SSC8336GN4

Dual N-Channel Enhancement MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	15mR@10V	12A
		18.5mR@4V5	

➢ Description

SSC8336GN4 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

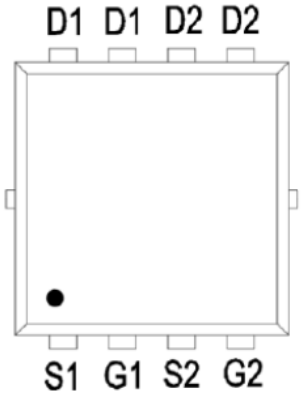
- Inverter
- DC-DC converter
- Half and Full Bridge Topology

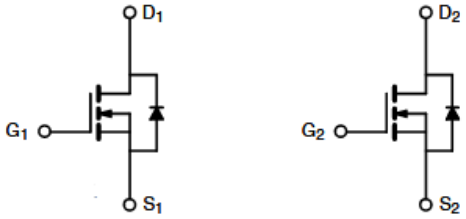
➢ Ordering Information

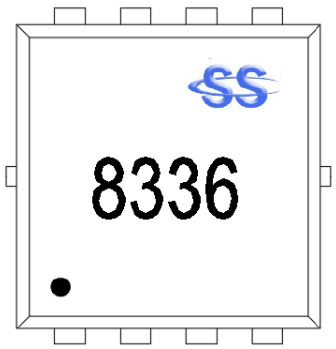
Device	Package	Shipping
SSC8336GN4	PDFN3.3X3.3	5000/Reel

➢ Pin configuration

Top view







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	TC=25C°	12	A
		TC=100C°	8	A
I_{DM}	Pulsed Drain Current [b]		35	A
I_{AS}	Avalanche Current [b] L=0.1mH		21	A
E_{AS}	Avalanche Energy [b] L=0.1mH		22	mJ
I_D	Continuous Drain Current [a]	TA=25C°	10	A
		TA=70C°	7.5	A
P_D	Power Dissipation [c]	TC=25C°	19	W
		TC=100C°	8	W
P_{DSM}	Power Dissipation [a]	TA=25C°	2.5	W
		TA=70C°	0.9	W
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	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]		55	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		6.5	

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.

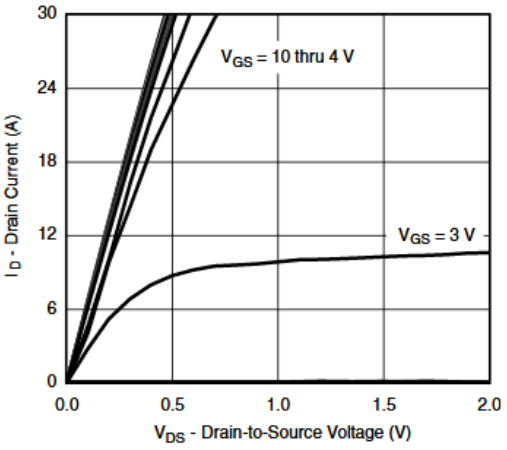
b. Repetitive rating, pulse width limited by junction temperature.

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.

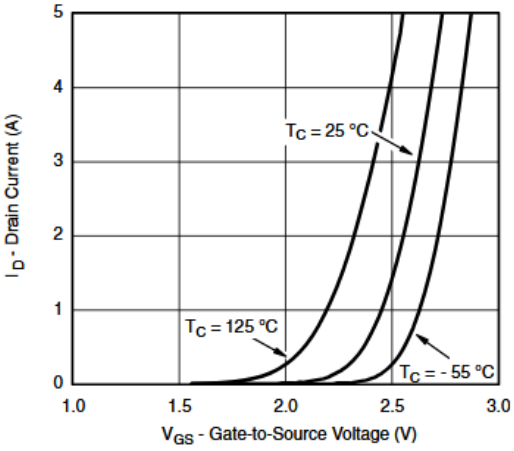
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V , ID=250uA	30			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS , ID=250uA	1	1.5	2	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=20A		15	18	mR
		VGS=4.5V , ID=10A		18.5	22	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=24V , VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V , VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=5V , ID=3.6A		18		S
V_{SD}	Forward Voltage	VGS=0V , IS=20A		0.95	1.3	V
Rg	Gate Resistance	VGS=0V, f=1MHZ		3		R
Ciss	Input Capacitance	VDS=15V , VGS=0V, f=1MHZ		700		pF
Coss	Output Capacitance			115		
Crss	Reverse Transfer Capacitance			54		
Qg	Total Gate Charge	VDS=15V , VGS=10V, ID=10A		13		nC
Qgs	Gate Source Charge			2		
Qgd	Gate Drain Charge			1.4		
$T_{D(ON)}$	Turn-on delay time	VDS=15V, VGS=10V, RL=2R, RGEN=1R		10		ns
Tr	Rise time			8		
$T_{D(OFF)}$	Turn-off delay time			21		
Tf	Fall time			7		

