



SSC8037GN2

P-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$	I_D
-30V	$\pm 20V$	14m Ω @-10V	-11A
		22m Ω @-4.5V	

➤ Description

This device is produced with high cell density DMOS trench technology, uses advanced trench technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package.

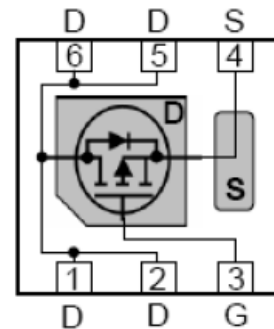
➤ Applications

- Load Switch
- Portable Devices
- DCDC Conversion
- Charging
- Driver for Relay

➤ Ordering Information

Device	Package	Shipping
SSC8037GN2	DFN2020-6L	3000/Reel

➤ Pin Configuration



DFN2020-6L (Top View)



Bottom View



Marking



➤ **Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)**

Symbol	Parameter	Ratings	Unit
V_{DS}	Drain-to-Source Voltage	-30	V
V_{GS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^a	-11	A
I_{DM}	Pulsed Drain Current ^b	-44	A
P_D	Power Dissipation ^a	2.6	W
T_J	Operation junction temperature	-55~150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55~150	

➤ **Thermal Resistance Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)**

Symbol	Parameter	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	48	$^{\circ}\text{C}/\text{W}$

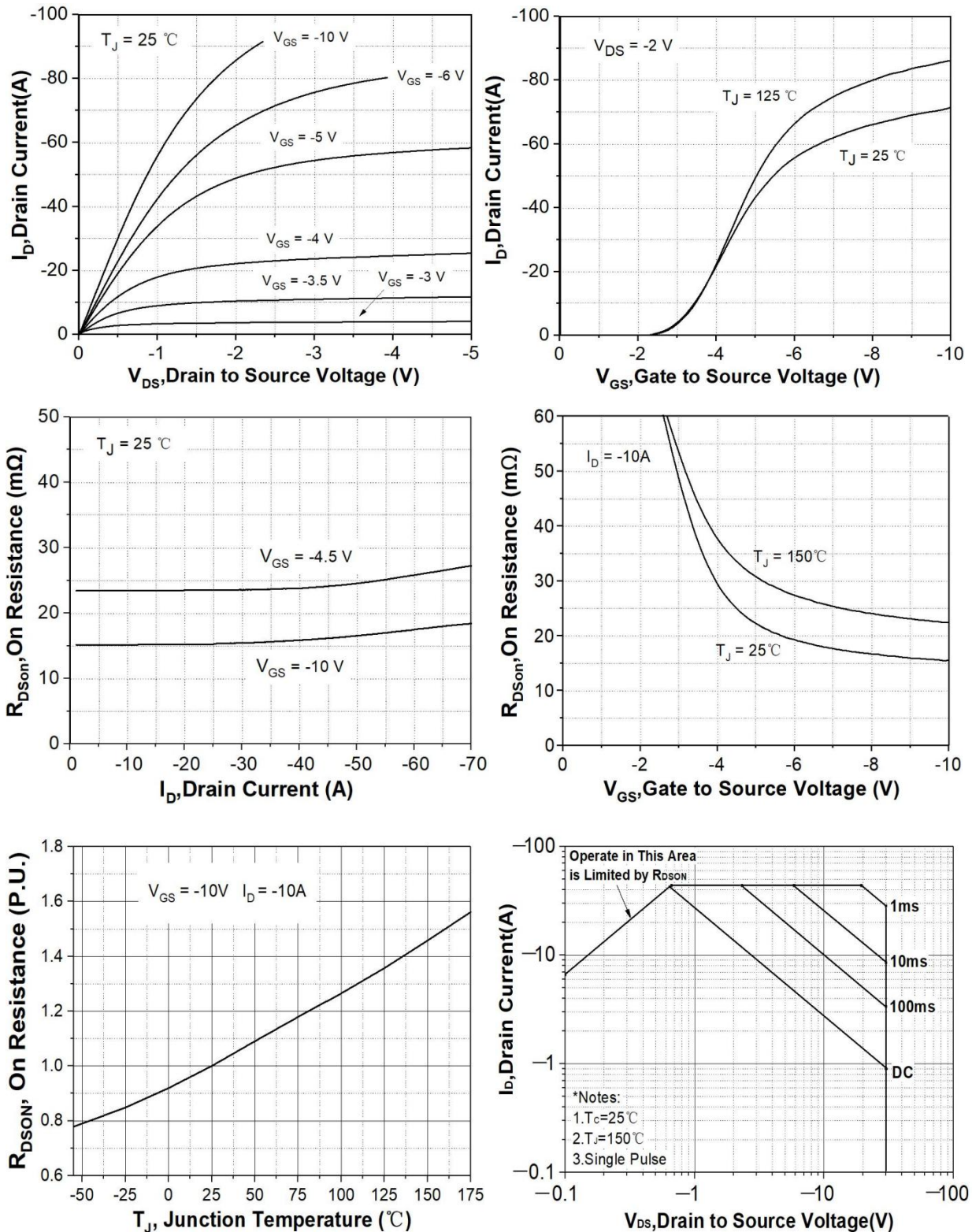
Note:

