



SSC8632GN4

N- and P-Channel Complementary, MOSFET

➤ **Features**

N-Channel

VDS	VGS	RDSON Typ.	ID
30V	±20V	16mR@10V	8A
		20mR@4V5	

P-Channel

VDS	VGS	RDSON Typ.	ID
-30V	±20V	42mR@-10V	-6A
		60mR@-4V5	

➤ **Description**

SSC8632GN4 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.

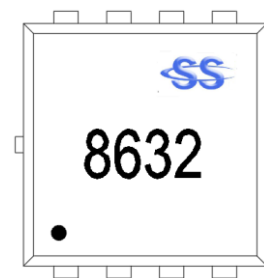
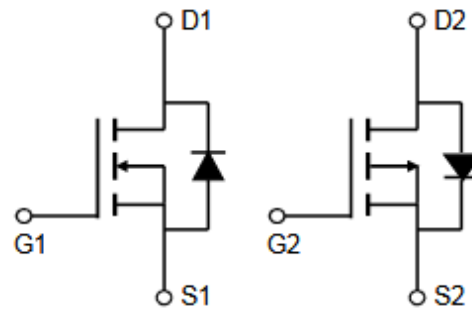
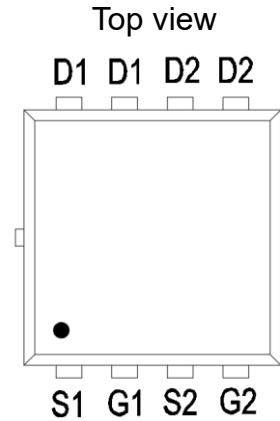
➤ **Applications**

- Inverter
- CCFL Driver

➤ **Ordering Information**

Device	Package	Shipping
SSC8632GN4	PDFN3.3X3.3	5000/Reel

➤ **Pin configuration**



Marking

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

Symbol	Parameter		N-Channel	P-Channel	Unit
V_{DSS}	Drain-to-Source Voltage		30	-30	V
V_{GSS}	Gate-to-Source Voltage		± 20	± 20	V
I_D	Continuous Drain Current ^a	$T_A=25^{\circ}\text{C}$	8	-6	A
		$T_A=70^{\circ}\text{C}$	6	-5	A
I_{DM}	Pulsed Drain Current ^b		32	-24	A
P_{DSM}	Power Dissipation ^a	$TC=25^{\circ}\text{C}$	20		W
I_{AS}	Avalanche Current ^b L=0.1mH Single Pulse		20	18	A
E_{AS}	Avalanche Energy ^b L=0.1mH Single Pulse		20	16	mJ
P_D	Power Dissipation ^c	$T_A=25^{\circ}\text{C}$	2.6		W
		$T_A=70^{\circ}\text{C}$	1.6		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		48	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		6.25	

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 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_D is based on $T_{J(\text{MAX})}=150^{\circ}\text{C}$, 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)

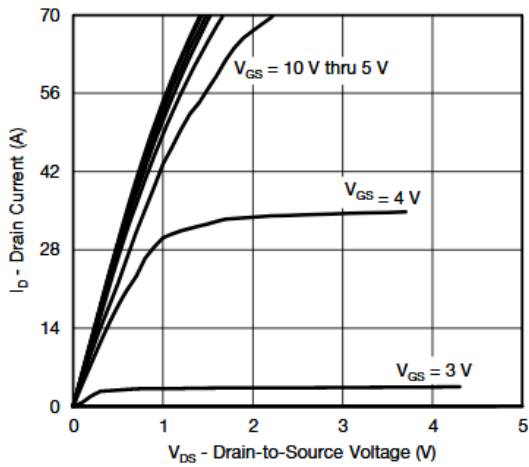
Symbol	Parameter	Test Conditions		Min	Typ.	Max	Unit	
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	N-CH	30			V	
		$V_{GS}=0V, I_D=-250\mu A$	P-CH	-30				
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	N-CH	1	1.4	3	V	
		$V_{DS}=V_{GS}, I_D=-250\mu A$	P-CH	-1	-1.5	-3		
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=6A$	N-CH		16	24	mR	
		$V_{GS}=10V, I_D=-4A$	P-CH		42	60		
		$V_{GS}=4.5V, I_D=5A$	N-CH		20	32		
		$V_{GS}=-4.5V, I_D=-3A$	P-CH		60	80		
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$	N-CH			1	uA	
		$V_{DS}=-24V, V_{GS}=0V$	P-CH			-1		
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$	N-CH			± 100	nA	
		$V_{GS}=\pm 20V, V_{DS}=0V$	P-CH			± 100		
G_{FS}	Forward Transconductance	$V_{DS}=5V, I_D=6A$	N-CH		10		S	
		$V_{DS}=-5V, I_D=-4A$	P-CH		15			
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1A$	N-CH		0.78	1.3	V	
		$V_{GS}=0V, I_S=-1A$	P-CH		-0.77	-1.3		
C_{iss}	Input Capacitance	NMOS: $V_{DS}=15V,$	N-CH		540		pF	
			P-CH		550			
C_{oss}	Output Capacitance	$V_{GS}=0V, f=1\text{MHZ}$	N-CH		82			
			P-CH		87			
C_{rss}	Reverse Transfer Capacitance		$V_{DS}=-15V,$ $V_{GS}=0V, f=1\text{MHZ}$	N-CH		28		
				P-CH		31		



