Elektronische Bauelemente

SSG3215B-C

1.7A, 150V, $R_{DS(ON)}$ 330mΩ

Dual-N Enhancement Mode Power MOSFET

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

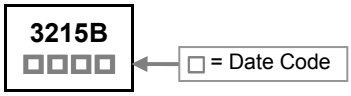
The SSG3215B-C is the highest performance trench Dual N-Ch MOSFETs with extreme high cell density, which provide excellent $R_{DS(ON)}$ and gate charge for most of the synchronous buck converter applications.

The SSG3215B-C meet the RoHS and Green Product requirement with full function reliability approved.

FEATURES

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

MARKING



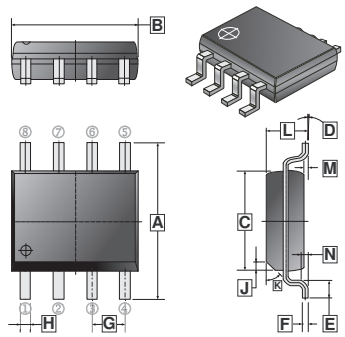
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOP-8	2.5K	13 inch

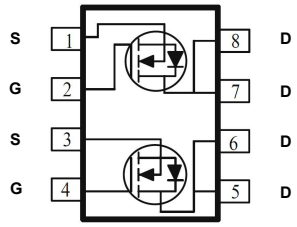
ORDER INFORMATION

Part Number	Type
SSG3215B-C	Lead (Pb)-free and Halogen-free

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.				



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	150	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [1], @V_{GS}=10V	T_A=25°C	I_D	1.7	A
	T_A=70°C		1.4	
Pulsed Drain Current [3]		I_{DM}	10	A
Total Power Dissipation	T_A=25°C	P_D	2	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	°C
Thermal Resistance Ratings				
Thermal Resistance Junction-Ambient [1]		$R_{\theta JA}$	t≦10s, 62.5	°C/W
			Steady state, 110	
Thermal Resistance Junction-Ambient [2]			135	
Thermal Resistance Junction-Case [1]		$R_{\theta JC}$	25	

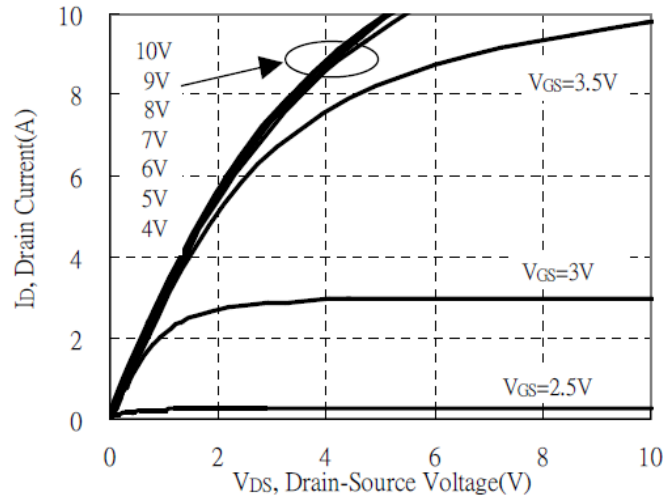
ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage		BV_{DSS}	200	-	-	V	V_{GS}=0, I_D=250μA
Gate Threshold Voltage		$V_{GS(th)}$	1	-	2.5	V	V_{DS}=V_{GS}, I_D=250μA
Forward Transfer Conductance		g_{fs}	-	3.9	-	S	V_{DS}=10V, I_D=1A
Gate-Source Leakage Current		I_{GSS}	-	-	±100	nA	V_{GS}= ±20V
Drain-Source Leakage Current	T_J=25°C	I_{DSS}	-	-	1	μA	V_{DS}=120V, V_{GS}=0
	T_J=55°C		-	-	10		V_{DS}=120V, V_{GS}=0
Static Drain-Source On-Resistance [4]		$R_{DS(ON)}$	-	-	330	mΩ	V_{GS}=10V, I_D=1.5A
			-	-	380		V_{GS}=4.5V, I_D=1A
Gate Resistance		R_g	-	4.5	-	Ω	f=1MHz
Total Gate Charge		Q_g	-	9.1	-	nC	I_D=1.5A V_{DS}=120V V_{GS}=10V
Gate-Source Charge		Q_{gs}	-	1.2	-		
Gate-Drain Charge		Q_{gd}	-	2.6	-		
Turn-on Delay Time		$T_{d(on)}$	-	6	-	nS	V_{DD}=75V I_D=1.5A V_{GS}=10V R_G=6Ω
Rise Time		T_r	-	16.4	-		
Turn-off Delay Time		$T_{d(off)}$	-	21.6	-		
Fall Time		T_f	-	15.6	-		
Input Capacitance		C_{iss}	-	313	-	pF	V_{GS}=0 V_{DS}=50V f=1MHz
Output Capacitance		C_{oss}	-	32	-		
Reverse Transfer Capacitance		C_{rss}	-	17	-		
Source-Drain Diode							
Continuous Source Current [1]		I_S	-	-	1.5	A	
Pulsed Source Current [3]		I_{SM}	-	-	10		
Diode Forward Voltage [4]		V_{SD}	-	-	1.2	V	V_{GS}=0, I_S=1.5A, T_J=25°C
Reverse Recovery Time		t_{rr}	-	26.9	-	nS	I_F=1.5A, dI/dt=100A/μs T_J=25°C
Reverse Recovery Charge		Q_{rr}	-	33.6	-	nC	

