



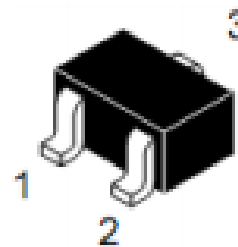
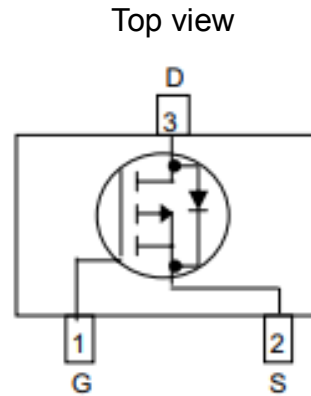
## SSC8131GS6

### P-Channel Enhancement Mode MOSFET

#### ➤ Features

VDS	VGS	RDSON Typ.	ID
-30V	±12V	45mR@-10V	-4A
		52mR@-4V5	
		63mR@-2V5	

#### ➤ Pin configuration



SOT23

#### ➤ Description

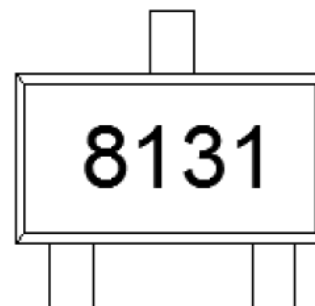
This device is particularly suited for low voltage application such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package. Excellent thermal and electrical capabilities.

#### ➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion

#### ➤ Ordering Information

Device	Package	Shipping
SSC8131GS6	SOT23	3000/Reel



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	$\pm 12$	V
$I_D$	Continuous Drain Current <sup>a</sup>	-4	A
$I_{DM}$	Pulsed Drain Current <sup>b</sup>	-15	A
$P_D$	Power Dissipation <sup>c</sup>	1.35	W
$P_{DSM}$	Power Dissipation <sup>a</sup>	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>		160	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		95	

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.

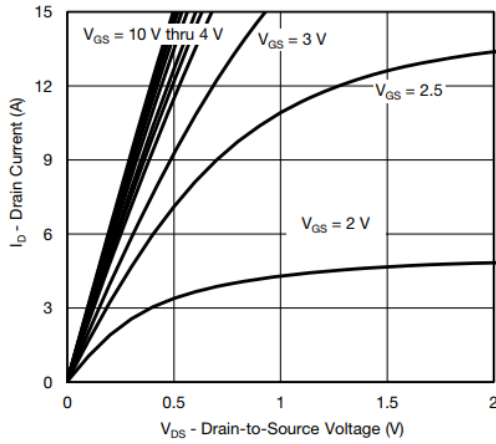


➤ **Electronics Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

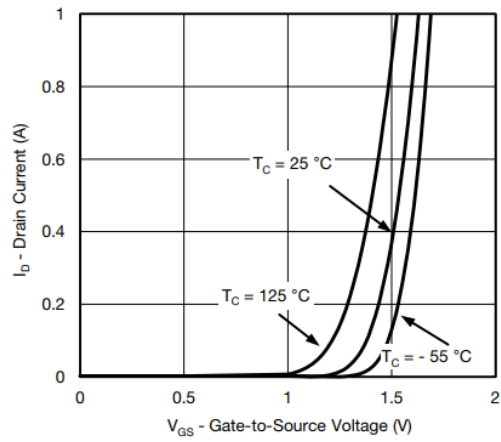
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.6	-0.7	-1.1	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-10V, I_D=-4A$		45	58	mR
		$V_{GS}=-4.5V, I_D=-2A$		52	61	
		$V_{GS}=-2.5V, I_D=-1A$		63	71	
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$			-1	$\mu A$
$I_{GSS}$	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			$\pm 100$	nA
$G_{FS}$	Transconductance	$V_{DS}=-5V, I_D=-3A$		10		S
$V_{SD}$	Forward Voltage	$V_{GS}=0V, I_S=-1A$		-0.7	-1.3	V
$C_{iss}$	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		600		pF
$C_{oss}$	Output Capacitance			85		
$C_{rss}$	Reverse Transfer Capacitance			66		
$T_{D(ON)}$	Turn-on delay time			13		
$T_r$	Rise time	$V_{GS}=-6V,$ $V_{GEN}=-4.5V, R_L=6R,$ $R_G=6R, I_D=-1.0A$		18		ns
$T_{D(OFF)}$	Turn-off delay time			40		
$T_f$	Fall time			8		



