



## SSC8332GSB

### Dual N-Channel Enhancement MOSFET

#### ➤ Features

VDS	VGS	RDS(on) Typ.	ID
30V	±20V	28mR@10V	3.8A
		40mR@4V5	

#### ➤ Description

SSC8332GSB uses advanced trench technology to provide excellent RDS(on) 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.

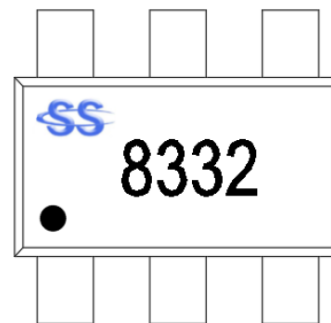
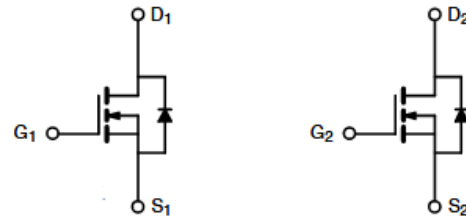
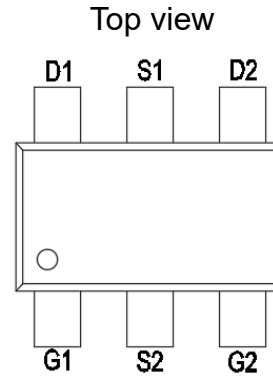
#### ➤ Applications

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

#### ➤ Ordering Information

Device	Package	Shipping
SSC8332GSB	SOT23-6L	3000/Reel

#### ➤ Pin configuration



Marking



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

Symbol	Parameter		Ratings	Unit
$V_{DSS}$	Drain-to-Source Voltage		30	V
$V_{GSS}$	Gate-to-Source Voltage		$\pm 20$	V
$I_D$	Continuous Drain Current <sup>a</sup>	$T_A=25^{\circ}\text{C}$	3.8	A
		$T_A=70^{\circ}\text{C}$	2.3	A
$I_{DM}$	Pulsed Drain Current <sup>b</sup>		16	A
$P_{DSM}$	Power Dissipation <sup>a</sup>		2.4	W
$P_D$	Power Dissipation <sup>c</sup>	$T_A=25^{\circ}\text{C}$	1.25	W
		$T_A=70^{\circ}\text{C}$	0.8	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 <sup>a</sup>		100	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		52	

Note:

- The value of  $R_{\theta JA}$  is measured with the device mounted on 1 in<sup>2</sup> 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.

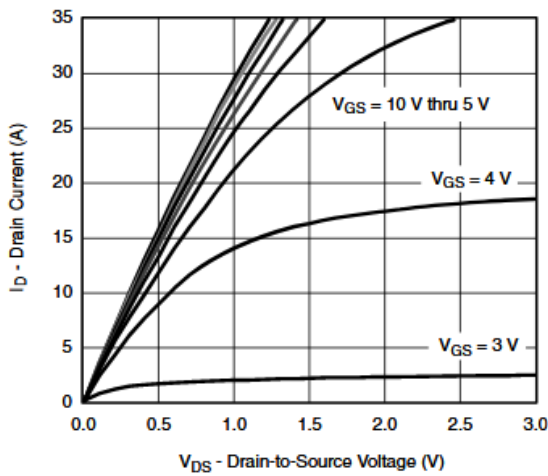


➤ **Electronics Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

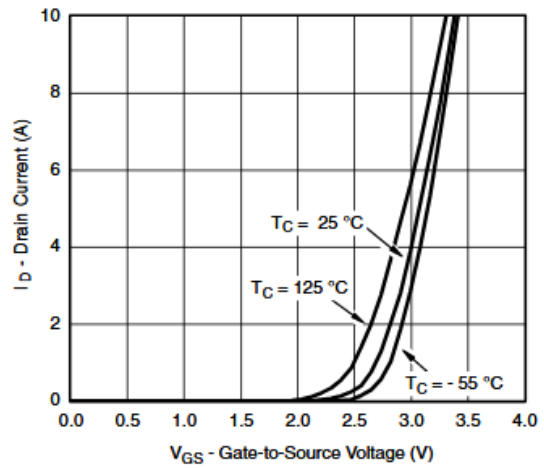
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=3.8A$		28	38	mR
		$V_{GS}=4.5V, I_D=3A$		40	55	
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$			1	$\mu A$
$I_{GSS}$	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
$G_{FS}$	Transconductance	$V_{DS}=5V, I_D=3.6A$		11		S
$V_{SD}$	Forward Voltage	$V_{GS}=0V, I_S=1.1A$		0.78	1.3	V
$C_{iss}$	Input Capacitance	$V_{DS}=15V, V_{GS}=0V,$ $f=1MHz$		210		pF
$C_{oss}$	Output Capacitance			44		
$C_{rss}$	Reverse Transfer Capacitance			16		
$Q_g$	Total Gate Charge	$V_{DS}=15V, V_{GS}=10V,$ $I_D=3.8A$		6		nC
$Q_{gs}$	Gate Source Charge			1.1		
$Q_{gd}$	Gate Drain Charge			1.5		
$T_{D(ON)}$	Turn-on delay time	$V_{DS}=15V, V_{GS}=10V,$ $R_L=10R, R_{GEN}=6R$		11		ns
$T_r$	Rise time			55		
$T_{D(OFF)}$	Turn-off delay time			12		
$T_f$	Fall time			22		



