SSC8631GS1

N- and P-Channel Complementary, MOSFET

➢ Features

N-Channel

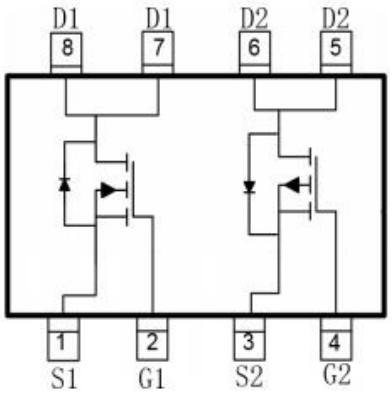
VDS	VGS	RDSON Typ.	ID
30V	±20V	22mR@10V	6A
		35mR@4V5	

P-Channel

VDS	VGS	RDSON Typ.	ID
-30V	±20V	27mR@-10V	-6A
		39mR@-4V5	

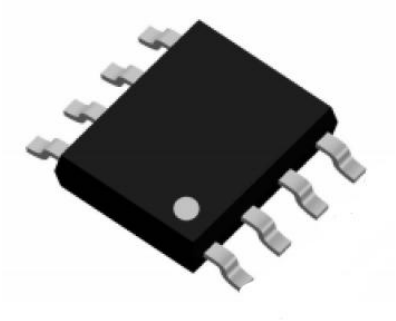
➢ Pin configuration

Top view



➢ Description

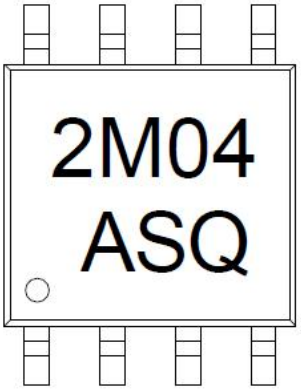
SSC8631GS1 uses advanced trench technology to provide excellent RDSON and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.



SOP8

➢ Applications

- Inverter
- CCFL Driver



Marking

➢ Ordering Information

Device	Package	Shipping
SSC8631GS1	SOP8	4000/Reel

➢ Absolute Maximum Ratings(T_A=25℃ 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	6	-6	A
I_{DM}	Pulsed Drain Current	35	-31	A
P_D	Power Dissipation	1	1	W
T_J	Operation junction temperature	-55 to 150	-55 to 150	℃
T_{STG}	Storage temperature range	-55 to 150	-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		129	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		70	

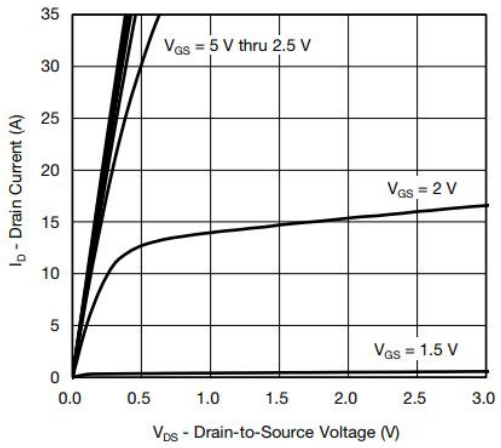
➢ Electronics Characteristics(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions		Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=250uA	N-CH	30			V
		VGS=0V,ID=-250uA	P-CH	-30			
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	N-CH	1	1.5	3	V
		VDS=VGS,ID=-250uA	P-CH	-1	-1.5	-3	
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V,ID=5A	N-CH		22	28	mR
		VGS=10V,ID=-5A	P-CH		27	35	
		VGS=4.5V,ID=2A	N-CH		35	40	
		VGS=-4.5V,ID=-2A	P-CH		39	50	

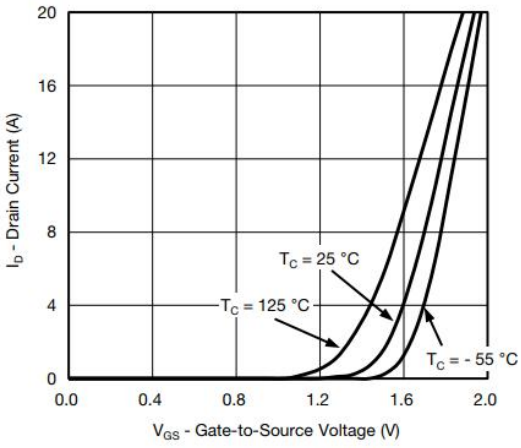
Symbol	Parameter	Test Conditions		Min	Typ.	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	VDS=24V,VGS=0V	N-CH			1	uA
		VDS=-24V,VGS=0V	P-CH			-1	
I_{GSS}	Gate-Source leak current	VGS=±20V,VDS=0V	N-CH			±100	nA
		VGS=±20V,VDS=0V	P-CH			±100	
G_{FS}	Forward Transconductance	VDS=5V,ID=5A	N-CH		7.3		S
		VDS=-5V,ID=-5A	P-CH		12		
V_{SD}	Forward Voltage	VGS=0V,IS=1A	N-CH		0.76	1.7	V
		VGS=0V,IS=-1A	P-CH		-0.77	1.7	

