



# SSC8164GS6

## N-channel Small Switching MOSFET

### ● Features

VDS	VGS	RDSon TYP	ID	ESD
60V	±20V	1.1R@10V	400mA	500V
		1.5R@4V5		

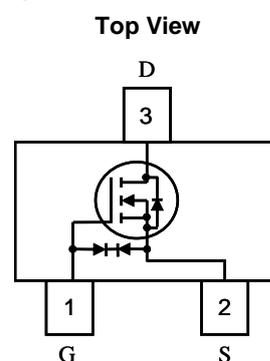
### ● Applications

- Load Switch
- Portable Devices
- DCDC Conversion

### ● General Description

This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

### ● Pin Configuration



### ● Ordering Information

Device	Marking	Package	Qty per Reel	Reel Size
SSC8164GS6	8164	SOT23	3000	7 Inch



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● **Absolute Maximum Ratings @ TA = 25°C unless otherwise specified**

Parameter		Symbol	Ratings	Unit
Drain-source voltage		$V_{DSS}$	60	V
Gate-source voltage		$V_{GSS}$	$\pm 20$	V
Drain current	- Continuous	$I_D$	0.4	A
	- Pulse	$I_{DM}$	0.8	
Total power dissipation (Tc=25°C)		$P_D$	0.45	W
Channel temperature		$T_{CH}$	-55 ~ +150	°C
Storage temperature		$T_{STG}$	-55 ~ +150	°C

● **Electrical Characteristics @ TA = 25°C unless otherwise specified**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	60	--	--	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$	--	--	1	$\mu A$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 15V, V_{DS} = 0V$	--	--	$\pm 10$	$\mu A$
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.75	1	1.25	V
Drain-Source On-state Resistance	$R_{DS(ON)}$	$I_D = 500mA, V_{GS} = 10V$	--	1.1	2.5	R
		$I_D = 500mA, V_{GS} = 4.5V$		1.5	3.5	
		$I_D = 500mA, V_{GS} = 2.5V$	--	1.7	4	
Body Diode Forward Voltage	$V_{SD}$	$I_S = 200mA, V_{GS} = 0V$	1.25		1.3	V
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$C_{ISS}$	$V_{DS} = 25V, V_{GS} = 0V$ $f = 1MHz$	--	30	--	pF
Output Capacitance	$C_{OSS}$		--	12	--	
Feedback Capacitance	$C_{RSS}$		--	9	--	
<b>SWITCHING CHARACTERISTICS</b>						
Turn-on Delay Time	$T_{D(ON)}$	$V_{GS} = 5V, I_D = 10mA$ $V_{DS} = 5V, R_L = 500R,$ $R_{GS} = 10R$	--	12	--	ns
Rise Time	$T_R$		--	10	--	
Turn-off Delay Time	$T_{D(OFF)}$		--	35	--	
Fall Time	$T_F$		--	15	--	

