SSC8015GN2

P-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$	I_D
-16V	±12V	23mΩ@-4V5	-8A
		38mΩ@-2V5	

➢ Description

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. 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.

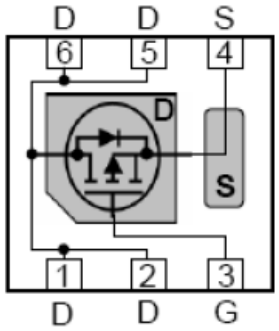
➢ Applications

- Load Switch
- Portable Devices
- DCDC Conversion

➢ Ordering Information

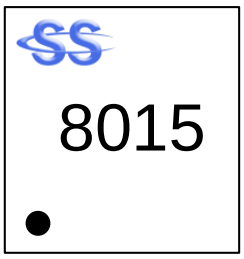
Device	Package	Shipping
SSC8015GN2	DFN2020-6L	3000/Reel

➢ Pin Configuration



DFN2020-6L (Top View)

Bottom View



Marking

➢ Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DS}	Drain-to-Source Voltage		-16	V
V_{GS}	Gate-to-Source Voltage		±12	V
I_D	Continuous Drain Current [d]	T_C=25℃	-8	A
		T_C=100℃	-4.3	
I_{DM}	Pulsed Drain Current [b]		-29.6	A
P_D	Power Dissipation [c]	T_C=25℃	2	W
		T_C=100℃	0.85	
T_J	Operation junction temperature		-55~150	℃
T_{STG}	Storage temperature range		-55~150	

➢ Thermal Resistance Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	59	℃/W

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t≤10s thermal resistance rating.

b. Repetitive rating, pulse width limited by junction temperature.

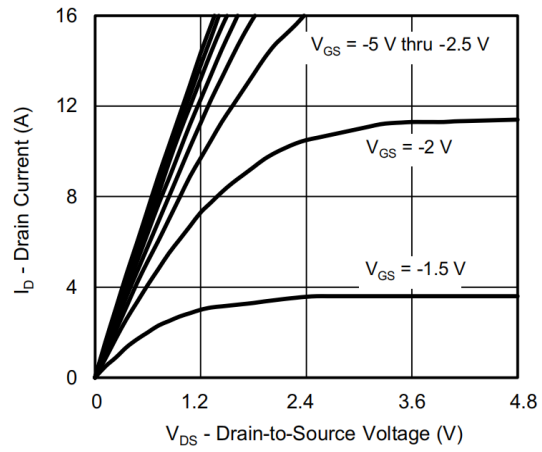
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

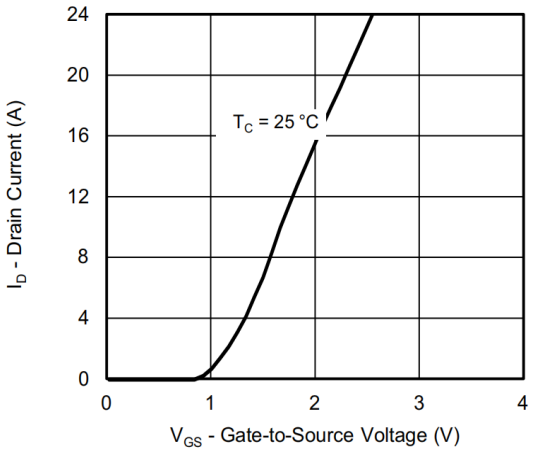
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =- 250uA	-16			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-0.4	-0.7	-1	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -4A		23	30	mΩ
		V_{GS} = -2.5V, I_D = -2A		38	50	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -16V, V_{GS} = 0V			-1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
Transconductance	G_{FS}	V_{DS} = -5V, I_D = -2A		9.2		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -1A		-0.75	-1.2	V
Input Capacitance	C_{ISS}	V_{DS} = -8V, V_{GS} = 0V, f = 1MHz		750		pF
Output Capacitance	C_{OSS}			162		
Reverse Transfer Capacitance	C_{RSS}			145		
Total Gate Charge	Q_G	V_{GS} = -4.5V, V_{DS} = -8V, I_D =-4A		16		nC
Gate to Source Charge	Q_{GS}			2.4		
Gate to Drain Charge	Q_{GD}			2.2		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -4.5V, V_{DS} = -8V, R_L = 2Ω, R_G = 3Ω I_D=-4A		9.5		ns
Rise Time	T_r			32		
Turn-off Delay Time	$T_{D(OFF)}$			28		
Fall Time	T_f			11		

