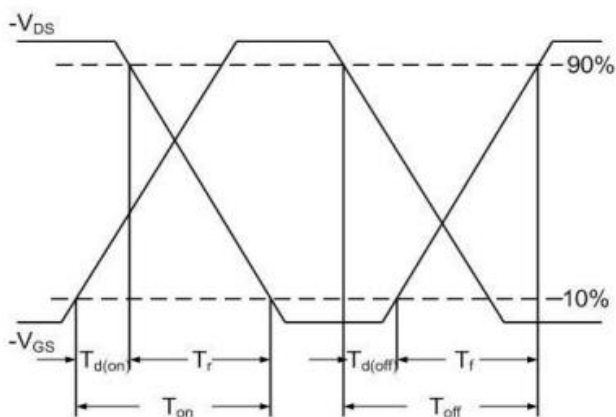


Fig.10 Switching Time Waveform

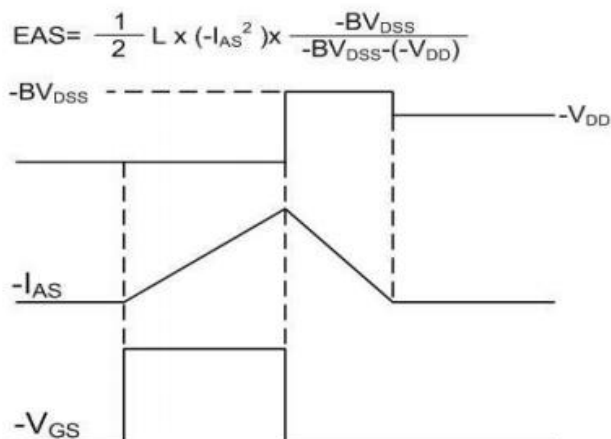


Fig.11 Unclamped Inductive Waveform