



SSC80A8GS6

N-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Max.	I_D
100V	$\pm 20V$	$6\Omega @ 10V$	0.5A
		$10\Omega @ 4.5V$	

➤ Description

This device uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. This device is suitable for use as a load switch or in PWM applications.

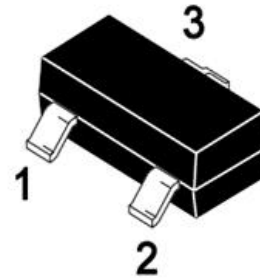
➤ Applications

- Load Switch
- Portable Devices
- DCDC Conversion

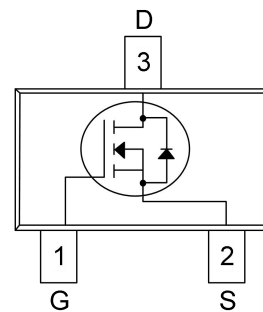
➤ Ordering Information

Device	Package	Shipping
SSC80A8GS6	SOT-23	3000/Reel

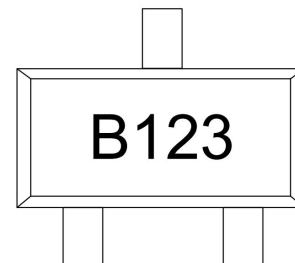
➤ Pin configuration



SOT-23



Pin Configuration (Top View)



Marking



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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	100	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_{D}	Continuous Drain Current ^a	0.5	A
I_{DM}	Pulsed Drain Current ^b	2	A
P_{D}	Power Dissipation ^c	1.7	W
T_{J}	Operation junction temperature	$-55\sim 150$	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	$-55\sim 150$	$^{\circ}\text{C}$

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

Symbol	Parameter	Maximum	Unit
$R_{\theta\text{JA}}$	Junction-to-Ambient Thermal Resistance ^a	89	$^{\circ}\text{C}/\text{W}$

Note:

- The value of $R_{\theta\text{JA}}$ 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 power dissipation 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 $T_{\text{J(MAX)}}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

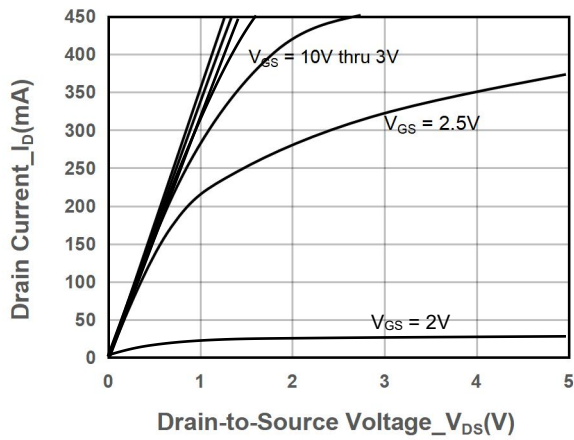


➤ **Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)**

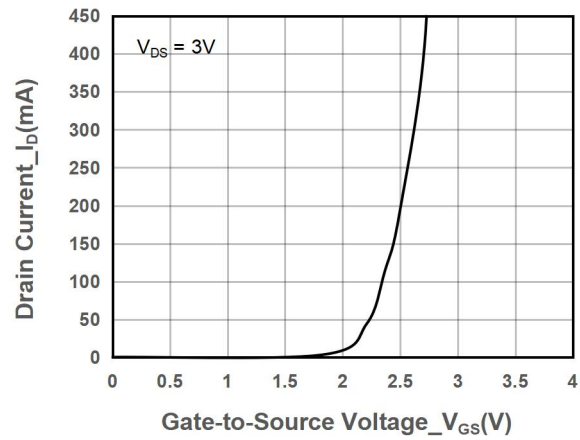
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.6	2.8	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.2A$			6	Ω
		$V_{GS} = 4.5V, I_D = 0.2A$			10	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1	μA
Gate-Source Leak Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Transconductance	G_{FS}	$V_{DS} = 10V, I_D = 0.2A$		98		mS
Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 0.3A$		0.7	1.3	V
Input Capacitance	C_{ISS}	$V_{DS} = 25V, V_{GS} = 0V,$ $f = 1MHz$		27		pF
Output Capacitance	C_{OSS}			8		
Reverse Transfer Capacitance	C_{RSS}			1.7		
Turn-on Delay Time	$T_{D(ON)}$	$V_{GS} = 10V, I_D = 0.28A$ $V_{DS} = 30V, R_{GEN} = 50\Omega$		6		ns
Rise Time	T_r			6		
Turn-off Delay Time	$T_{D(OFF)}$			11		
Fall Time	T_f			13		
Total Gate Charge	Q_G	$V_{GS} = 10V, V_{DS} = 10V,$ $I_D = 0.2A$		1.3		nC
Gate to Source Charge	Q_{GS}			0.13		
Gate to Drain Charge	Q_{GD}			0.2		