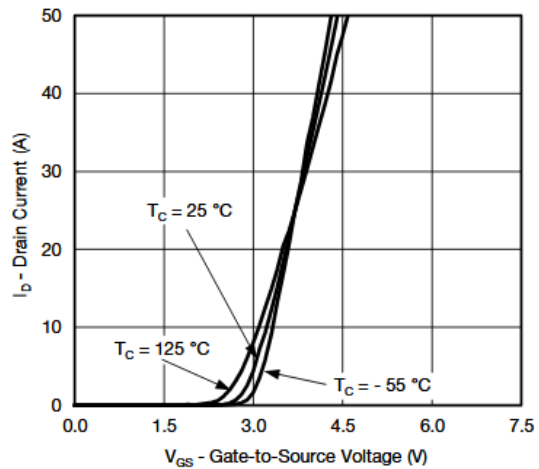
Qg	Total Gate Charge	NMOS: VDS=15V, VGS=10V, ID=8A PMOS: VDS=-15V, VGS=-10V, ID=-6A	N-CH	10	nC
			P-CH	9	
Qgs	Gate Source Charge		N-CH	2.2	
			P-CH	2.3	
Qgd	Gate Drain Charge		N-CH	1.1	
			P-CH	1.9	
T _{D(ON)}	Turn-on delay time	NMOS: VDS=15V, VGS=10V, RL=10R, RGEN=6R PMOS: VDS=-15V, VGS=-10V, RL=10R, RGEN=6R	N-CH	9	ns
			P-CH	13	
Tr	Rise time		N-CH	12	
			P-CH	15	
T _{D(OFF)}	Turn-off delay time		N-CH	26	
			P-CH	21	
Tf	Fall time		N-CH	18	
			P-CH	14	



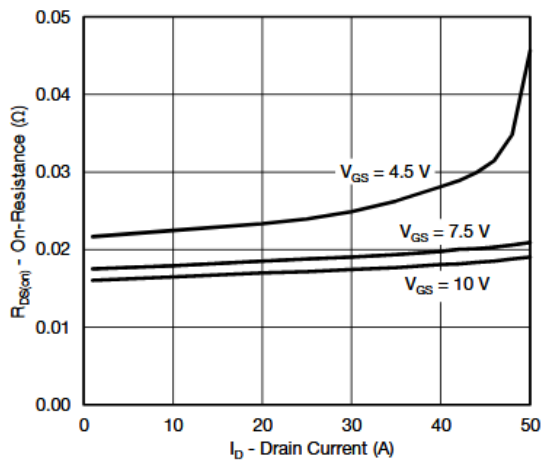
➤ **N-Channel Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