Symbol	Parameter	Test Conditions		Min	Typ.	Max	Unit
Ciss	Input Capacitance	**NMOS:** VDS=15V, VGS=0V, F=1MHZ **PMOS:** VDS=-15V, VGS=0V, F=1MHZ	N-CH		407		pF
			P-CH		950		
Coss	Output Capacitance		N-CH		113		
			P-CH		137		
Crss	Reverse Transfer Capacitance		N-CH		57		
			P-CH		118		
$T_{D(ON)}$	Turn-on delay time	**NMOS:** VDS=15V, VGS=10V, RL=2.5R, RGEN=3R **PMOS:** VDS=-15V, VGS=-10V, RL=2.5R, RGEN=3R	N-CH		18		ns
			P-CH		21		
$T_{D(OFF)}$	Turn-off delay time		N-CH		70		
			P-CH		84		

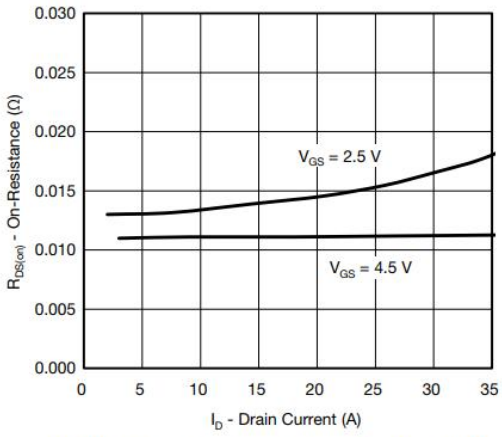
➢ N-Channel Typical Characteristics(T_A=25℃ unless otherwise noted)



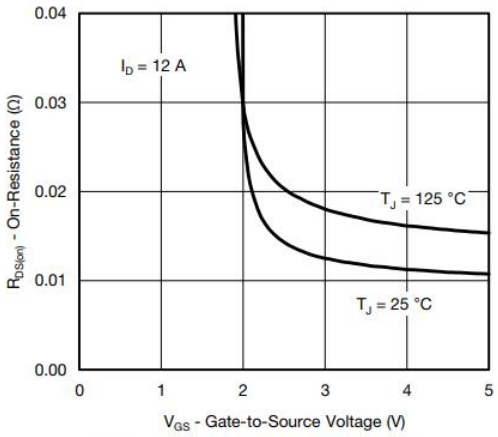
Output Characteristics



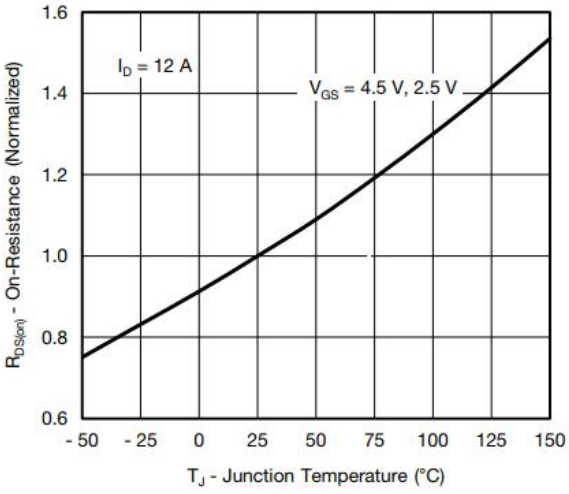
Transfer Characteristics



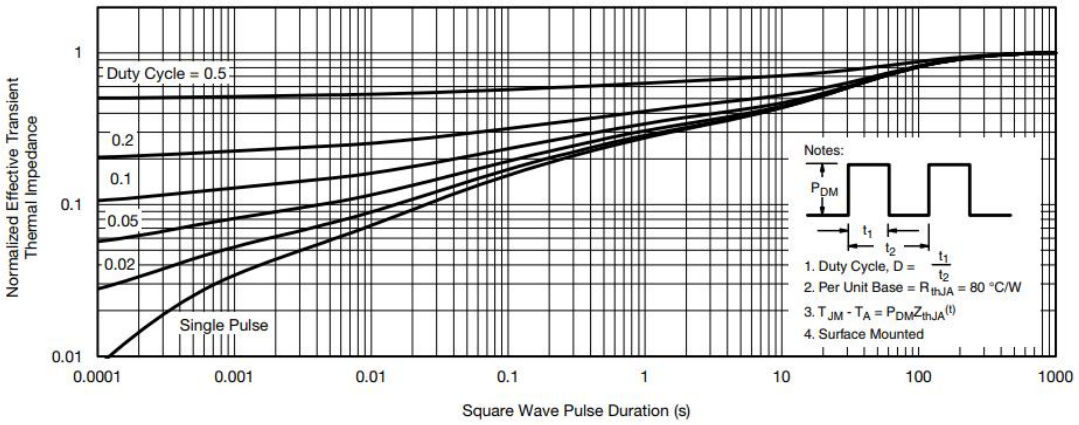
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

