

**SSC8017GN2****P-Channel Enhancement Mode MOSFET****➤ Features**

VDS	VGS	RDSON Typ.	ID
-12V	±8V	11mR@-4V5	-10A
		15mR@-2V5	
		22mR@-1V8	

**➤ Description**

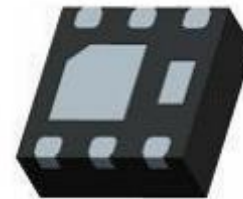
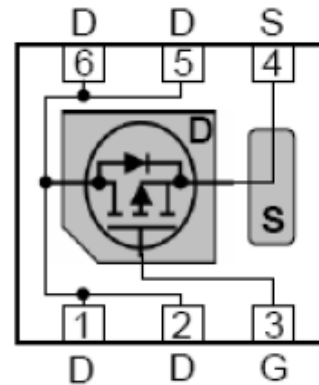
This device is produced with high cell density DMOS trench technology, uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and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

**➤ Applications**

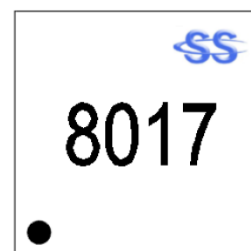
- Load Switch
- Portable Devices
- DCDC conversion
- Charging
- Driver for Relay

**➤ Pin configuration**

Top view



Bottom View



Marking

**➤ Ordering Information**

Device	Package	Shipping
SSC8017GN2	DFN2x2	3000/Reel



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

Symbol	Parameter	Ratings	Unit
$V_{\text{DSS}}$	Drain-to-Source Voltage	-12	V
$V_{\text{GSS}}$	Gate-to-Source Voltage	$\pm 8$	V
$I_{\text{D}}$	Continuous Drain Current <sup>a</sup>	-10	A
$I_{\text{DM}}$	Pulsed Drain Current <sup>b</sup>	-40	A
$P_{\text{D}}$	Power Dissipation <sup>c</sup>	18	W
$P_{\text{DSM}}$	Power Dissipation <sup>a</sup>	2.4	W
$T_{\text{J}}$	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
$T_{\text{STG}}$	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

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

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta\text{JA}}$	Junction-to-Ambient Thermal Resistance		52	$^{\circ}\text{C}/\text{W}$
$R_{\theta\text{JC}}$	Junction-to-Case Thermal Resistance		6.9	

Note:

- The value of  $R_{\theta\text{JA}}$  is measured with the device mounted on 1 in<sup>2</sup> 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 current rating is based on the  $t \leq 10\text{s}$  thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation  $P_{\text{D}}$  is based on  $T_{\text{J}}(\text{MAX})=150^{\circ}\text{C}$ , using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

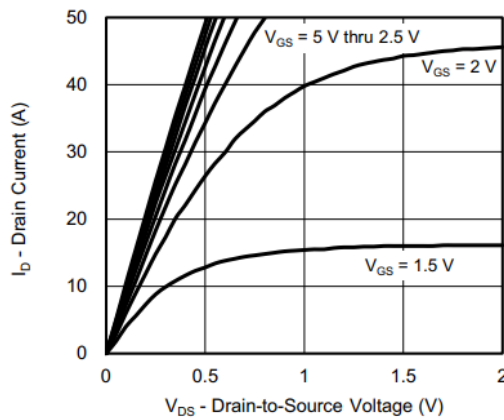


➤ **Electronics Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

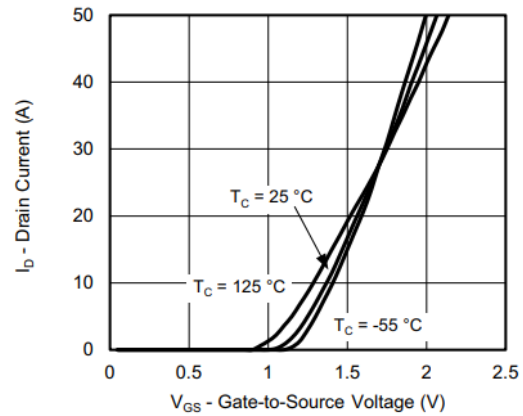
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V$ , $I_D=-250\mu A$	-12			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$ , $I_D=-250\mu A$	-0.4	-0.7	-1	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-4.5V, I_D=-7A$		11	16	mR
		$V_{GS}=-2.5V, I_D=-6A$		15	23	
		$V_{GS}=-1.8V, I_D=-4A$		22	75	
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=-9.6V, V_{GS}=0V$			-1	$\mu A$
$I_{GSS}$	Gate-Source leak current	$V_{GS}=\pm 8V, V_{DS}=0V$			$\pm 100$	nA
$G_{FS}$	Transconductance	$V_{DS}=-5V, I_D=-5A$		45		S
$V_{SD}$	Forward Voltage	$V_{GS}=0V, I_S=-2A$		-0.7	-1.2	V
$C_{iss}$	Input Capacitance	$V_{DS}=-7V, V_{GS}=0V,$ $f=1\text{MHZ}$		2575		pF
$C_{oss}$	Output Capacitance			495		
$C_{rss}$	Reverse Transfer Capacitance			430		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=4.5V,$ $V_{DS}=-6V, R_G=6R, I_D=9A$		12		ns
$T_r$	Rise time			13		
$T_{D(OFF)}$	Turn-off delay time			110		
$T_f$	Fall time			60		



