

N-Channel Enhancement Mode MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID
30V	±20V	21mR@10V	8.5A
		32mR@4V5	

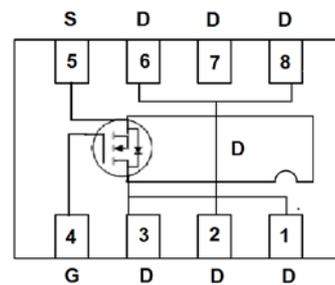
- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

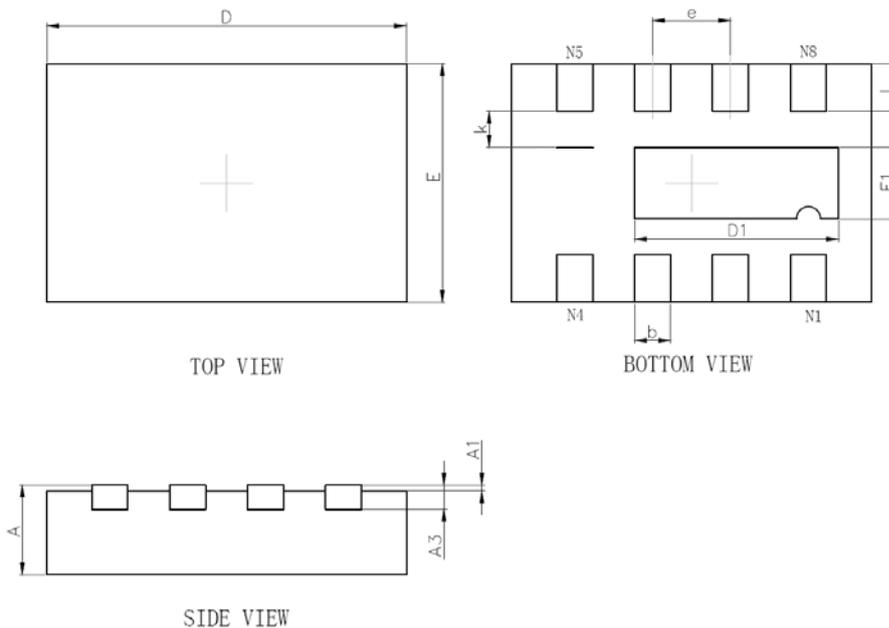
- **General Description**

This device uses advanced trench technology to provide excellent RDS(ON) and low gate charge. This device is suitable for use as a load switch or in PWM applications.

- **Pin configuration**



- **Package Information**



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.700/0.800	0.800/0.900
A1	0.000	0.050
A3	0.203REF.	
D	2.924	3.076
E	1.924	2.076
D1	1.600	1.800
E1	0.500	0.700
k	0.200MIN.	
b	0.250	0.350
e	0.650TYP.	
L	0.324	0.476

Package:DFN3X2



SSC8036GN3

Absolute Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DSS}	30	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	8.5	A
	Pulse	I_{DM}	50	
Total Power Dissipation ^(note1)	$T_A = 25^\circ\text{C}$	P_D	3	W
	$T_A = 75^\circ\text{C}$		2.1	
Operating and Storage Junction Temperature Range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note1: Surface Mounted on 1in² pad area.

● Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter ^(note2)	Symbol	Test Conditions	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$	30	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	1	1.5	3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 5.5\text{ A}$	--	21	28	mR
		$V_{GS} = 4.5\text{ V}, I_D = 4.5\text{ A}$	--	32	43	
DYNAMIC CHARACTERISTICS						
Total Gate Charge	Q_G	$V_{DS}=15\text{V}, I_D=8.5\text{A},$ $V_{GS}=10\text{V}$		7.58		nC
Gate-Source Charge	Q_{GS}			1.26		
Gate-Drain Charge	Q_{GD}			1.66		
Input Capacitance	C_{ISS}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V},$ $F = 1\text{ MHz}$	--	390.07	--	pF
Output Capacitance	C_{OSS}		--	86.16	--	
Reverse Transfer Capacitance	C_{RSS}		--	59.31	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{GEN}=10\text{V}, V_{DD}=15\text{V},$ $R_L=15\Omega,$ $R_{GEN}=3\Omega, I_D=1\text{A}$	--	--	10.12	nS
Turn-On Rise Time	T_R		--	--	3.12	
Turn-Off Delay Time	$T_{D(OFF)}$		--	--	22.16	
Turn-Off Fall Time	T_F		--	--	2.96	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Max. Diode Forward Current	I_S		--	--	4.3	A
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1\text{ A}$	--	--	1.0	V

Note2: Short duration test pulse used to minimize self-heating effect.