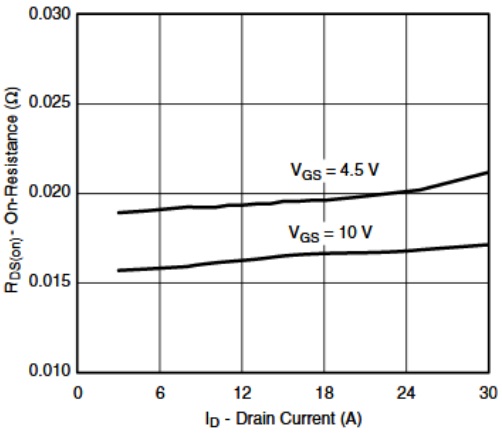
➢ N-Channel Typical Characteristics(T_A=25℃ unless otherwise noted)



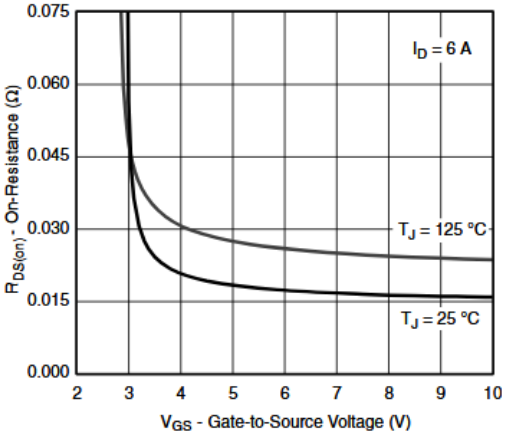
Output Characteristics



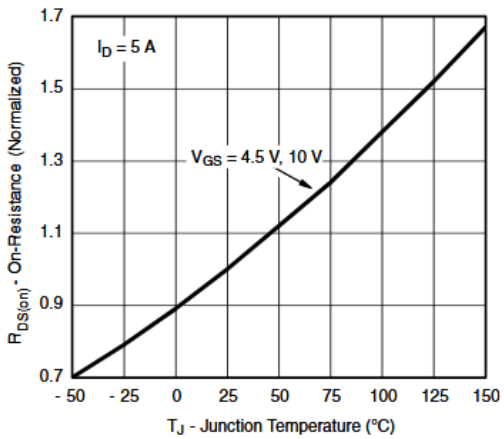
Transfer Characteristics



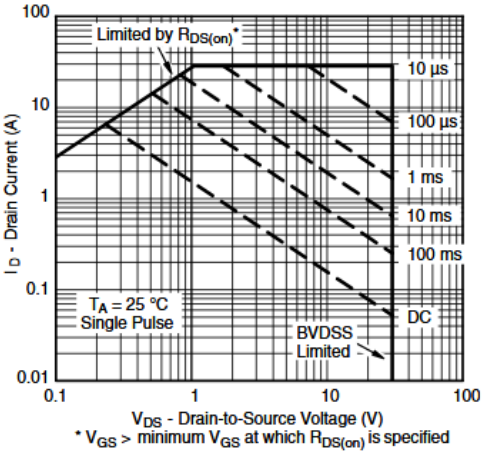
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

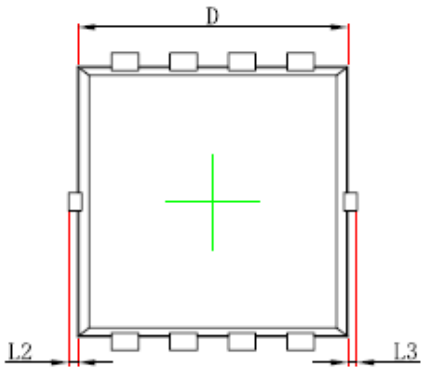


On-Resistance vs. Junction Temperature

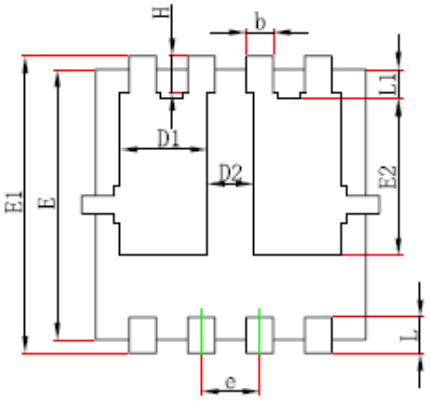


Safe Operating Area, Junction-to-Ambient

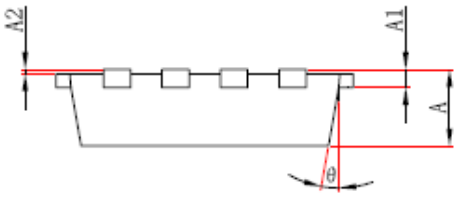
➢ Package Information



Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	0.935	1.135	0.037	0.045
D2	0.280	0.480	0.011	0.019
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°

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