



## SSC8036GSB

### N-Channel Enhancement Mode MOSFET

#### ➤ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	15mR@10V	8A
		20mR@4V5	

#### ➤ Description

The SSC8036GSB is N-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion and power switch applications.

#### ➤ Applications

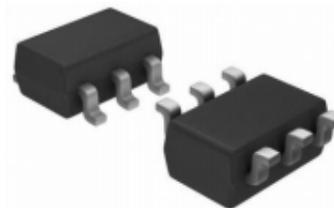
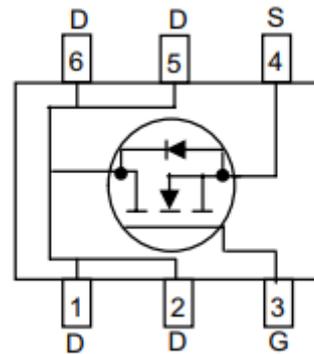
- Load Switch
- Portable Switch
- DCDC conversion
- Charging
- Driver for Relay, Motor, Solenoid, LED etc.

#### ➤ Ordering Information

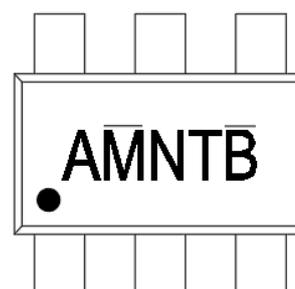
Device	Package	Shipping
SSC8036GSB	SOT23-6	3K/Reel

#### ➤ Pin configuration

Top view



Bottom View



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>	8	A
$I_{DM}$	Pulsed Drain Current <sup>b</sup>	40	A
$P_D$	Power Dissipation <sup>c</sup>	2	W
$P_{DSM}$	Power Dissipation <sup>a</sup>	0.9	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>		145	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		65	

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.

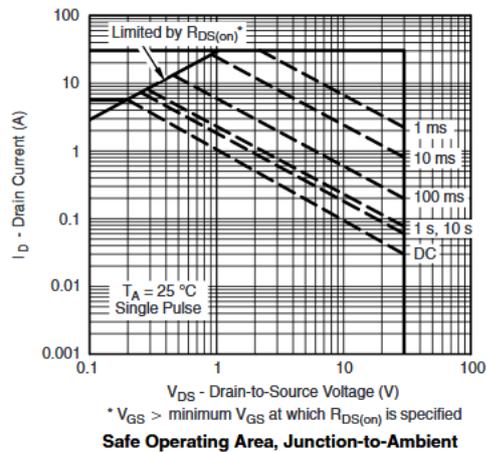
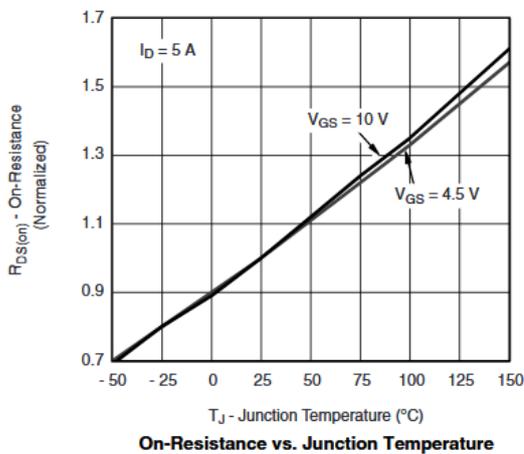
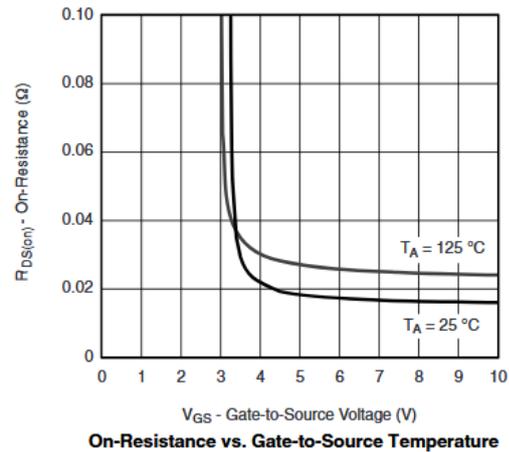
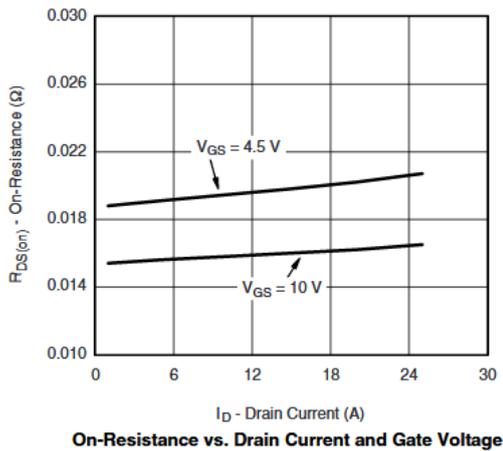
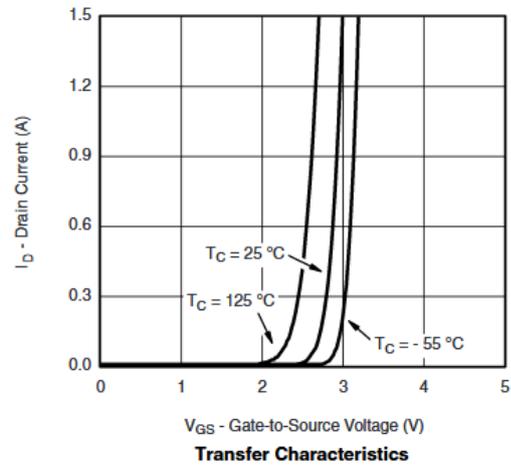
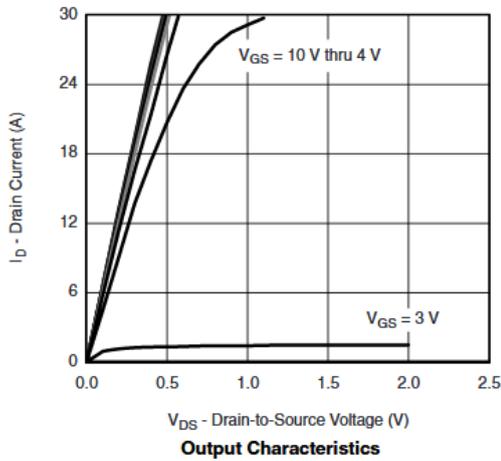