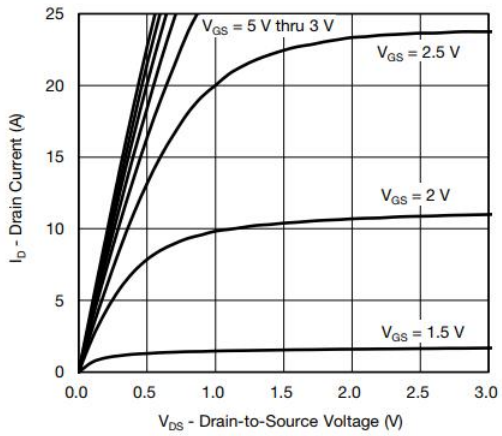


On-Resistance vs. Junction Temperature

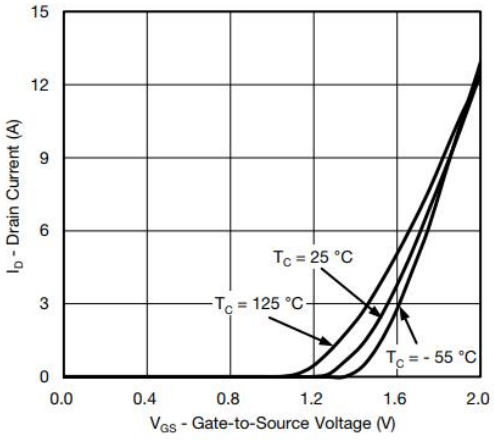


Normalized Thermal Transient Impedance, Junction-to-Ambient

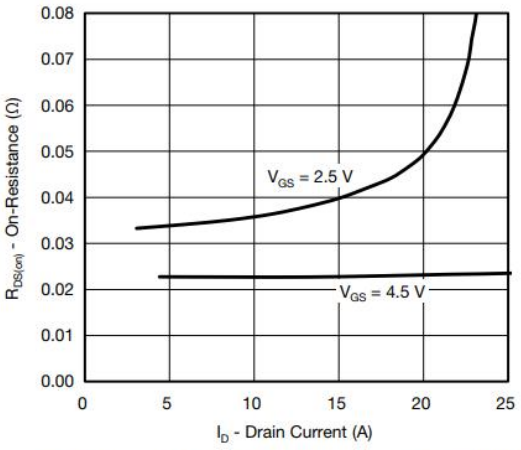
➢ P-Channel Typical Characteristics(T_A=25℃ unless otherwise noted)