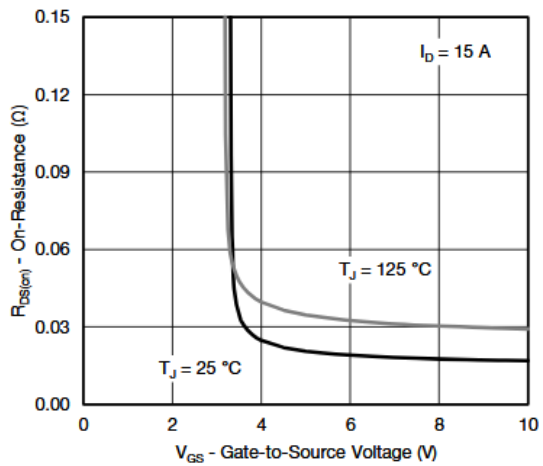
Output Characteristics



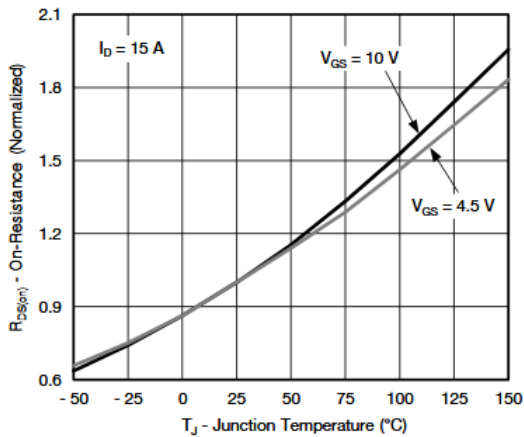
Transfer Characteristics



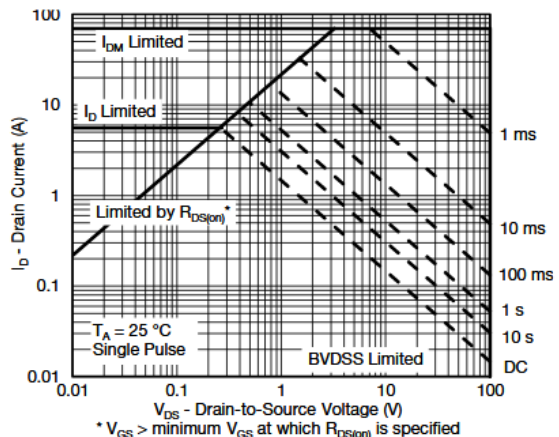
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



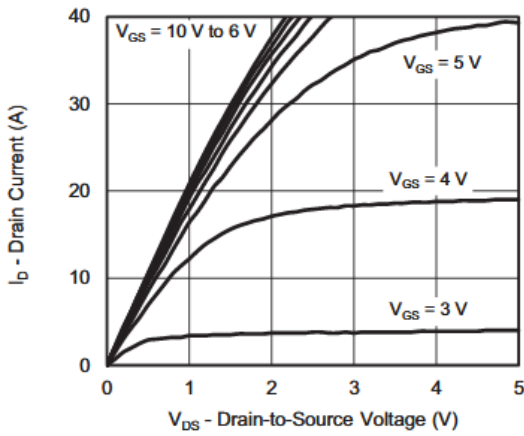
On-Resistance vs. Junction Temperature



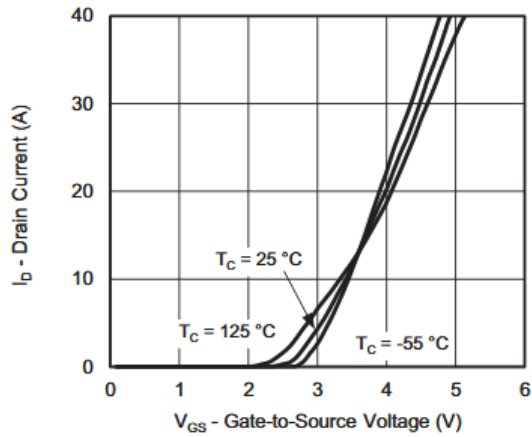
Safe Operating Area, Junction-to-Ambient



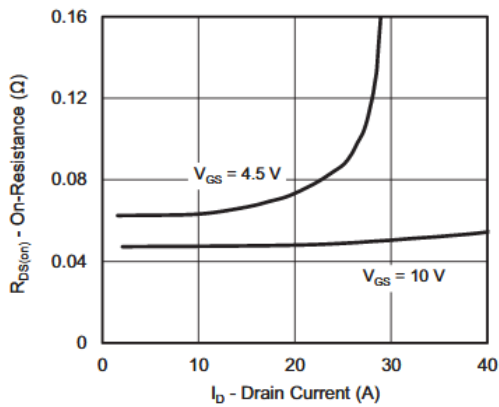
➤ **P-Channel Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



