Elektronische Bauelemente

SSG07P06

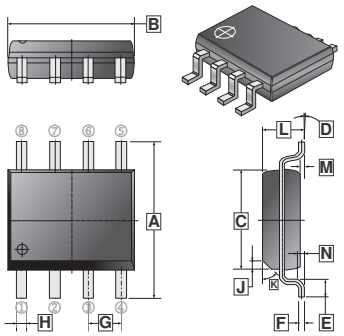
-7A, -60V, $R_{DS(ON)}$ 40mΩ
P-Ch Enhancement Mode Power MOSFET

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

DESCRIPTION

The SSG07P06 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 SSG07P06 meet the RoHS and Green Product requirement with full function reliability approved.

SOP-8



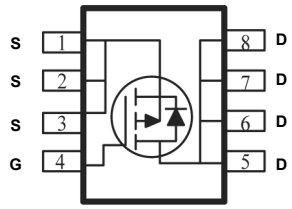
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	H	0.33	0.51
B	4.70	5.10	J	0.375 REF.	
C	3.80	4.00	K	45°REF.	
D	0°	8°	L	1.35	1.75
E	0.40	1.27	M	0.10	0.25
F	0.10	0.25	N	0.25 REF.	
G	1.27 TYP.				

FEATURES

- Advanced High Cell Density Trench Technology
- Super Low Gate Charge
- Green Device Available

MARKING

07P06
□□□□ = Date Code



PACKAGE INFORMATION

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

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

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current @V_{GS}=10V [1]	T_A=25°C	I_D	-7	A
	T_A=70°C		-5.6	A
Pulsed Drain Current [2]		I_{DM}	-28	A
Total Power Dissipation	T_A=25°C	P_D	3.1	W
Operating Junction & Storage Temperature Range		T_J, T_{STG}	-55 ~ 150	°C
Thermal Resistance Ratings				
Thermal Resistance Junction-Ambient [1]		$R_{\theta JA}$	t≦10sec, 40	°C / W
			Steady State, 105	
Thermal Resistance Junction-Ambient			125	
Thermal Resistance Junction-Case [1]		$R_{\theta JC}$	30	

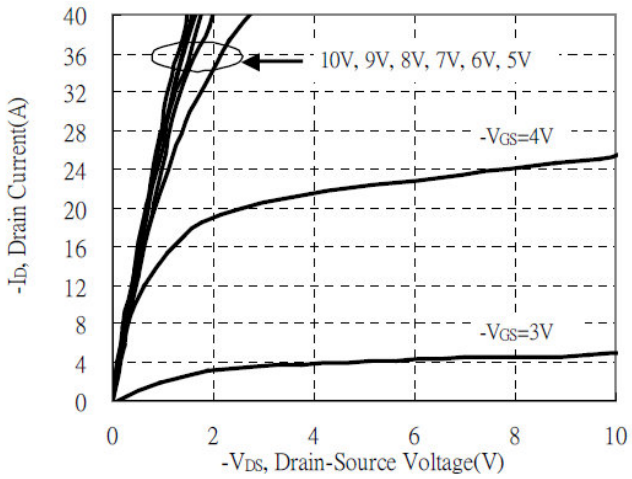
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	-60	-	-	V	V_{GS}=0V, I_D= -250uA
Gate Threshold Voltage	$V_{GS(th)}$	-1	-	-2.5	V	V_{DS}=V_{GS}, I_D= -250μA
Forward Transfer conductance	g_{fs}	-	13	-	S	V_{DS}= -5V, I_D= -7A
Gate-Body Leakage	I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}= ±20V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	V_{DS}= -48V, V_{GS}=0V, T_J=25°C
		-	-	-25	μA	V_{DS}= -48V, V_{GS}=0V, T_J=125°C
Drain-Source On-Resistance [3]	$R_{DS(ON)}$	-	33	40	mΩ	V_{GS}= -10V, I_D= -7A
		-	45	50		V_{GS}= -4.5V, I_D= -5A
Total Gate Charge	Q_g	-	38.7	-	nC	I_D= -6.2A V_{DS}= -30V V_{GS}= -10V
Gate-Source Charge	Q_{gs}	-	8.6	-		
Gate-Drain (“Miller”) Charge	Q_{gd}	-	9	-		
Turn-On Delay Time	$T_{d(on)}$	-	9.7	-	nS	V_{DD}= -30V I_D= -6.2A V_{GS}= -10V R_G=3Ω R_L=4.8Ω
Rise Time	T_r	-	6.2	-		
Turn-Off Delay Time	$T_{d(off)}$	-	34	-		
Fall Time	T_f	-	14.3	-		
Input Capacitance	C_{iss}	-	1910	-	pF	V_{DS}= -30V V_{GS}=0 f=1MHz
Output Capacitance	C_{oss}	-	98.1	-		
Reverse Transfer Capacitance	C_{rss}	-	62.5	-		
Source-Drain Diode						
Diode Forward Voltage [3]	V_{SD}	-	-0.72	-1.2	V	V_{GS}=0V , I_S= -1A
Continuous Source Current [1]	I_S	-	-	-4.2	A	
Pulsed Source Current [2]	I_{SM}	-	-	-16	A	
Reverse Recovery Time	t_{rr}	-	32	-	nS	I_F= -6.2A , dI/dt=100A/μs,T_J=25°C
Reverse Recovery Charge	Q_{rr}	-	44	-	nC	

