



SSC8624GSB

N- and P-Channel Complementary, MOSFET

➤ **Features**

N-Channel

VDS	VGS	RDSON Typ.	ID	ESD
20V	±8V	380mR@4V5	1A	1.2KV
		450mR@2V5		
		600mR@1V8		

P-Channel

VDS	VGS	RDSON Typ.	ID
-20V	±12V	220mR@-4V5	-1A
		260mR@-2V5	
		330mR@-1V8	

➤ **Description**

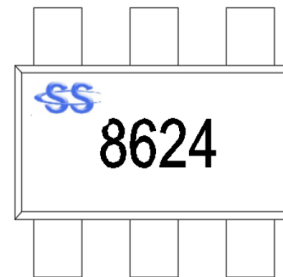
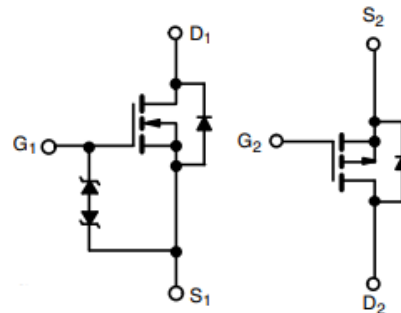
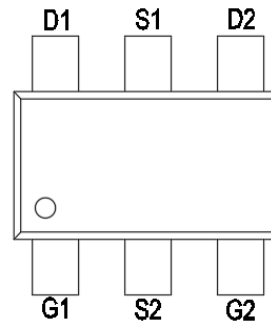
SSC8624GSB uses advanced trench technology to provide excellent RDSON and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.

➤ **Applications**

- Signal
- CCFL Driver

➤ **Pin configuration**

Top view



Marking

➤ **Ordering Information**

Device	Package	Shipping
SSC8624GSB	SOT23-6L	3000/Reel



➤ **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	20	-20	V
V_{GSS}	Gate-to-Source Voltage	± 8	± 12	V
I_D	Continuous Drain Current ^a	1	-1	A
I_{DM}	Pulsed Drain Current ^b	3	-3	A
P_{DSM}	Power Dissipation ^a	1		W
P_D	Power Dissipation ^c	0.4		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		315	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		125	

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

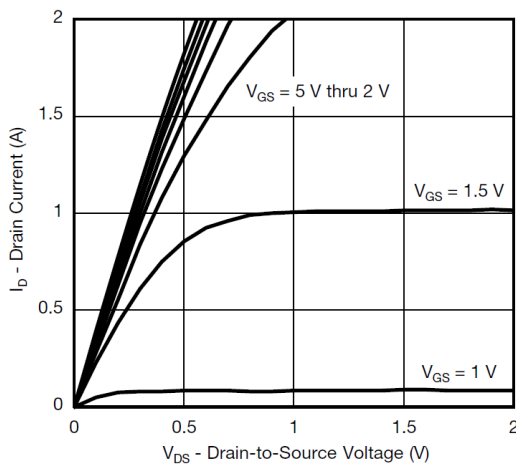
Symbol	Parameter	Test Conditions		Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	N-CH	20			V
		$V_{GS}=0V, I_D=-250\mu A$	P-CH	-20			
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	N-CH	0.4	0.9	1.2	V
		$V_{DS}=V_{GS}, I_D=-250\mu A$	P-CH	-0.4	-0.7	-1	
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=4.5V, I_D=1A$	N-CH		380	550	mR
		$V_{GS}=-4.5V, I_D=-1A$	P-CH		220	300	
		$V_{GS}=2.5V, I_D=0.5A$	N-CH		450	700	
		$V_{GS}=-2.5V, I_D=-0.5A$	P-CH		260	450	
		$V_{GS}=1.8V, I_D=0.5A$	N-CH		600	1000	
		$V_{GS}=-1.8V, I_D=-0.5A$	P-CH		330	600	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$	N-CH			1	uA
		$V_{DS}=-16V, V_{GS}=0V$	P-CH			-1	
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 8V, V_{DS}=0V$	N-CH			± 10	uA
		$V_{GS}=\pm 12V, V_{DS}=0V$	P-CH			± 100	nA
G_{FS}	Forward Transconductance	$V_{DS}=5V, I_D=1A$	N-CH		1		S
		$V_{DS}=-5V, I_D=-1A$	P-CH		2		
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=0.5A$	N-CH		0.7	1.3	V
		$V_{GS}=0V, I_S=-0.5A$	P-CH		-0.7	-1.3	
C_{iss}	Input Capacitance	NMOS: $V_{DS}=10V,$ PMOS: $V_{GS}=0V, f=1\text{MHZ}$	N-CH		40		pF
			P-CH		160		
C_{oss}	Output Capacitance		N-CH		10		
			P-CH		33		
C_{rss}	Reverse Transfer Capacitance	$V_{DS}=-10V,$ $V_{GS}=0V, f=1\text{MHZ}$	N-CH		4		
			P-CH		10		