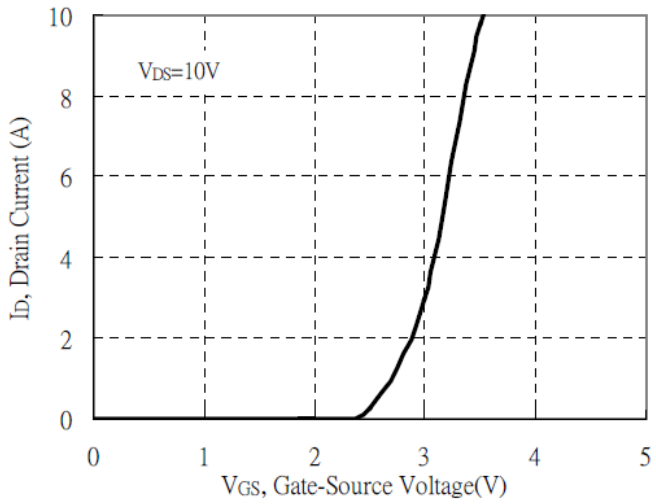
Notes:
1. Surface Mounted on 1”x1” FR4 Board with 2OZ copper.
2. When mounted on Min. copper pad.
3. Pulse width limited by maximum junction temperature.
4. Pulse Test: Pulse Width≦300μs, Duty Cycle≦2%.