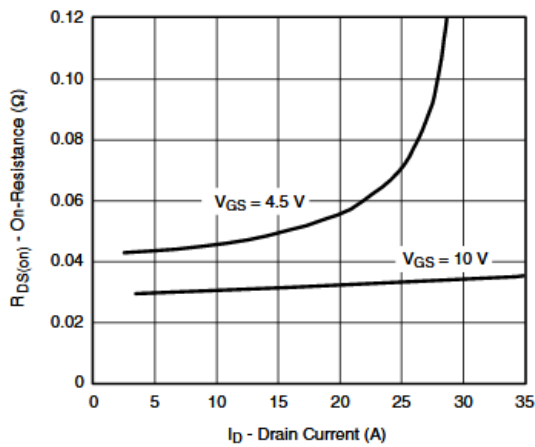
➤ **N-Channel Typical Characteristics**( $T_A=25^\circ\text{C}$  unless otherwise noted)



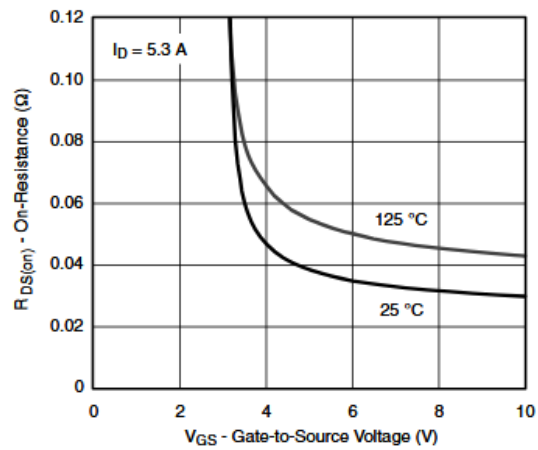
**Output Characteristics**



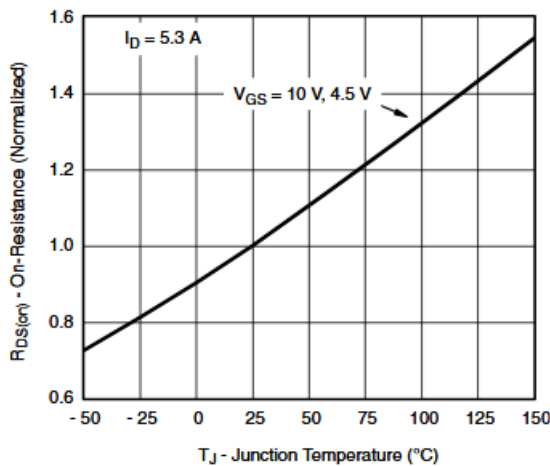
**Transfer Characteristics**



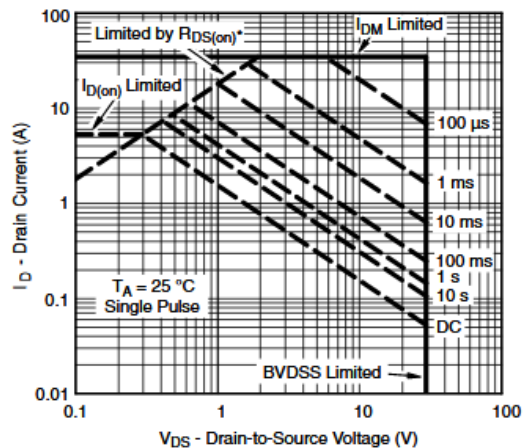
**On-Resistance vs. Drain Current and Gate Voltage**



**On-Resistance vs. Gate-to-Source Voltage**



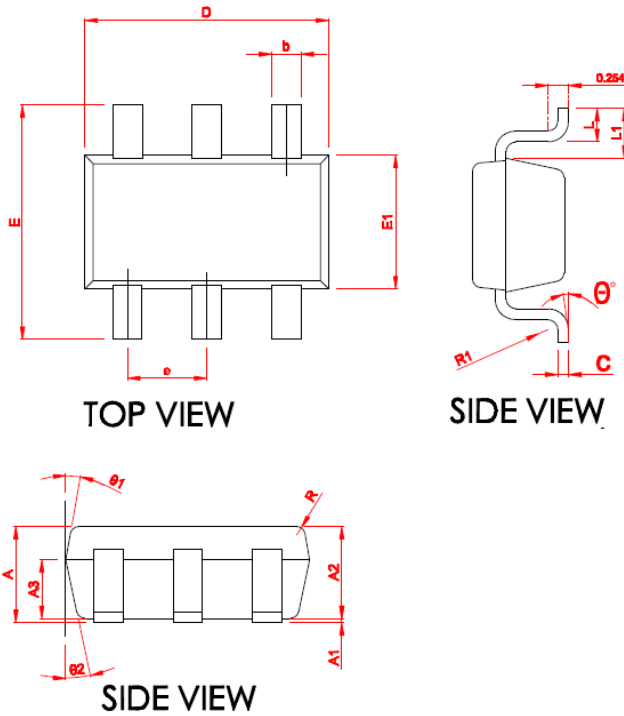
**On-Resistance vs. Junction Temperature**



**Safe Operating Area, Junction-to-Ambient**



➤ Package Information



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		
* $\theta$	0	--	8°
$\theta_1$	8°	10°	12°
$\theta_2$	10°	12°	14°

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