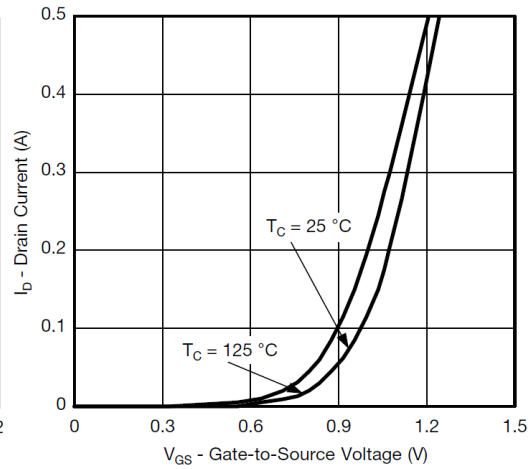
Qg	Total Gate Charge	NMOS: VDS=10V, VGS=4.5V, ID=1A PMOS: VDS=-10V, VGS=- 4.5V, ID=-1A	N-CH	0.6	nC
			P-CH	1.6	
Qgs	Gate Source Charge		N-CH	0.2	
			P-CH	0.4	
Qgd	Gate Drain Charge		N-CH	0.2	
			P-CH	0.3	
T _{D(ON)}	Turn-on delay time	NMOS: VDS=10V, VGS=4.5V, RL=10R, RG=1R PMOS: VDS=-10V, VGS=-4.5V, RL=10R, RG=1R	N-CH	2	ns
			P-CH	5	
Tr	Rise time		N-CH	14	
			P-CH	10	
T _{D(OFF)}	Turn-off delay time		N-CH	11	
			P-CH	10	
Tf	Fall time		N-CH	7	
			P-CH	8	



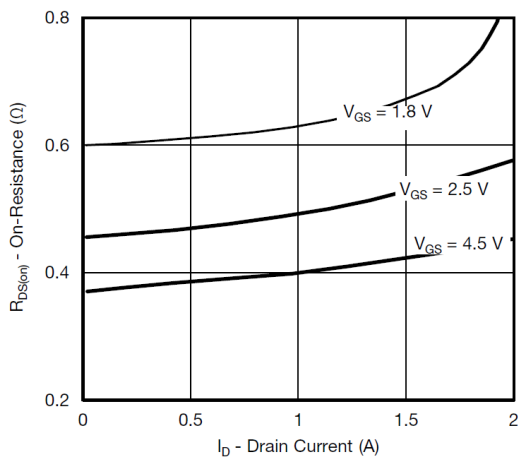
➤ **N-Channel Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