CHARACTERISTICS CURVE

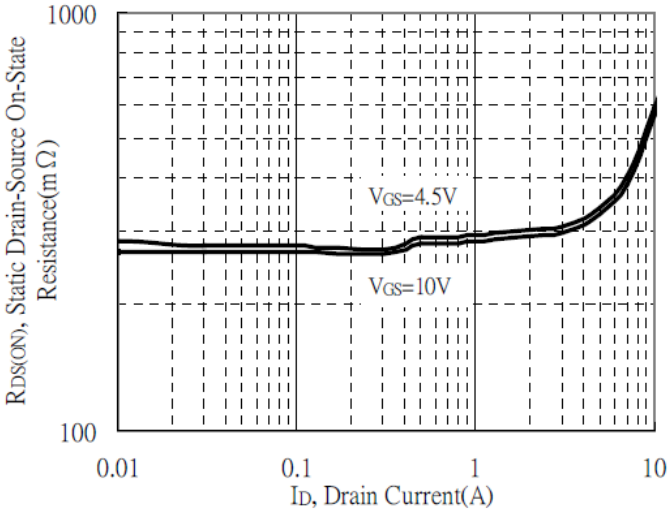
Typical Output Characteristics



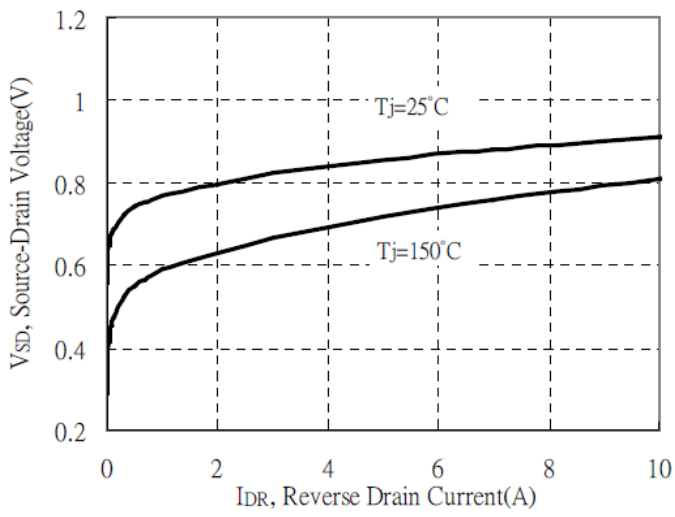
Typical Transfer Characteristics



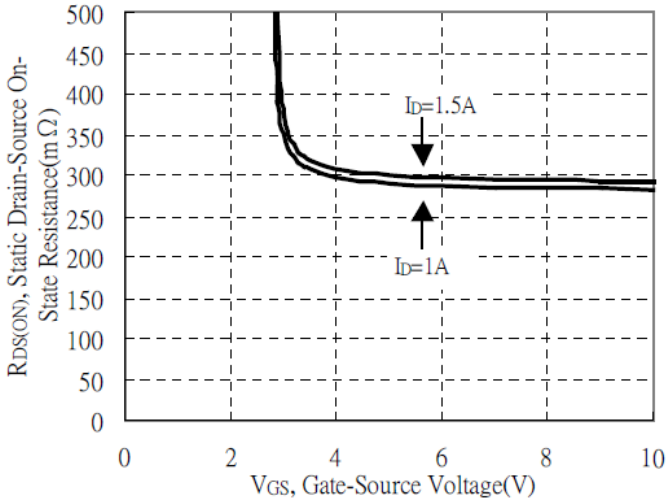
Static Drain-Source On-State resistance vs Drain Current



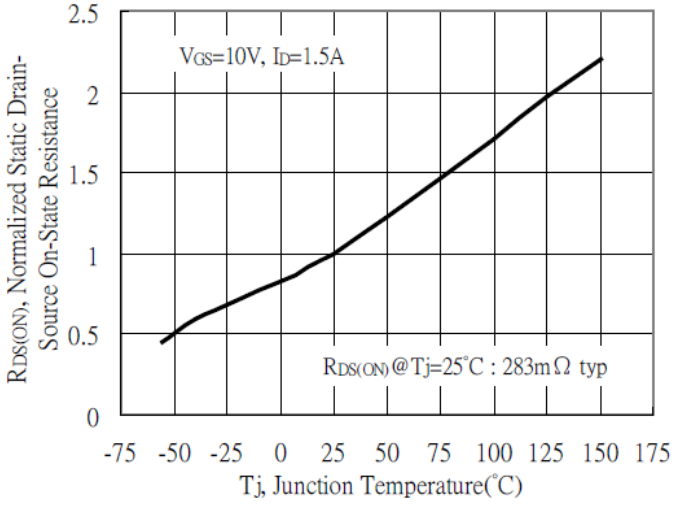
Reverse Drain Current vs Source-Drain Voltage



