SSC8530GN4

Dual N-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
30V	±20V	8.5mΩ@10V	18A
		11mΩ@4.5V	

➢ Description

SSC8530GN4 uses advanced trench technology to provide excellent RDSON and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.

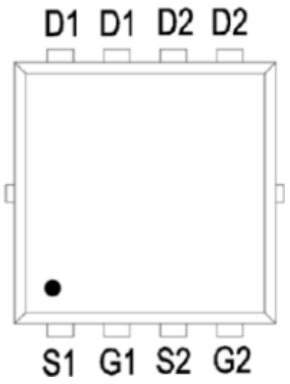
➢ Applications

- Inverter
- DC-DC converter
- Half and Full Bridge Topology
- Wireless Charging

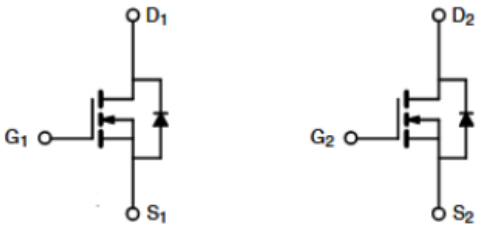
➢ Ordering Information

Device	Package	Shipping
SSC8530GN4	PDFN3.3X3.3-8L	5000/Reel

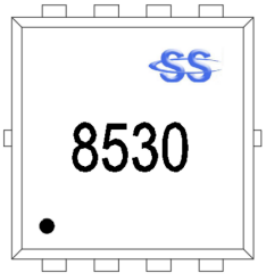
➢ Pin configuration



PDFN3.3x3.3-8L (Top View)



Pin Configuration



Marking

➢ Absolute Maximum Ratings (T_A=25℃ 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 [d]	T_C = 25℃	18	A
		T_C = 100℃	13	A
I_{DM}	Pulsed Drain Current [b]		55	A
I_{DSM}	Continuous Drain Current [a]	T_A = 25℃	12	A
		T_A = 70℃	9	A
P_D	Power Dissipation [c]	T_C = 25℃	20	W
		T_C = 100℃	8	W
P_{DSM}	Power Dissipation [a]	T_A = 25℃	2.7	W
		T_A = 70℃	1.7	W
E_{AS}	Avalanche Energy [b] L = 0.5mH		49	mJ
IAS	Avalanche Current[b] L=0.5mH		14	A
T_J	Operation junction temperature		-55 to 150	℃
T_{STG}	Storage temperature range		-55 to 150	℃

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

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	45	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	6	

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 current rating is based on the t≤10s thermal resistance rating.

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

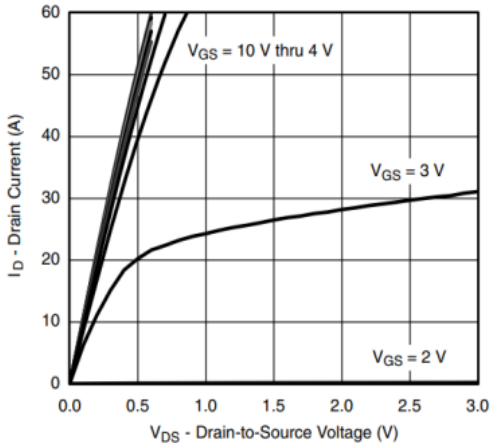
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

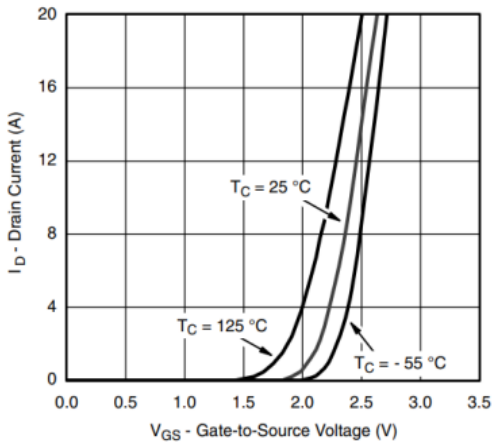
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250uA	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250uA	1	1.5	2	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 20A		8.5	12	mΩ
		V_{GS} = 4.5V, I_D = 10A		11	15	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24V, V_{GS} = 0V			1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S =5A		0.8	1.3	V
Transconductance	Gfs	VDS=5V, ID=10A		10		S
Gate Resistance	R_G	V_{DS} = 0V, f = 1MHz		2.5		Ω
Input Capacitance	C_{ISS}	V_{DS} = 15V, V_{GS} = 0V, f = 1MHz		770		pF
Output Capacitance	C_{OSS}			190		
Reverse Transfer Capacitance	C_{RSS}			20		
Total Gate Charge	Q_G	V_{GS} = 10V, V_{DS} = 15V, I_D = 10A		16		nC
Gate to Source Charge	Q_{GS}			5		
Gate to Drain Charge	Q_{GD}			5.5		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = 10V, V_{DS} = 15V, RL=2Ω, R_G = 3Ω		10		ns
Rise Time	T_r			12		
Turn-off Delay Time	$T_{D(OFF)}$			18		
Fall Time	T_f			7		