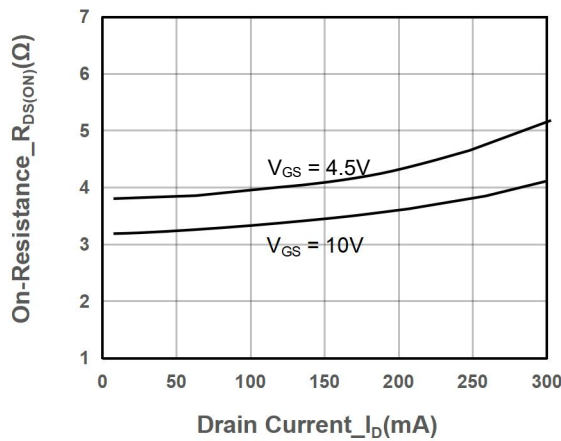
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



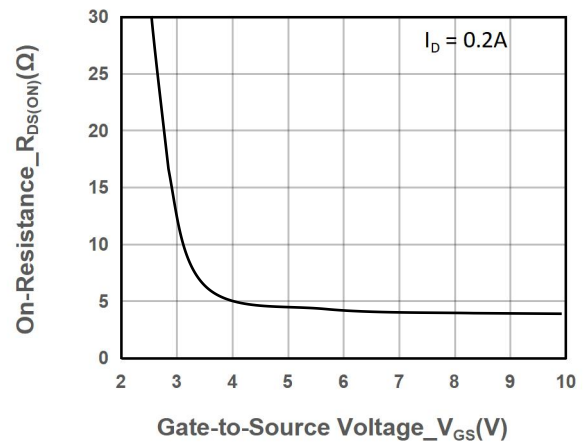
Output Characteristics



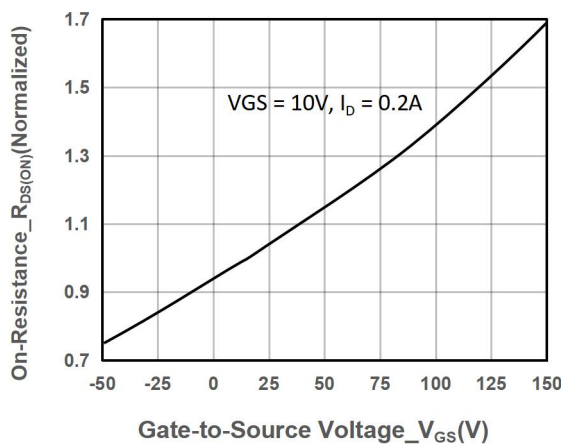
Transfer Characteristics



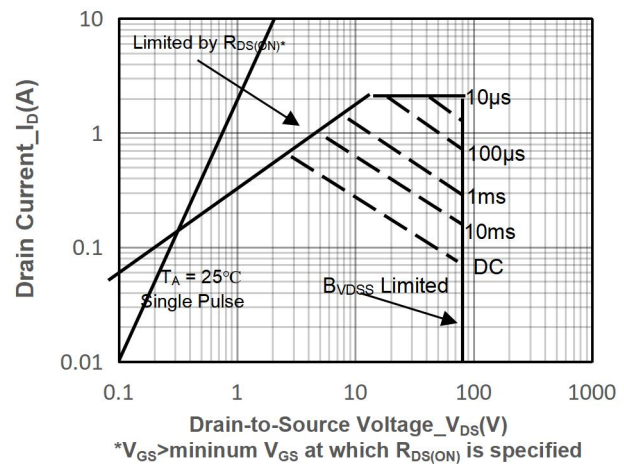
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