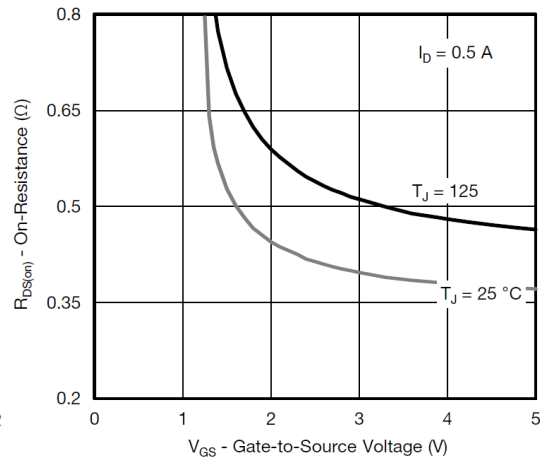
Output Characteristics



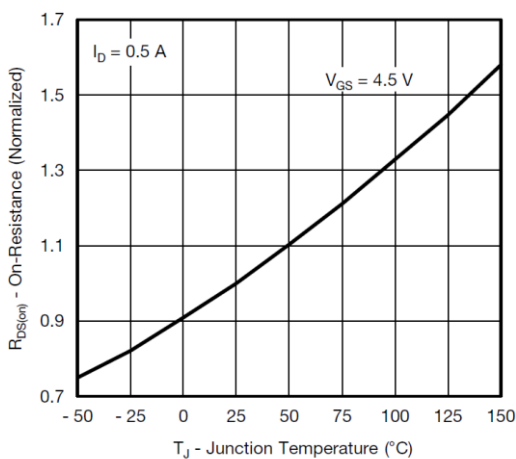
Transfer Characteristics



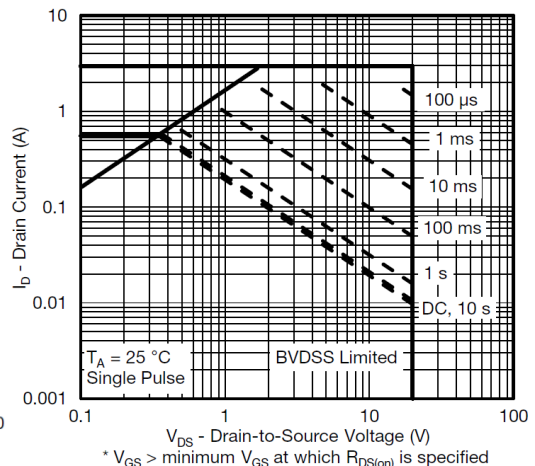
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



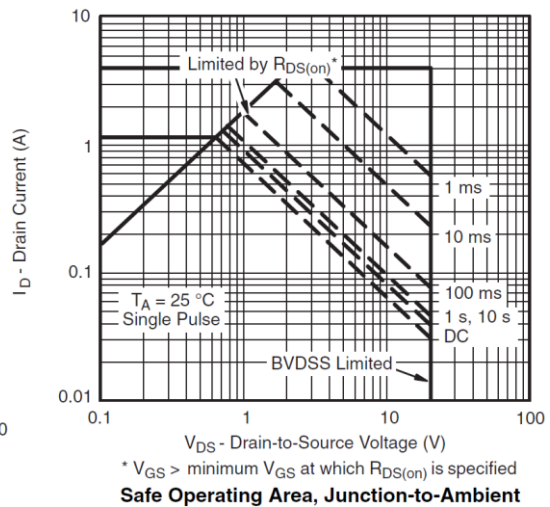
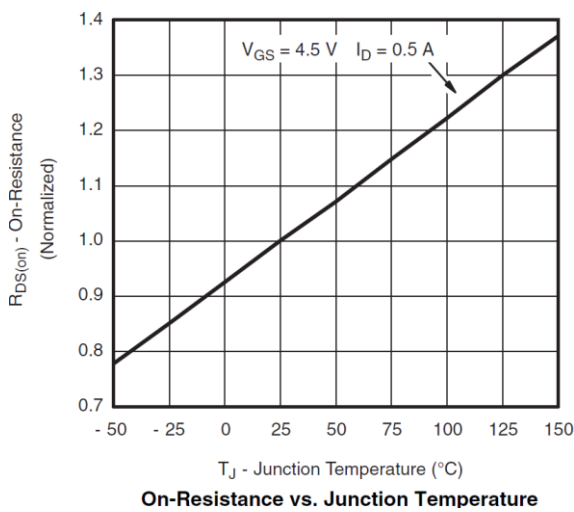
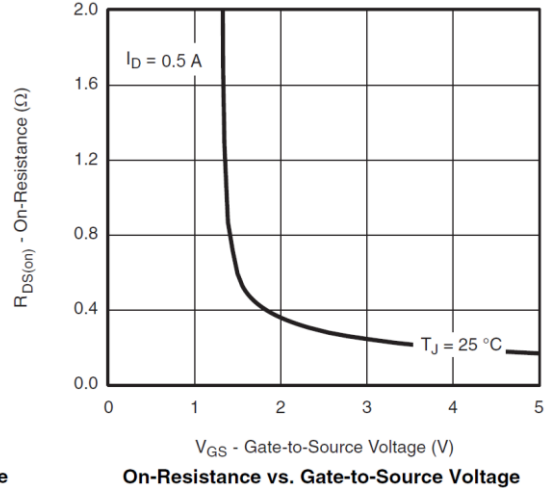
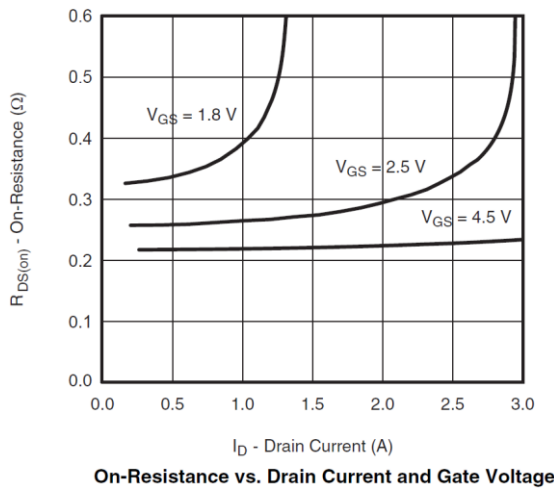
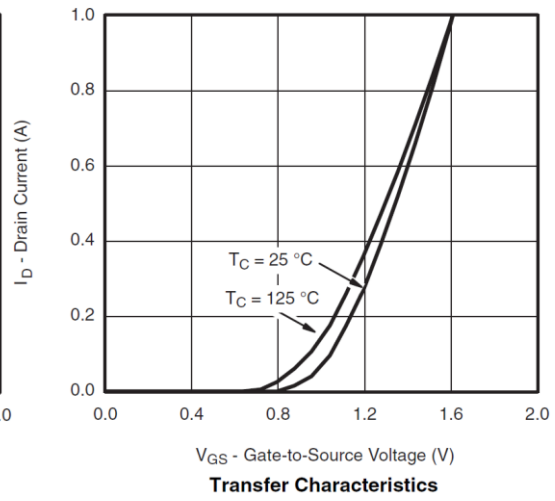
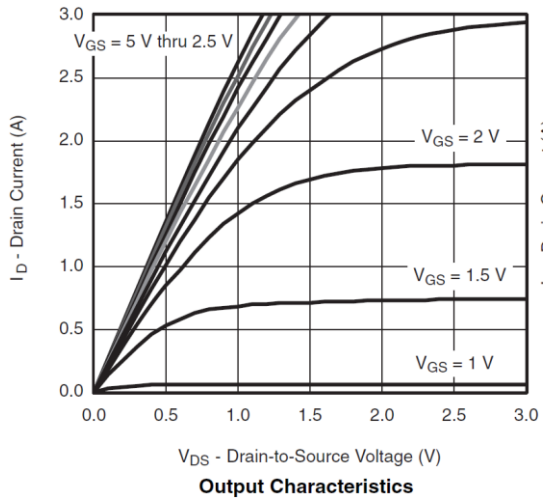
On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