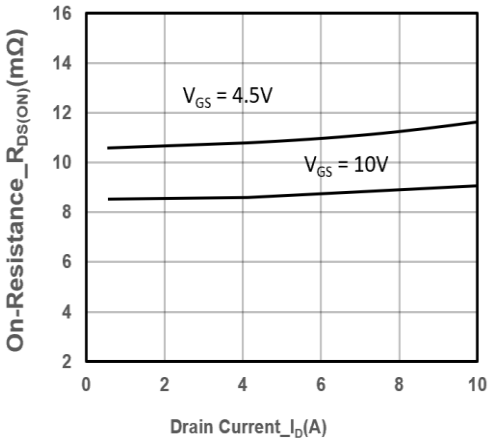
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



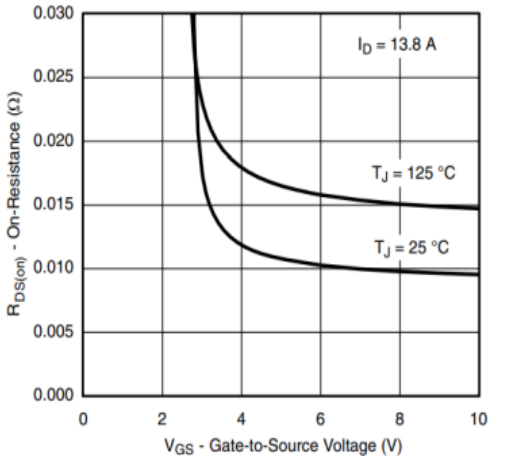
Output Characteristics



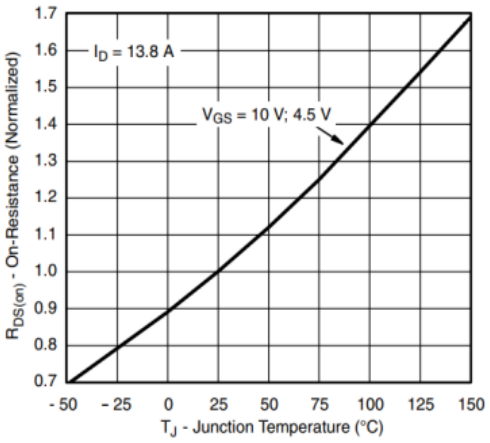
Transfer Characteristics



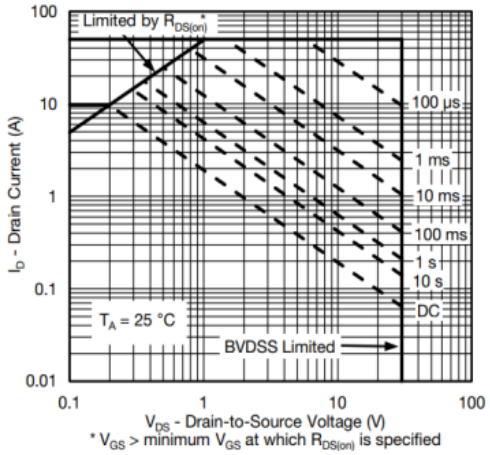
On-Resistance vs. Drain Currente



On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

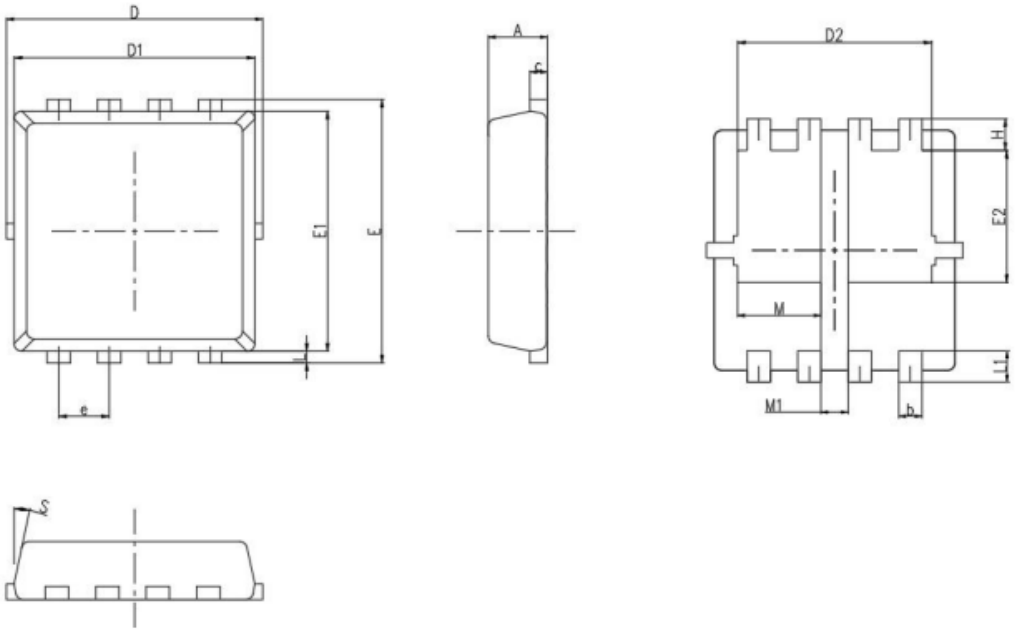


Safe Operating Area, Junction-to-Ambien

Safe Operating Area vs. Junction-to-Ambient

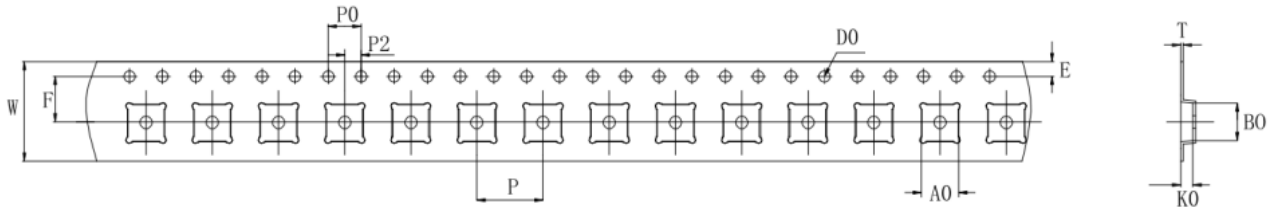
➢ Package Information

PDFN3.3X3.3-8L



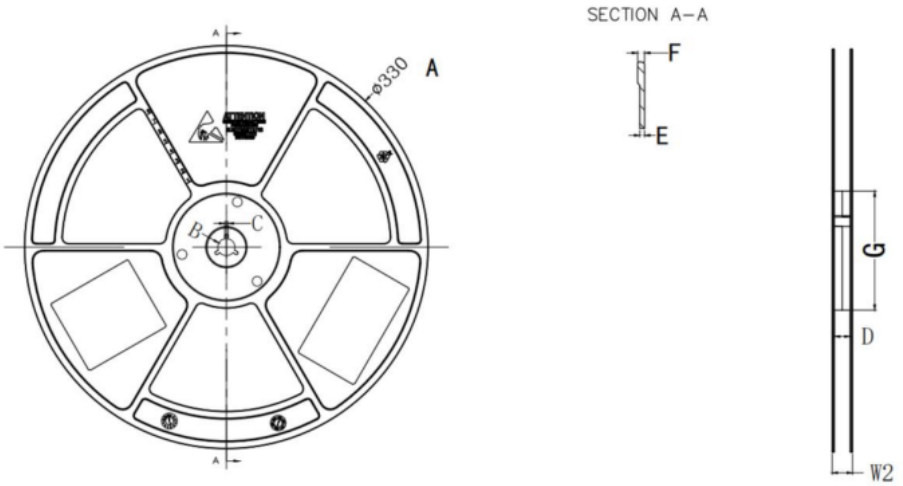
Symbol	MILL IMETER		
	Min	Nom	Max
A	0.60	0.75	0.90
b	0.25	0.30	0.35
c	0.10	0.20	0.30