● Typical Performance Characteristics

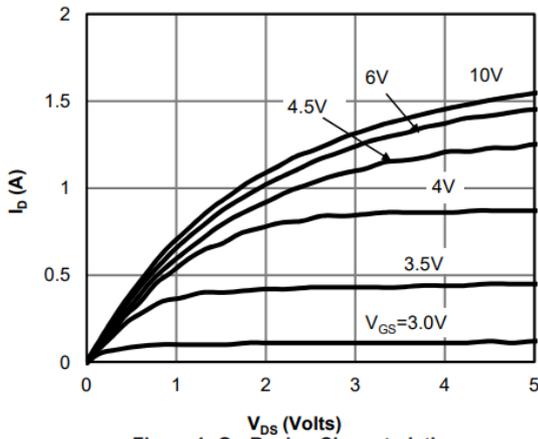


Figure 1: On-Region Characteristics

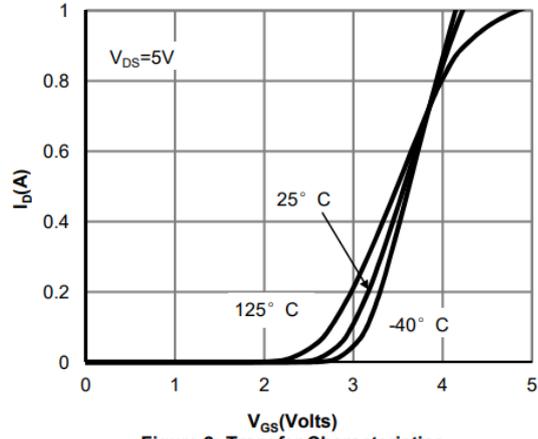


Figure 2: Transfer Characteristics

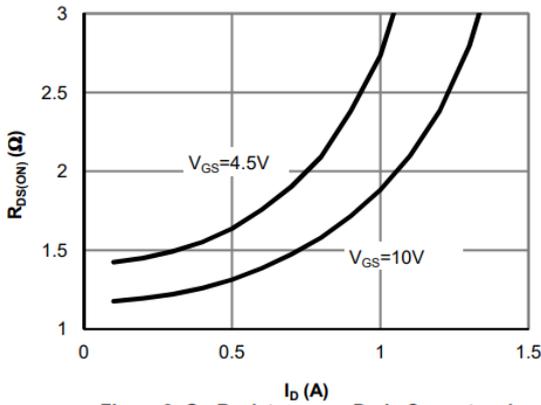


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

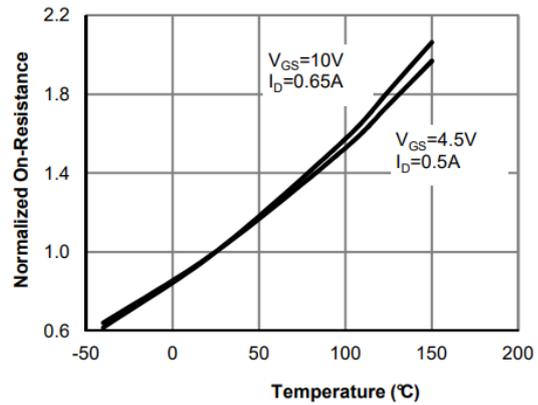


Figure 4: On-Resistance vs. Junction Temperature

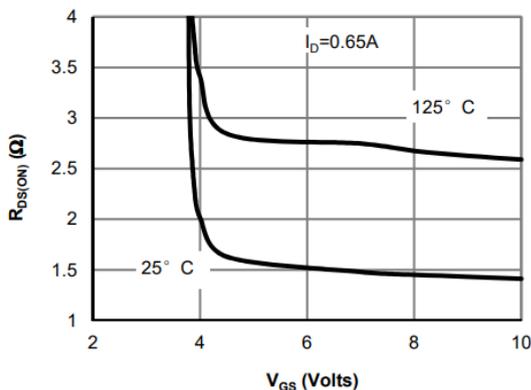


Figure 5: On-Resistance vs. Gate-Source Voltage

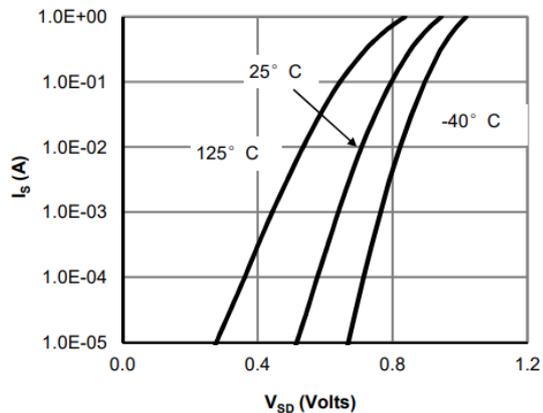


Figure 6: Body-Diode Characteristics