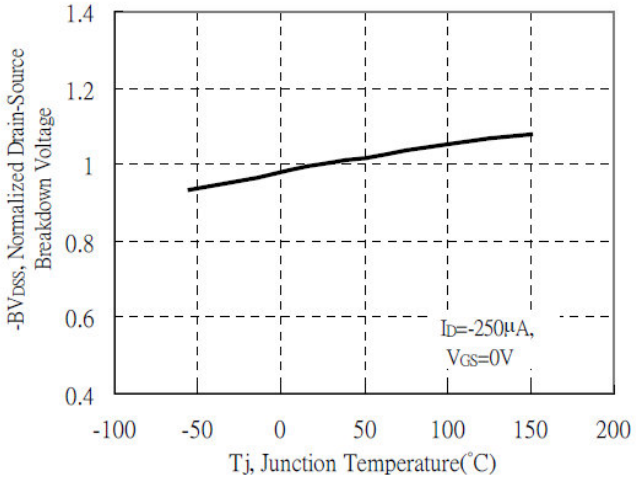
Notes:
1. Surface mounted on a 1 inch^2 FR-4 board with 2OZ copper.
2. The power dissipation is limited by 150°C junction temperature.
3. The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%.

CHARACTERISTIC CURVES

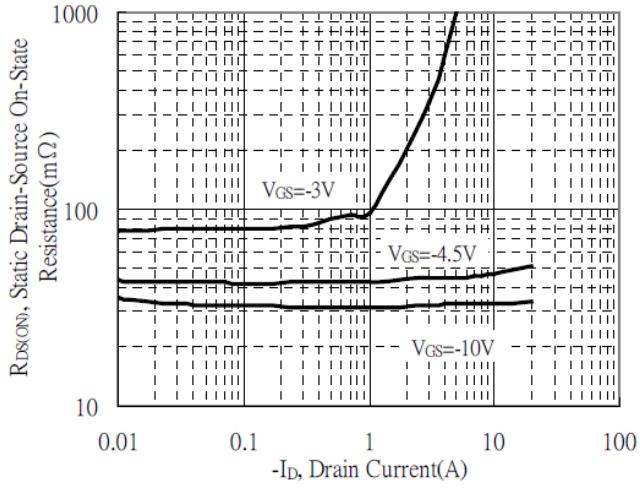