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

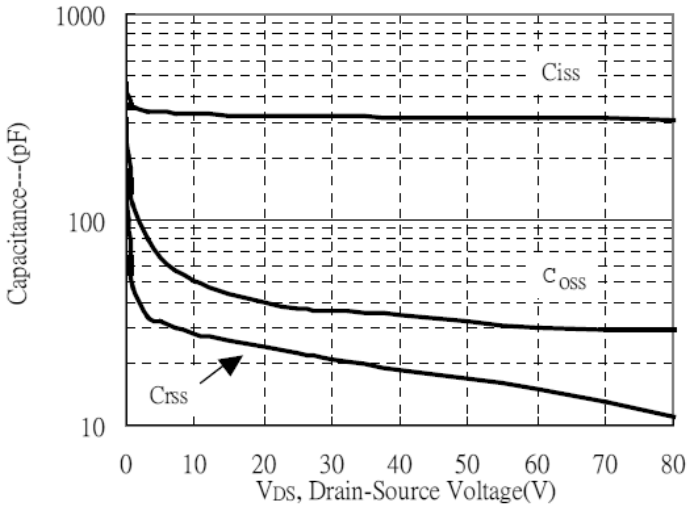


Drain-Source On-State Resistance vs Junction Tempearture

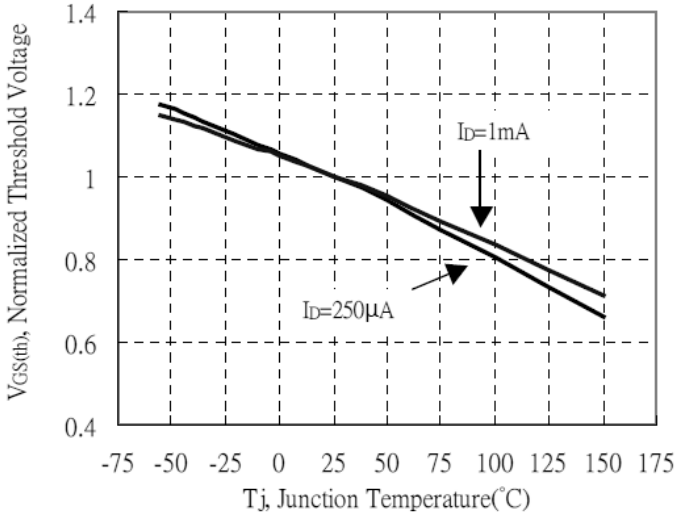


CHARACTERISTICS CURVE

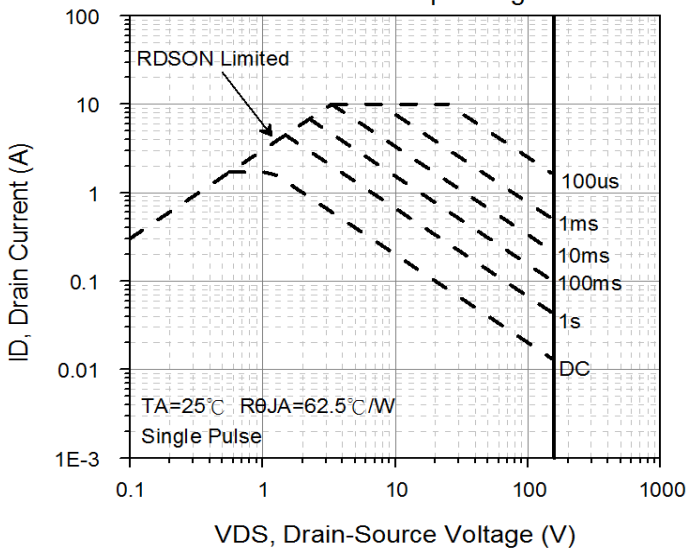
Capacitance vs Drain-to-Source Voltage



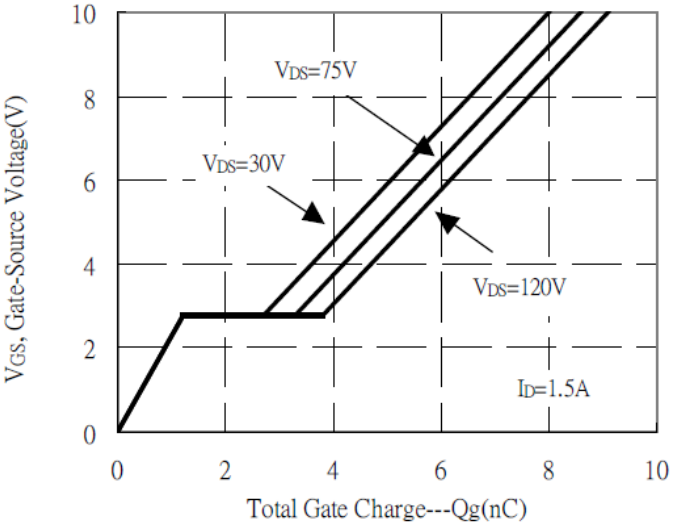
NormalizedThreshold Voltage vs Junction Tempearture



Maximum Safe Operating Area



Gate Charge Characteristics



Transient Thermal Response Curves