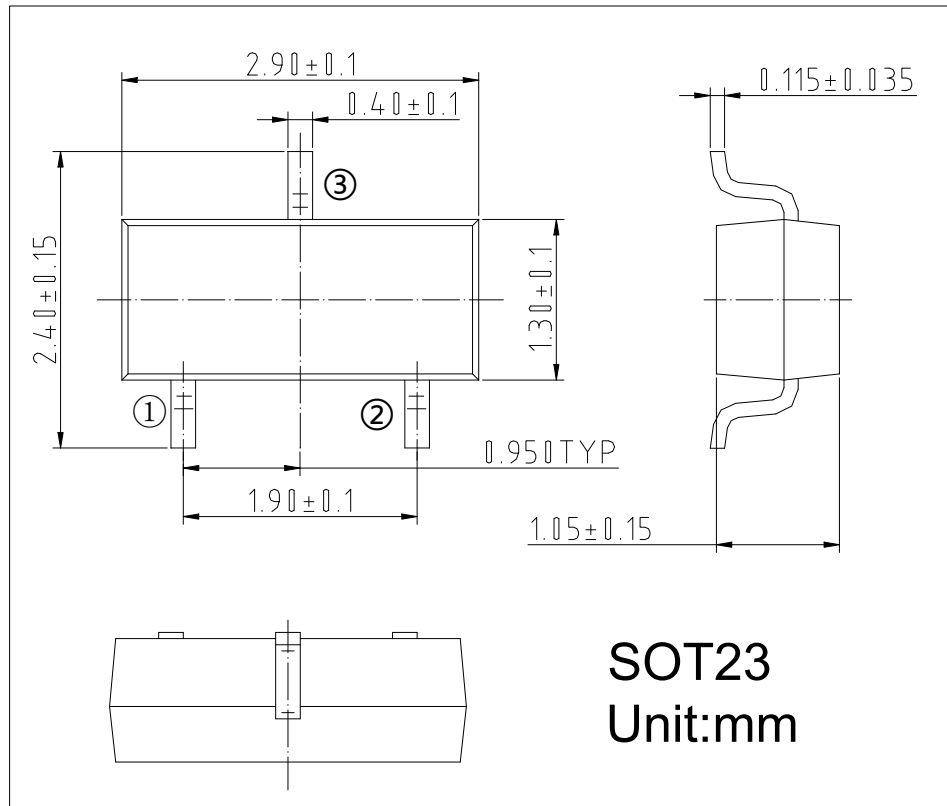


On-Resistance vs. Junction Temperature

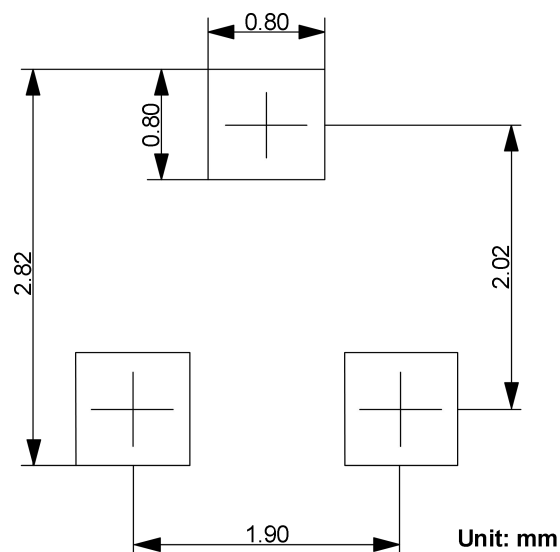


Safe Operating Area vs. Junction-to-Ambient

➤ Package Information



➤ Suggested Pad Layout





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