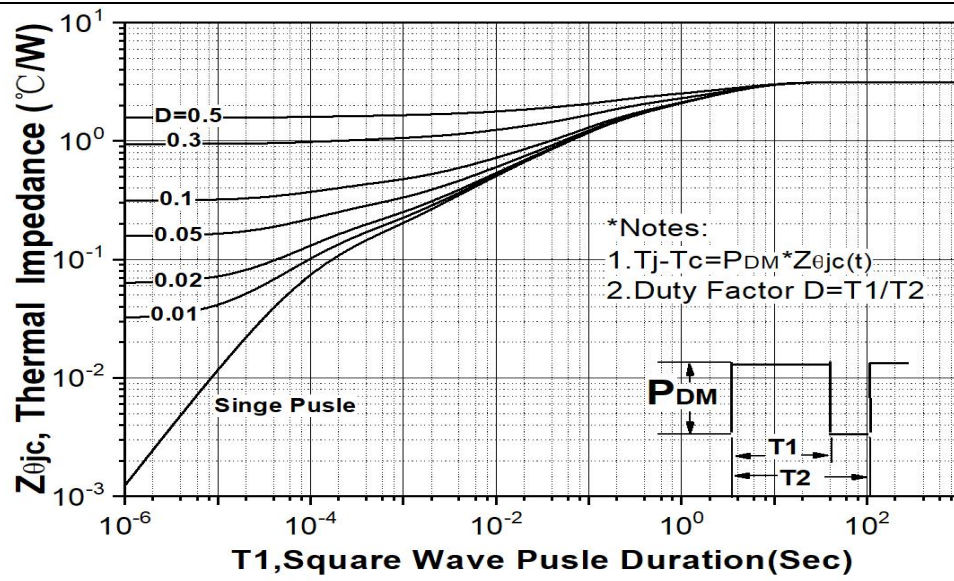
- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with $T_A=25^{\circ}\text{C}$. The value in any given application depends on the user is specific board design. The power dissipation is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.