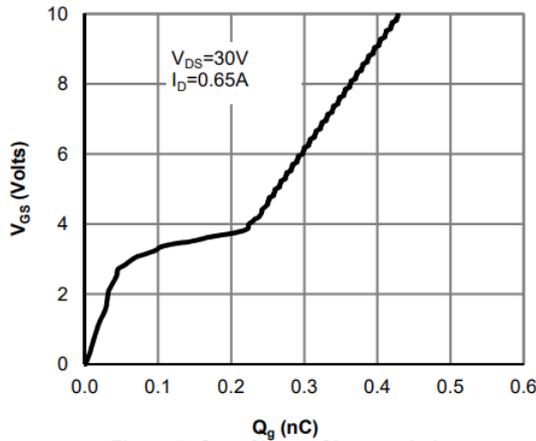


Figure 7: Gate-Charge Characteristics

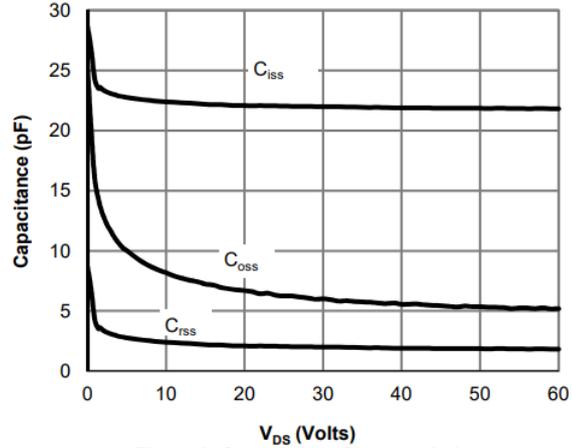


Figure 8: Capacitance Characteristics

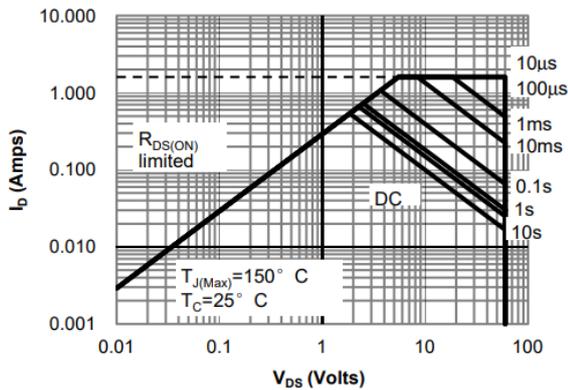


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

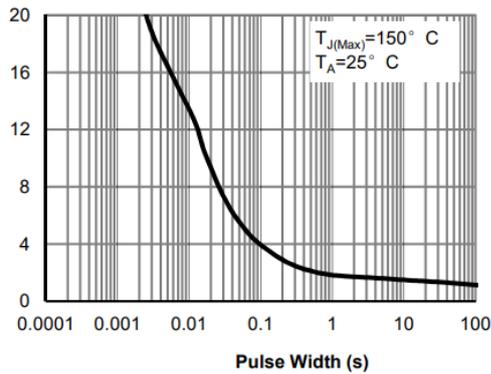


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

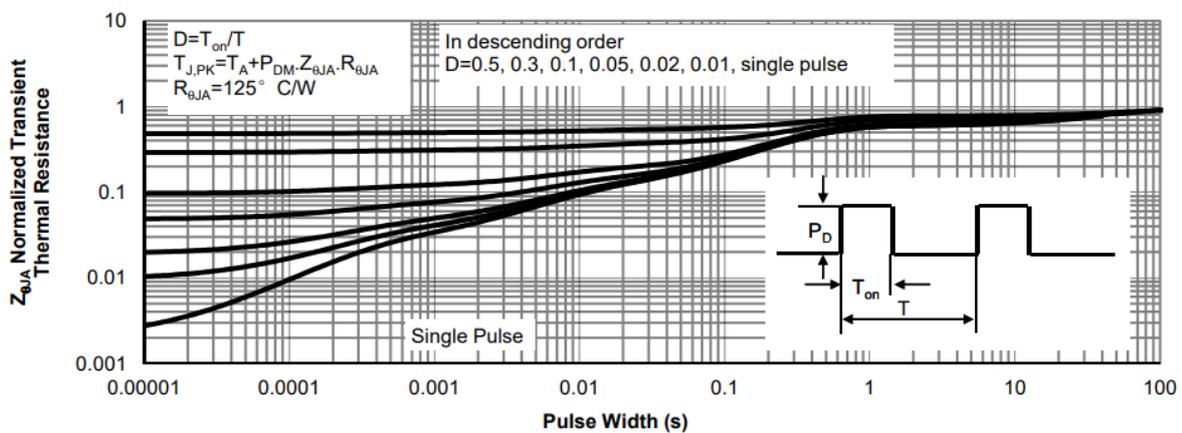
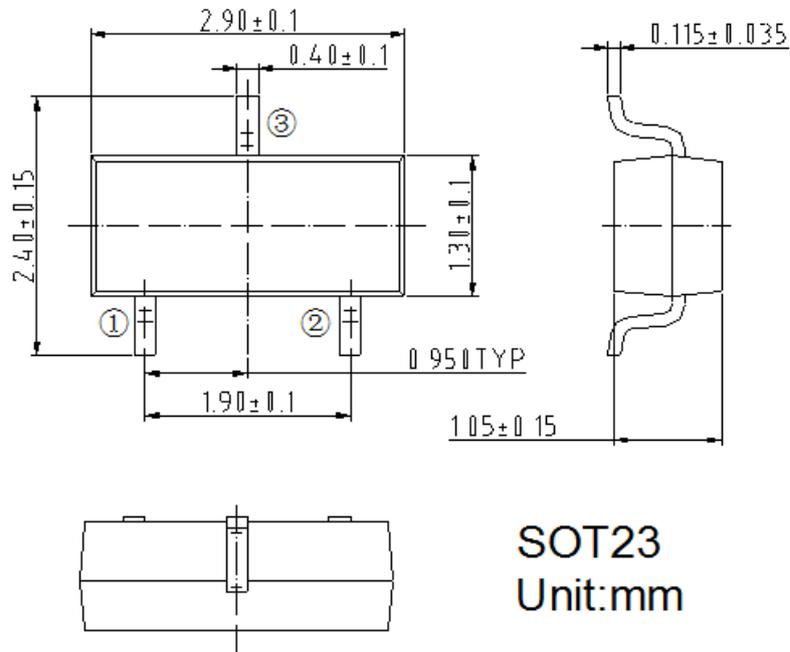


Figure 11: Normalized Maximum Transient Thermal Impedance

- Package Information





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