Typical Performance Characteristics

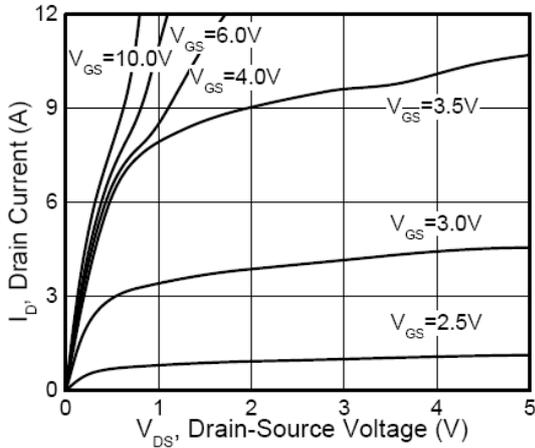


Figure 1. Output Characteristics

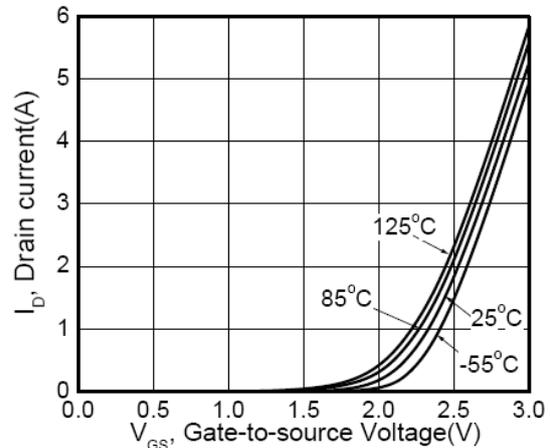


Figure 2. Transfer Characteristics

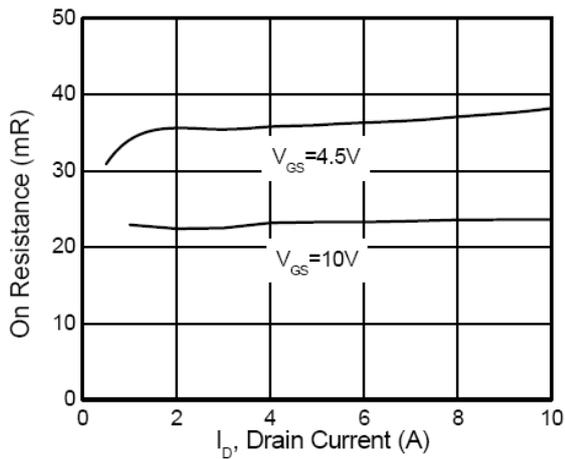


Figure 3. On Resistance vs. Drain Current

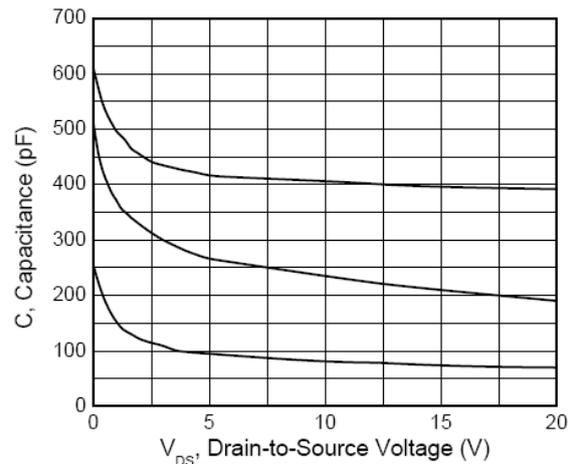


Figure 4. Capacitance