Typical Output Characteristics



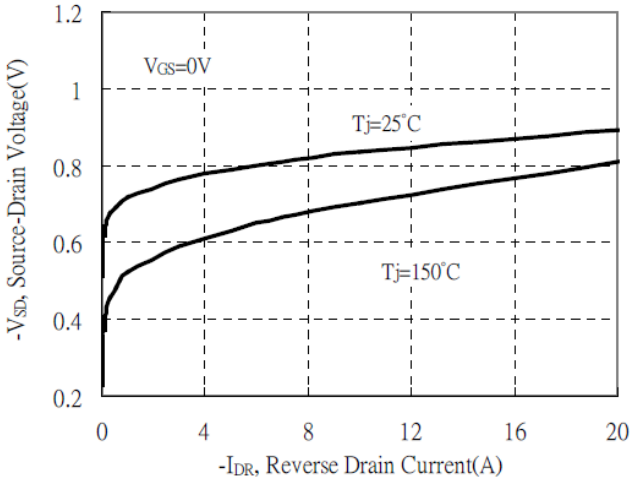
Brekdown Voltage vs Temperature



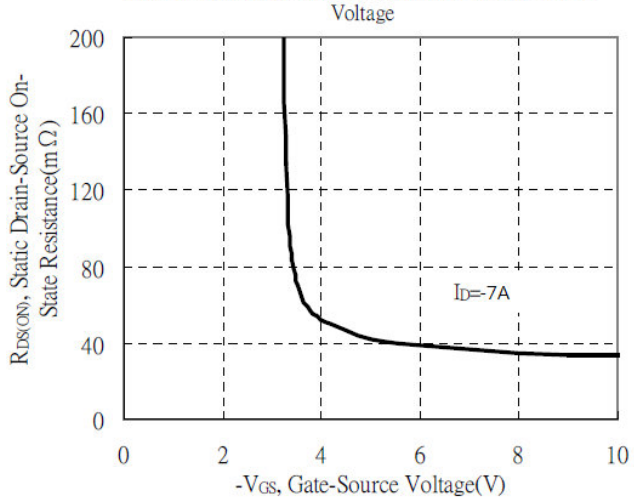
Static Drain-Source On-State resistance vs Drain Current



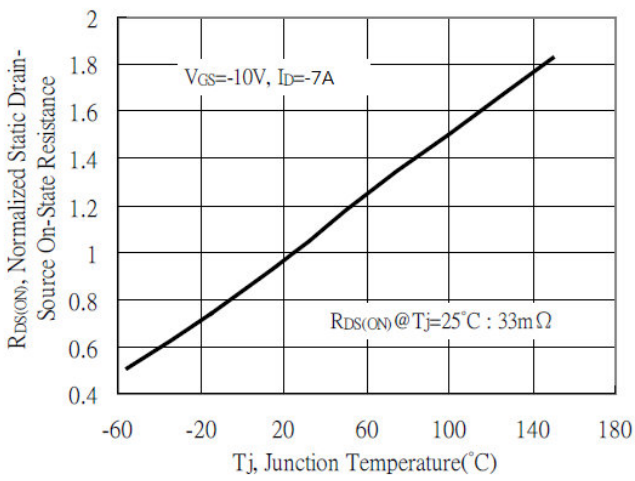
Reverse Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