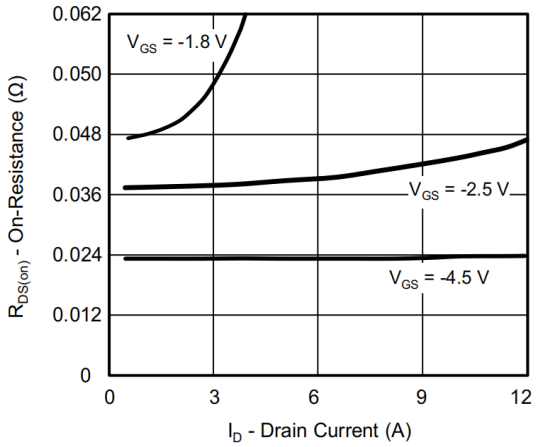
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



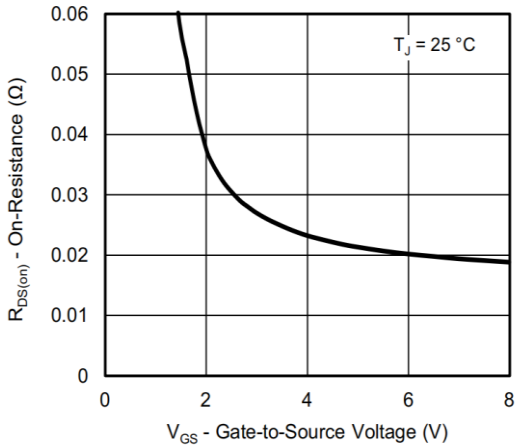
Output Characteristics



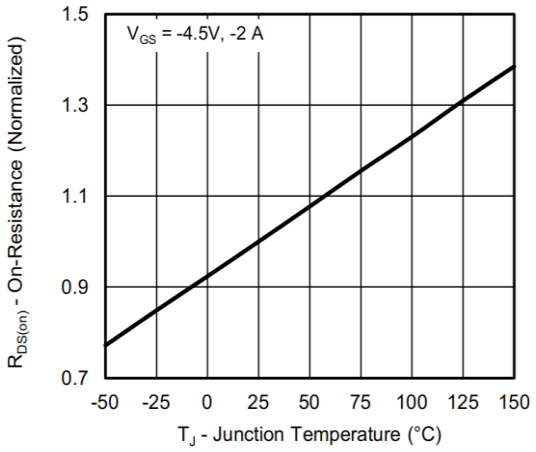
Transfer Characteristics



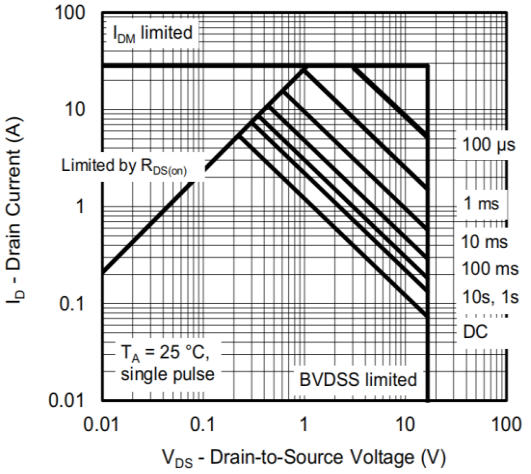
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

