



SSC8230GN6

N-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	5.7mR@10V	80A
		7.4mR@4V5	

➤ Description

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

➤ Applications

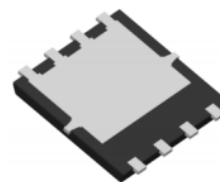
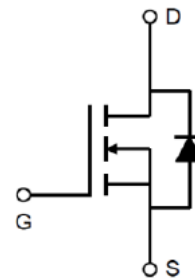
- Load Switch
- Portable Devices
- DCDC conversion

➤ Ordering Information

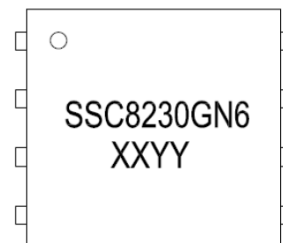
Device	Package	Shipping
SSC8230GN6	PDFN5x6	5000/Reel

➤ Pin configuration

Top view



Bottom View



(XX: year/YY: week)

Marking

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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	30	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current	$TC=25^\circ\text{C}$	80 A
		$TC=100^\circ\text{C}$	51 A
I_{DSM}	Continuous Drain Current ^a	$TA=25^\circ\text{C}$	22 A
		$TA=70^\circ\text{C}$	17 A
I_{DM}	Pulsed Drain Current ^b	120	A
E_{AS}	Avalanche Energy, $L=0.05\text{mH}$	51	mJ
P_D	Power Dissipation ^c	$TC=25^\circ\text{C}$	60 W
		$TC=100^\circ\text{C}$	24 W
P_{DSM}	Power Dissipation ^a	$TA=25^\circ\text{C}$	5.5 W
		$TA=70^\circ\text{C}$	2.8 W
T_J	Operation junction temperature	-55 to 150	$^\circ\text{C}$
T_{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
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a		30	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		2.5	

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's 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_D is based on $T_{J(MAX)}=150^\circ\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

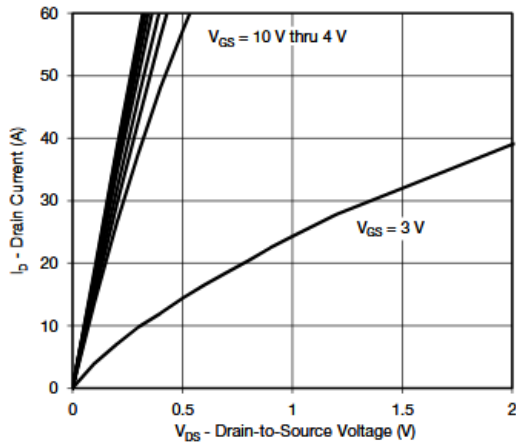


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

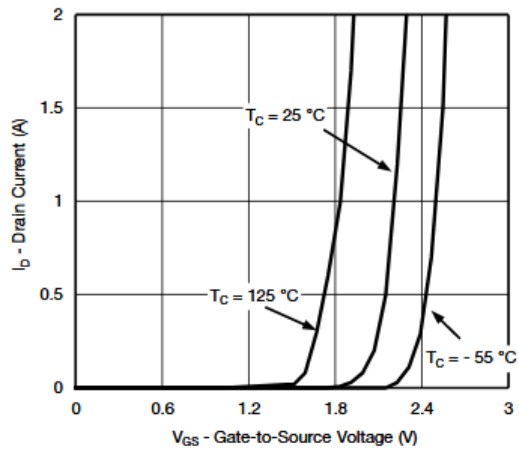
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1.2	1.5	2.8	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=18A$		5.7	6.5	mR
		$V_{GS}=4.5V, I_D=14A$		7.4	9	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=15V, I_D=15A$		42		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1A$			1.3	V
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$		1680		pF
C_{oss}	Output Capacitance			266		
C_{rss}	Reverse Transfer Capacitance			131		
$T_{D(ON)}$	Turn-on delay time	$V_{GEN}=10V,$ $V_{DS}=15V, R_L=1.5R,$ $R_G=1R, I_D=10A$		16		ns
T_r	Rise Time			10		
$T_{D(OFF)}$	Turn-off delay time			30		
T_f	Fall Time			11		
Q_G	Total Gate Charge	$V_{GS}=10V, V_{DS}=20V, I_D=12A$		6.2		nC
Q_{GS}	Gate Source Charge			2.3		
Q_{GD}	Gate Drain Charge			2.1		



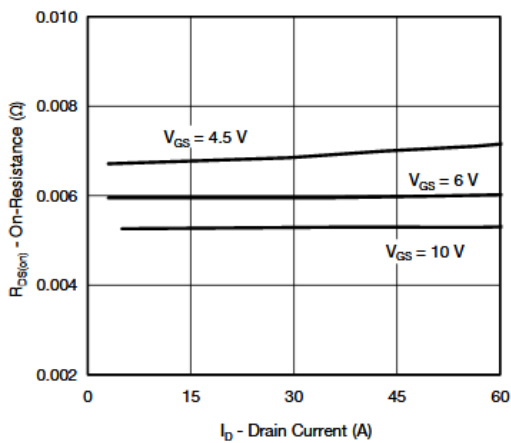
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