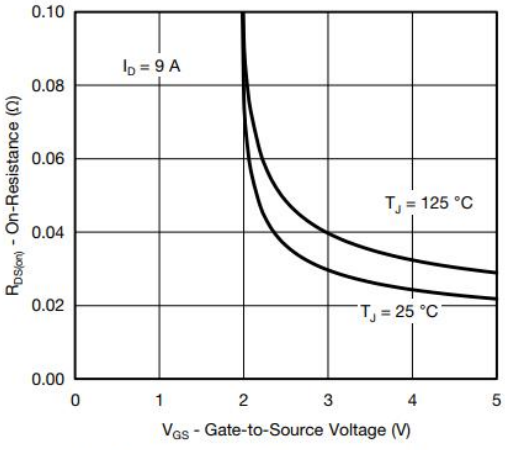
Output Characteristics



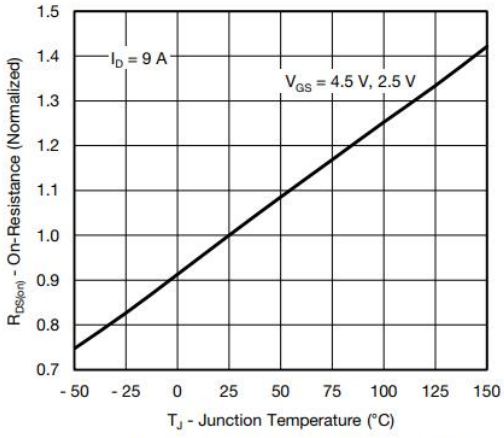
Transfer Characteristics



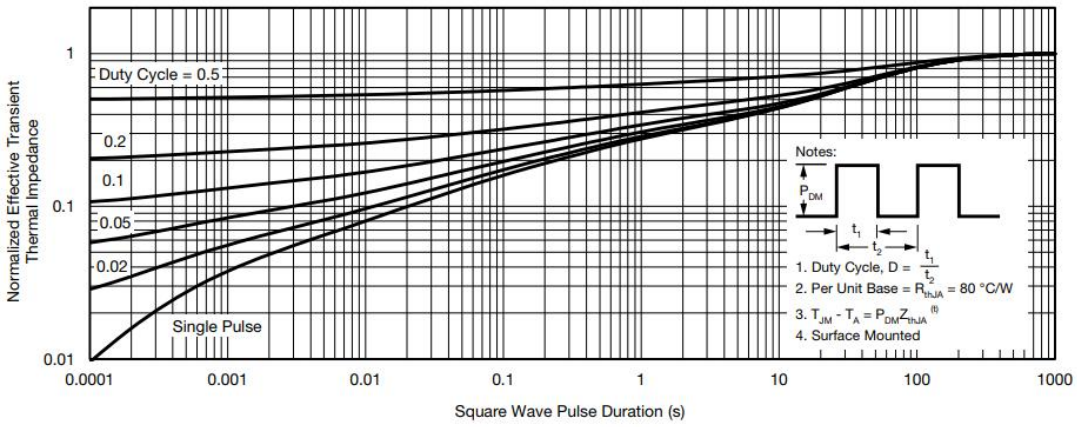
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

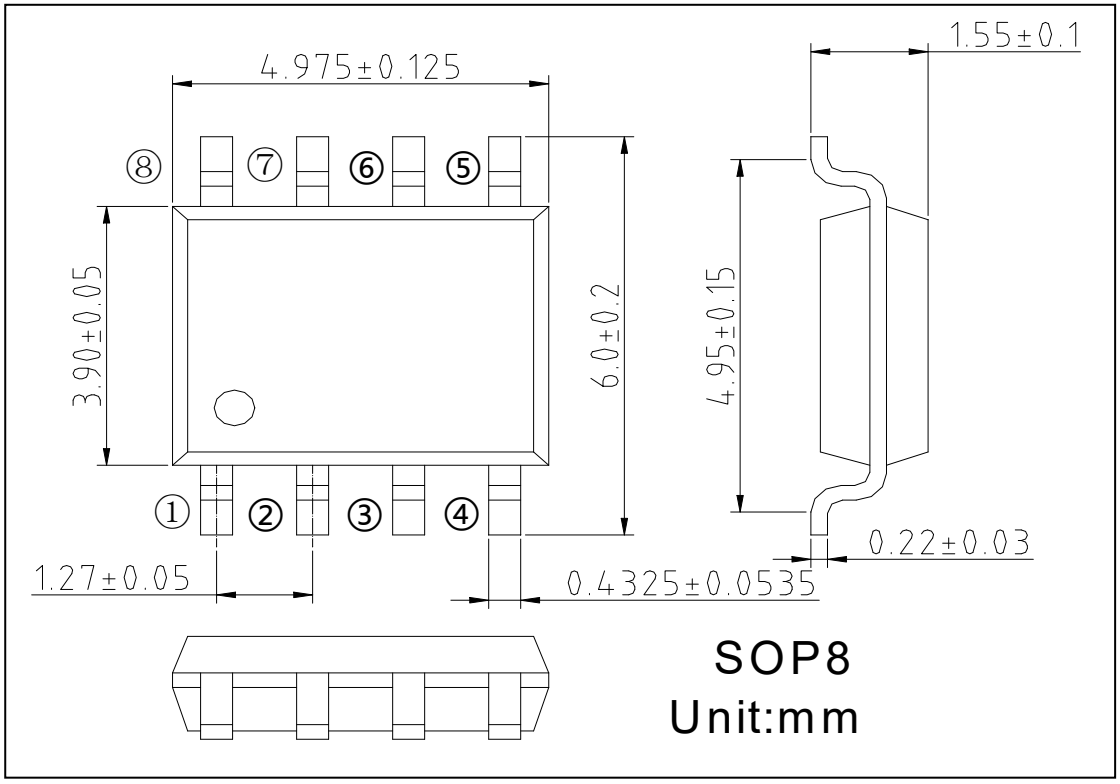


On-Resistance vs. Junction Temperature



Normalized Thermal Transient Impedance, Junction-to-Ambient

➢ Package Information



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