D	3.00	3.20	3.45
D1	3.05	3.15	3.25
D2	2.40	2.50	2.60
E	3.10	3.30	3.50
E1	2.90	3.05	3.20
E2	1.55	1.75	1.95
e	0.65BSC		
H	0.20	0.40	0.57
L	0.06	0.10	0.20
L1	0.30	0.40	0.55
S	10°	12°	14°
M	0.95	1.05	1.15
M1	0.4BSC		

Tape and Reel Data



Symbol		A0	B0	K0	P	P0	E	F	D0	P2	T	W
MILL IMETER	MIN	3.45	3.45	1.05	7.90	3.90	1.65	5.45	1.40	1.95	0.25	11.7
	TYP	3.65	3.65	1.15	8.00	4.00	1.75	5.50	1.50	2.00	0.30	12.0
	MAX	3.75	3.75	1.25	8.10	4.10	1.85	5.55	1.60	2.05	0.35	12.3

卷盘尺寸



Symbol		A	B	C	D	W2	E	F	G
MILL IMETER	MIN	328	13.0	2.20	12.2	15.9	1.10	1.70	99.5
	TYP	330	13.5	2.50	12.4	16.9	1.30	1.90	99
	MAX	332	14.0	3.00	16.2	17.9	1.50	2.10	101

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