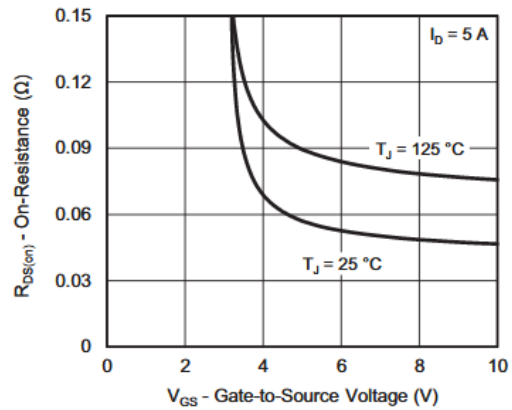
Output Characteristics



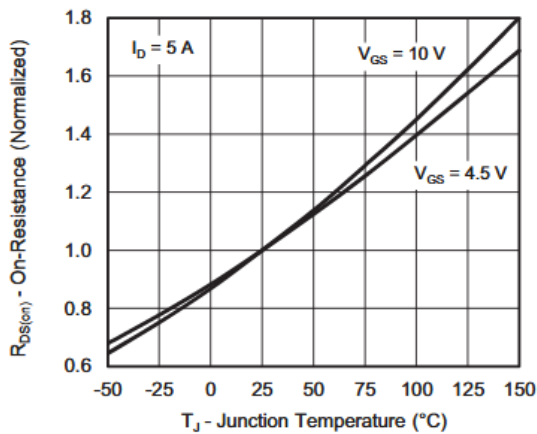
Transfer Characteristics



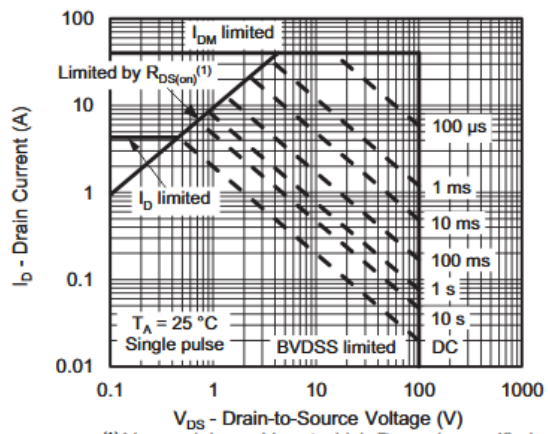
On-Resistance vs. Drain Current and Gate Voltage



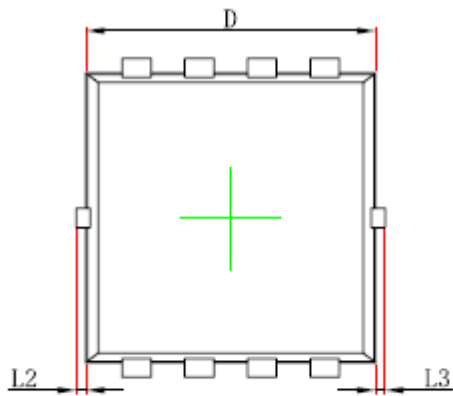
On-Resistance vs. Gate-to-Source Voltage



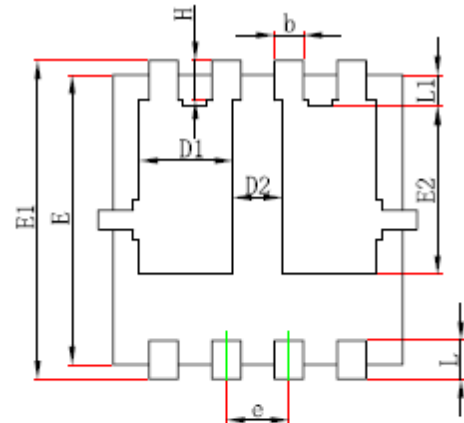
On-Resistance vs. Junction Temperature



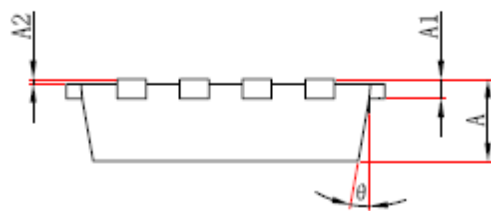
Safe Operating Area, Junction-to-Ambient

➤ Package Information


Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

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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