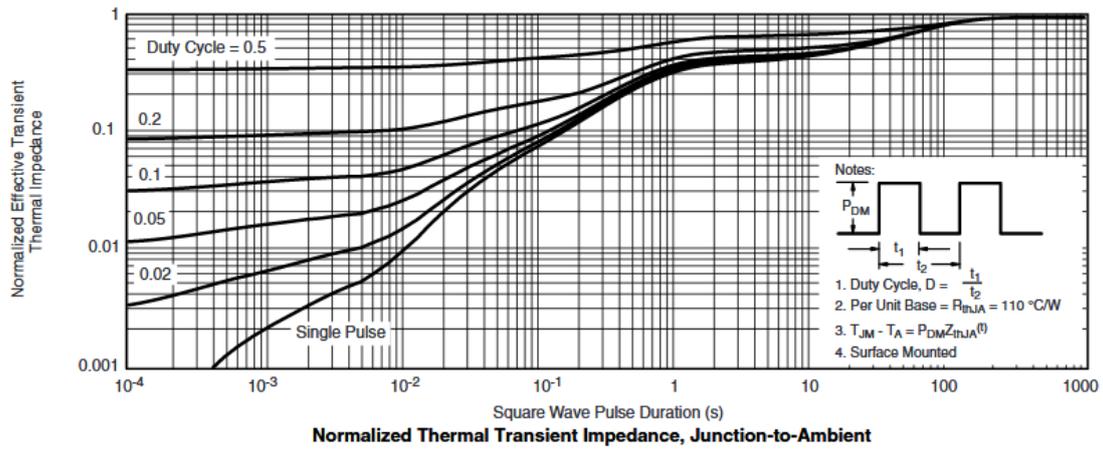
➤ **Electronics Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

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	$V_{GS}=10V, I_D=5A$		15	20	mR
		$V_{GS}=4.5V, I_D=3A$		20	30	
$I_{DSS}$	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	$V_{DS}=5V, I_D=3A$		7.5		S
$V_{SD}$	Forward Voltage	$V_{GS}=0V, I_S=1.5A$		0.7	1.3	V
$C_{iss}$	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$		600		pF
$C_{oss}$	Output Capacitance			80		
$C_{rss}$	Reverse Transfer Capacitance			70		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V,$ $V_{DS}=15V, I_D=3A$		19		ns
$T_r$	Rise Time			31		
$T_{D(OFF)}$	Turn-off delay time			26		
$T_f$	Fall Time			42		
$Q_g$	Total Gate charge	$V_{GS}=10V, V_{DS}=10V, I_D=4A$		10.6		nC
$Q_{gs}$	Gate Source charge			1.9		
$Q_{gd}$	Gate Drain charge			2.1		



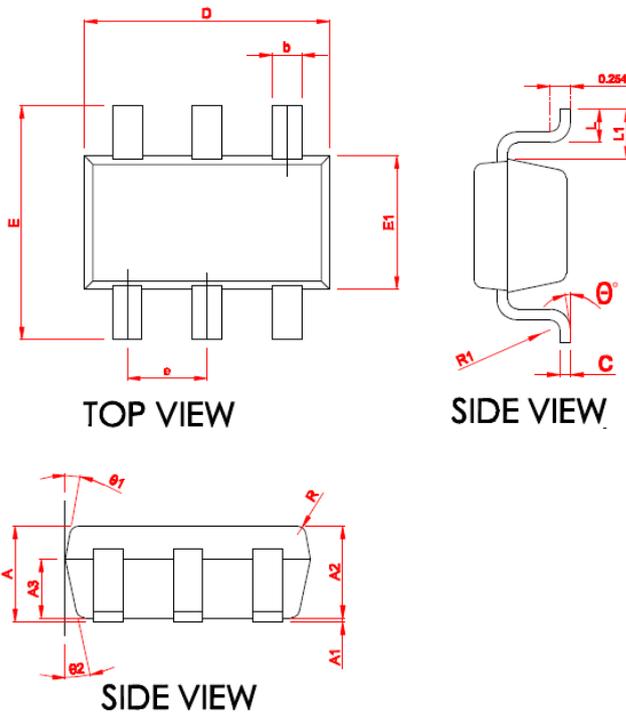
➤ **Typical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)







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

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