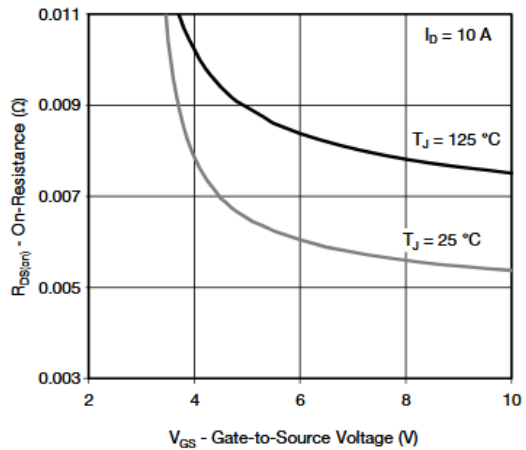
Output Characteristics



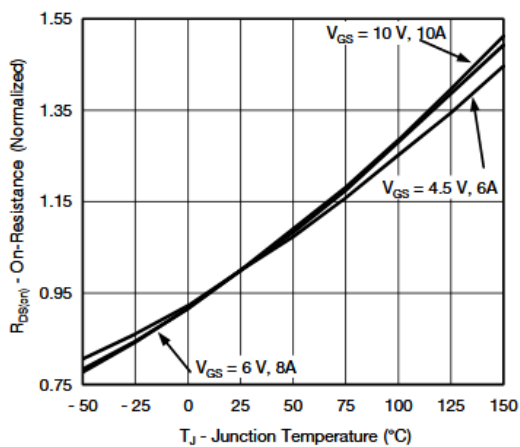
Transfer Characteristics



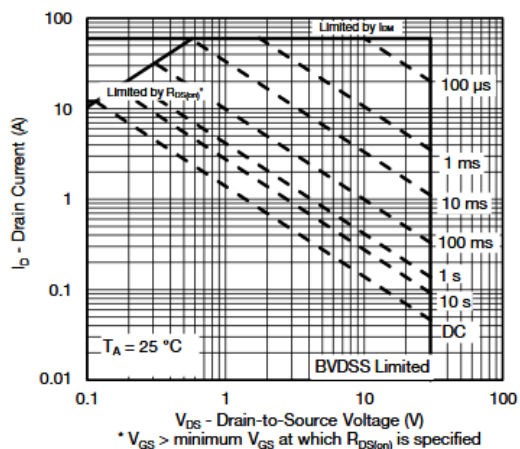
On-Resistance vs. Drain Current and Gate Voltage



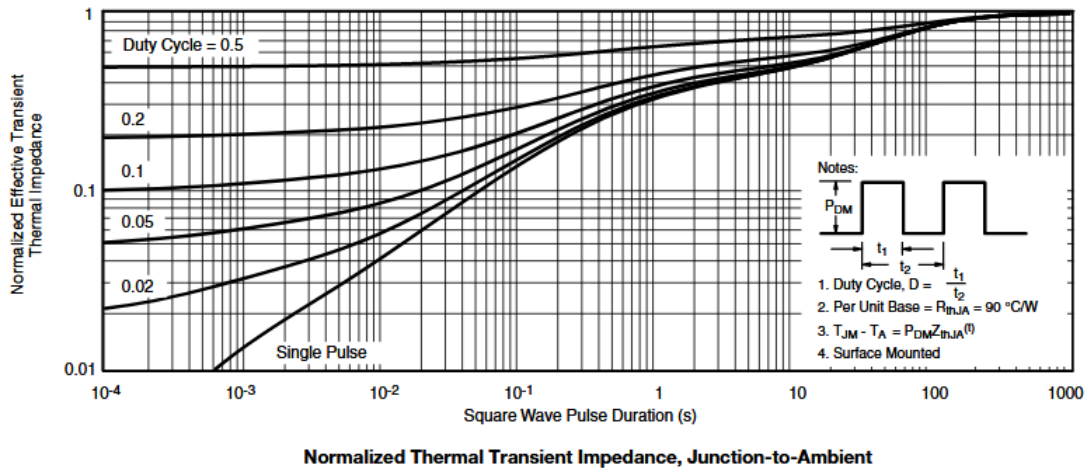
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

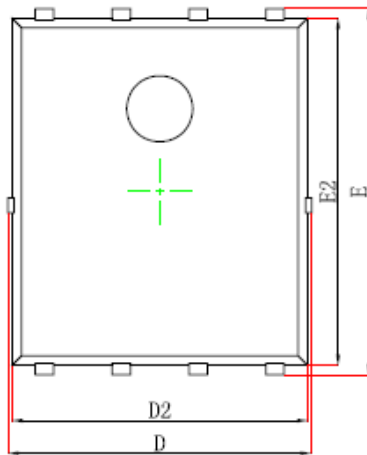


Safe Operating Area, Junction-to-Ambient

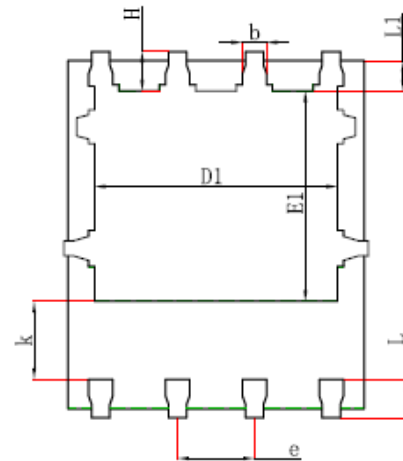




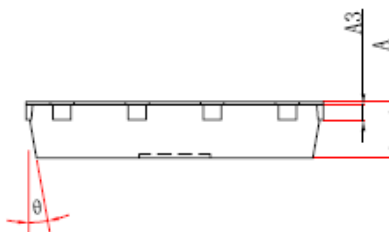
➤ Package Information



Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

Package : DNF5X6-8L

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF		0.010REF	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP		0.050TYP	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°



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