**➤ Electrical Characteristics (T_A=25°C unless otherwise noted)**

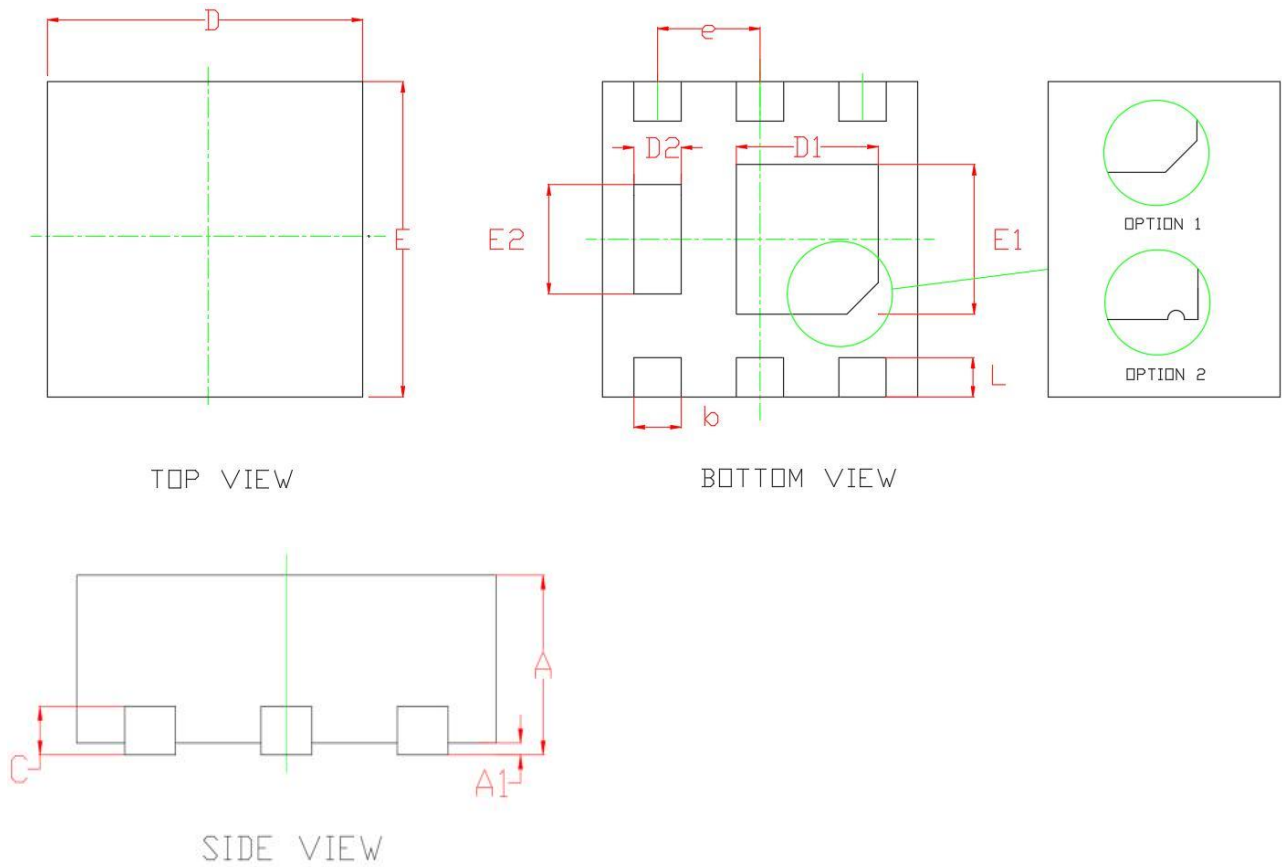
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250uA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-1	-1.8	-3	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -7A		14	19	mΩ
		V _{GS} = -4.5V, I _D = -5A		22	30	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V			-1	uA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -1A		-0.85	-1.3	V
Input Capacitance	C _{ISS}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		1300		pF
Output Capacitance	C _{OSS}			183		
Reverse Transfer Capacitance	C _{RSS}			161		
Total Gate Charge	Q _G	V _{GS} = -10V, V _{DS} = -15V, I _D = -10A		25.5		nC
Gate to Source Charge	Q _{GS}			4.3		
Gate to Drain Charge	Q _{GD}			6.1		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = -10V, V _{DS} = -15V, R _L = 1Ω, R _G = 3Ω		8		ns
Rise Time	T _r			33.5		
Turn-off Delay Time	T _{D(OFF)}			48		
Fall Time	T _f			11		
Reverse Recovery Time	T _{rr}	I _F = -10A, dI/dt = 200A/μs		23		ns
Reverse Recovery Charge	Q _{rr}	I _F = -10A, dI/dt = 200A/μs		8		nC

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)





➤ Package Information



Symbol	MILL IMETER		
	Min	Nom	Max
A	0.70	0.75	0.80
A1	0.00	-	0.05
b	0.25	0.30	0.35
C	0.19	0.25	0.3
D	1.90	2.00	2.10
D1	0.85	0.9	1.00
D2	0.25	0.35	0.45
E	1.90	2.00	2.10
E1	0.95	1.10	1.20
E2	0.55	0.65	0.75
e	0.65BSC		
L	0.20	0.25	0.35



DISCLAIMER

SSCSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. SSCSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.

OUR PRODUCT SPECIFICATIONS ARE ONLY VALID IF OBTAINED THROUGH THE COMPANY'S OFFICIAL WEBSITE, CRM SYSTEM, OR OUR SALES PERSONNEL CHANNELS. IF CHANGES OR SPECIAL VERSIONS ARE INVOLVED, THEY MUST BE STAMPED WITH A QUALITY SEAL AND MARKED WITH A SPECIAL VERSION NUMBER TO BE VALID.