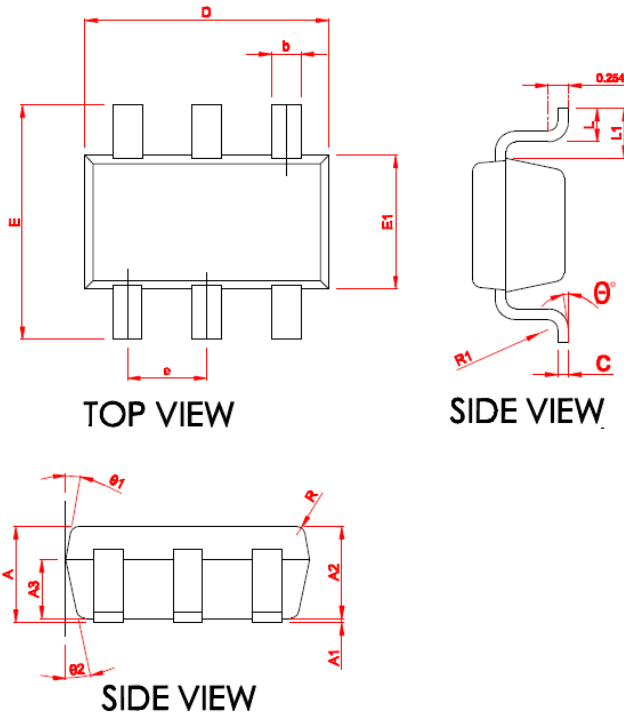


➤ **P-Channel Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)





➤ Package Information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	1.06	1.15	1.24
* A1	0.01	0.05	0.09
* A2	1.05	1.10	1.15
A3	0.65	0.70	0.75
* b	0.30	0.35	0.45
* c	0.117	0.127	0.157
* D	2.87	2.92	2.97
* E	2.72	2.80	2.88
* E1	1.55	1.60	1.65
* e	0.90	0.95	1.00
* L	0.32	0.40	0.48
* L1	0.55	0.60	0.65
R	0.10 REF		
R1	0.12 REF		
* θ	0	--	8°
θ_1	8°	10°	12°
θ_2	10°	12°	14°

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