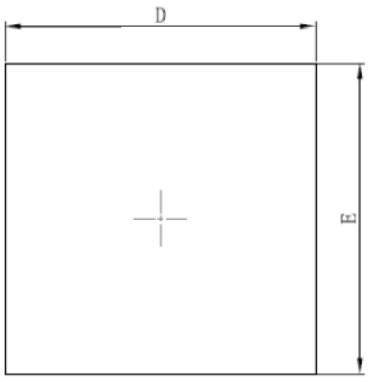


On-Resistance vs. Junction Temperature

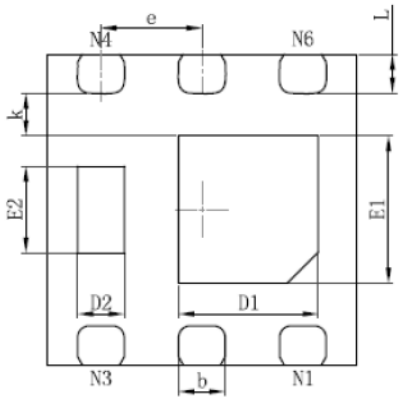


Safe Operating Area, Junction-to-Ambient

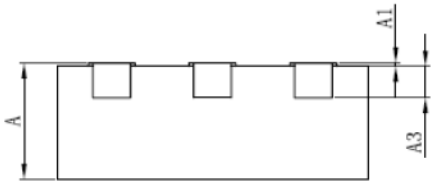
➢ Package Information



TOP VIEW



BOTTOM VIEW

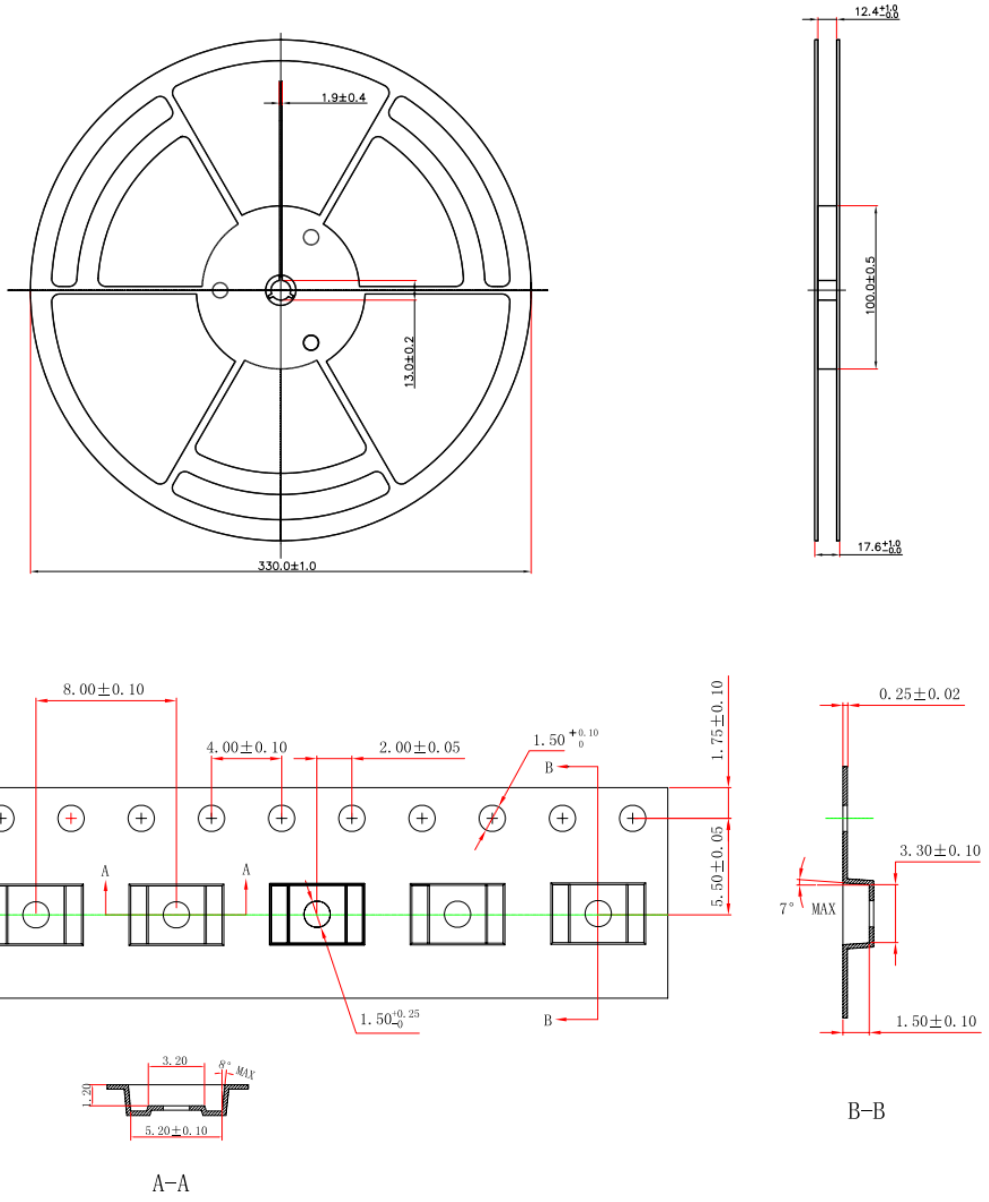


SIDE VIEW

DFN2x2-6L

Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.700	0.800
A1	0.000	0.050
A3	0.203REF.	
D	1.924	2.076
E	1.924	2.076
D1	0.800	1.000
E1	0.850	1.050
D2	0.200	0.400
E2	0.460	0.660
k	0.200MIN.	
b	0.250	0.350
e	0.650TYP.	
L	0.174	0.326

➢ Tape and Reel



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