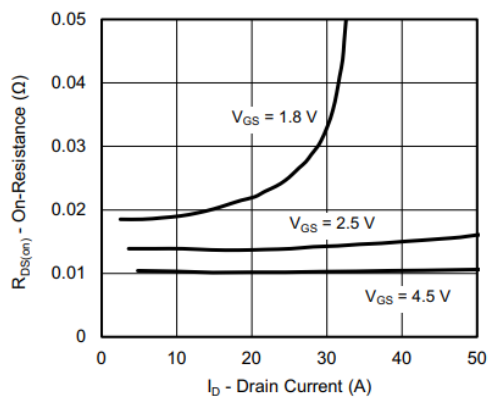
➤ **Typical Characteristics**( $T_A=25^\circ\text{C}$  unless otherwise noted)



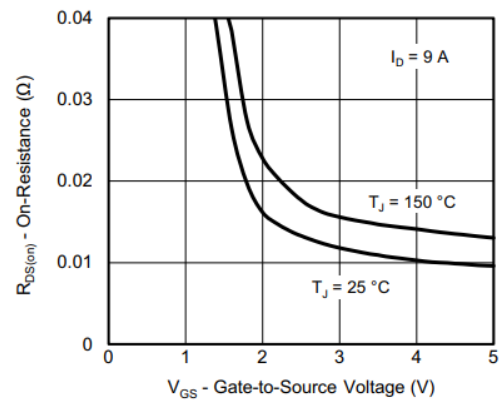
**Output Characteristics**



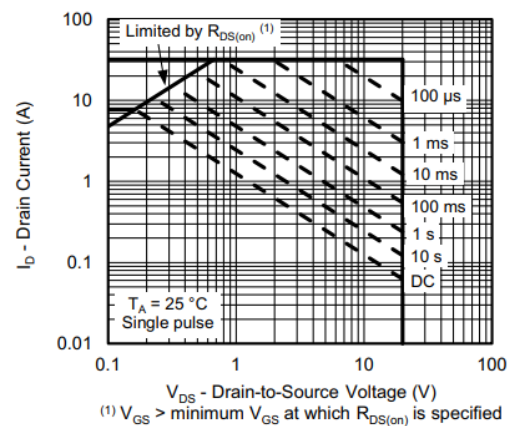
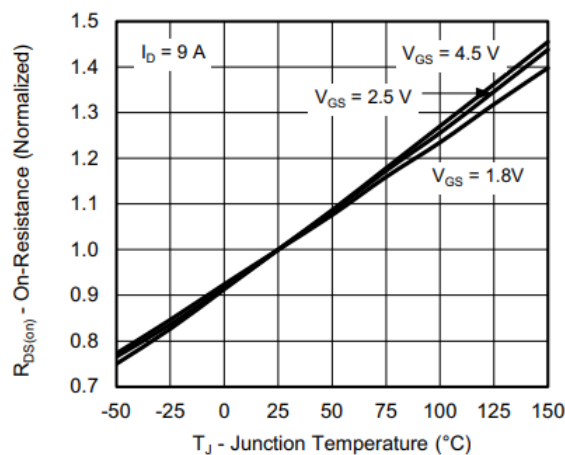
**Transfer Characteristics**



**On-Resistance vs. Drain Current and Gate Voltage**



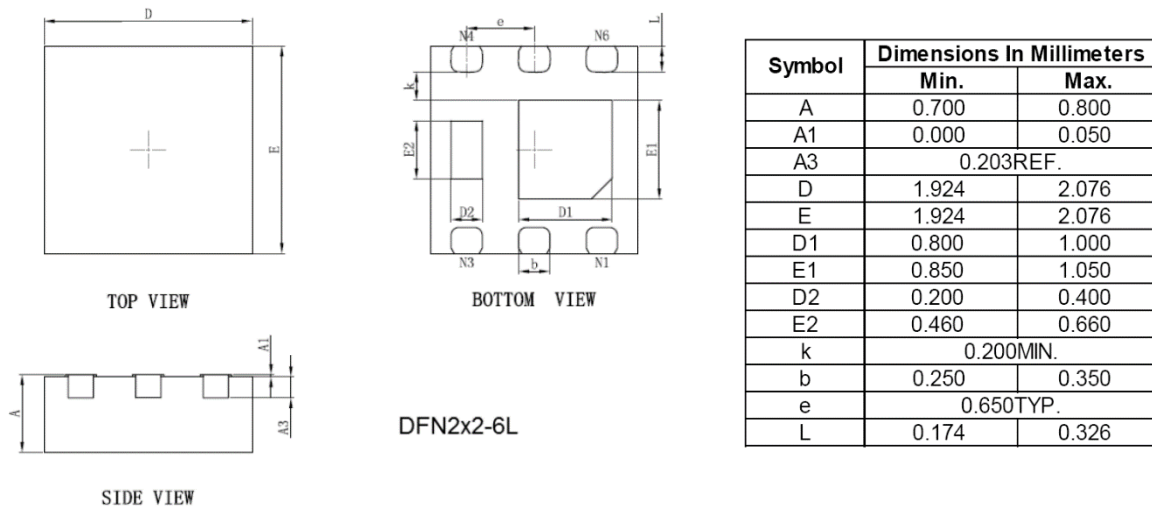
**On-Resistance vs. Gate-to-Source Voltage**



**Safe Operating Area, Junction-to-Ambient**



➤ **Package Information**



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