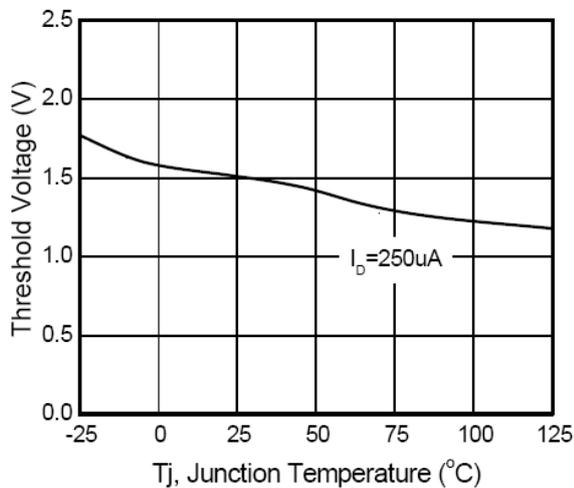


Figure 5. Gate Threshold vs. Temperature

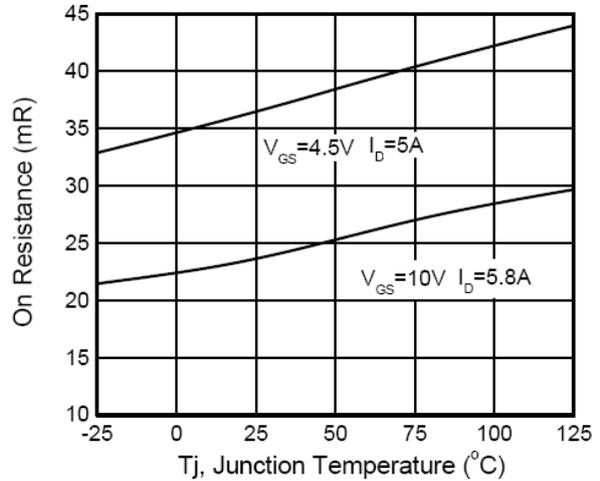


Figure 6. On Resistance vs. Temperature

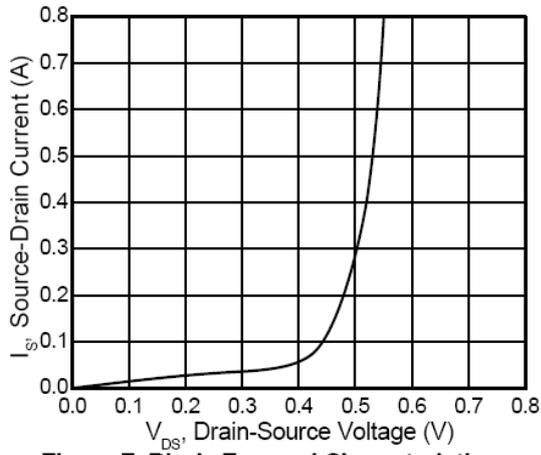


Figure 7. Diode Forward Characteristics

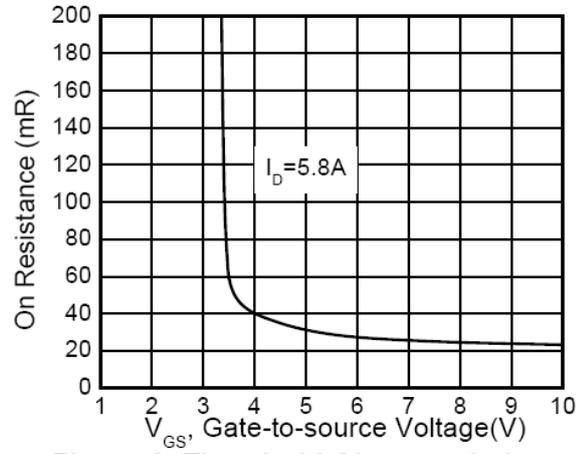


Figure 8. Threshold Characteristics



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