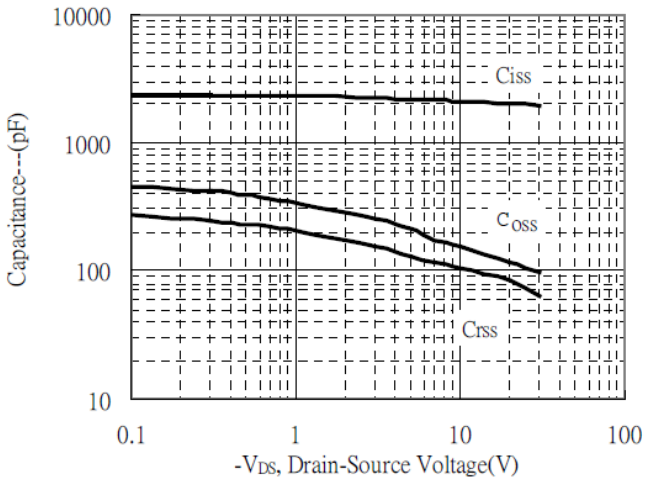


Drain-Source On-State Resistance vs Junction Tempearture

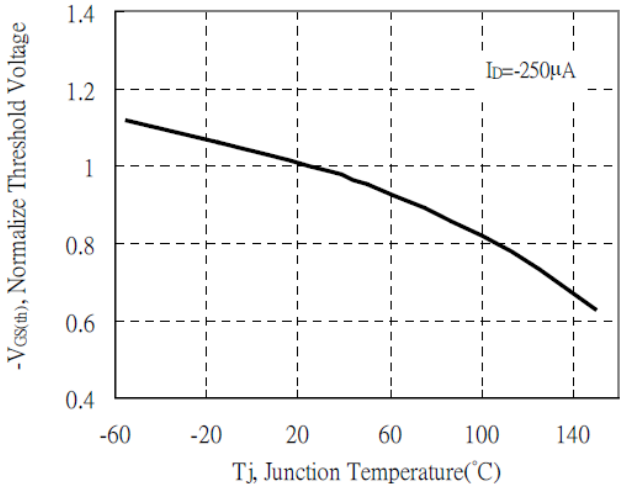


CHARACTERISTIC CURVES

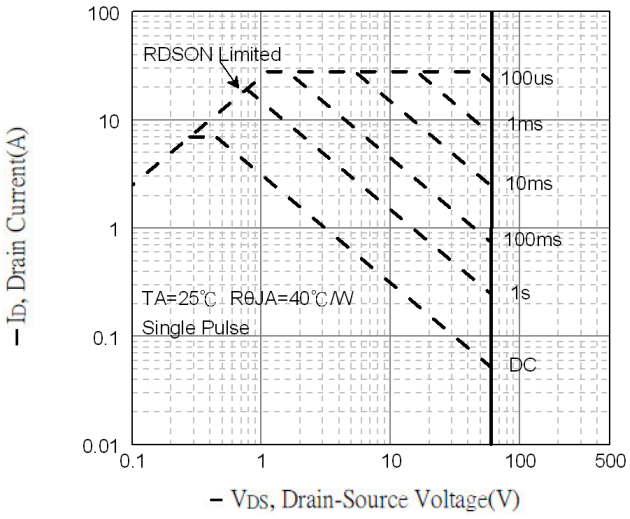
Capacitance vs Drain-to-Source Voltage



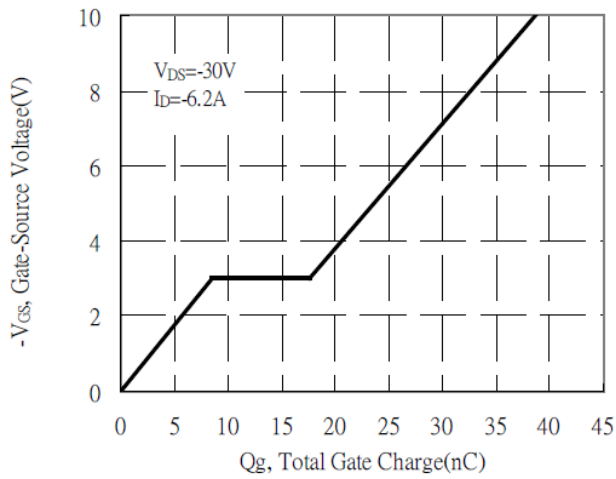
Threshold Voltage vs Junction Tempearture



Maximum Safe Operating Area



Gate Charge Characteristics



Transient Thermal Response Curves