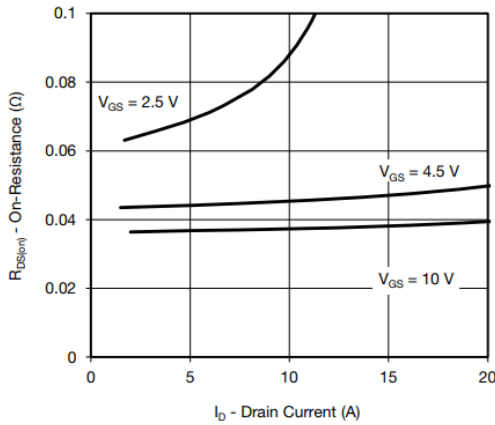
➤ **Typical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)



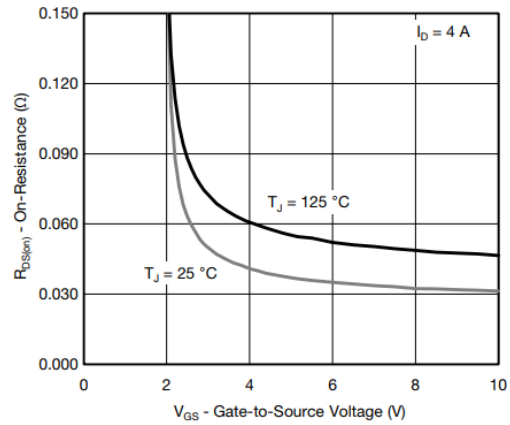
**Output Characteristics**



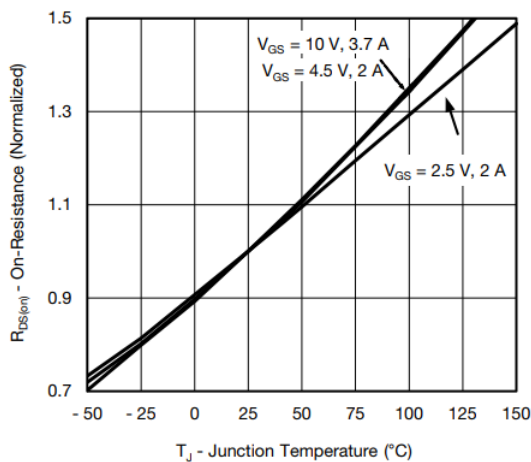
**Transfer Characteristics**



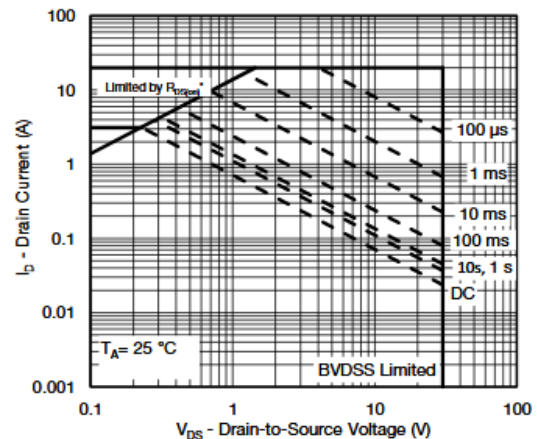
**On-Resistance vs. Drain Current**



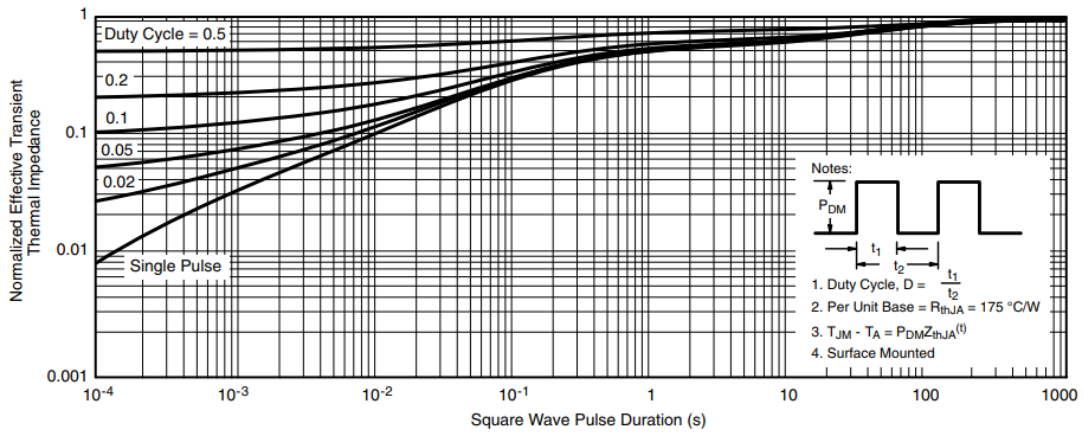
**On-Resistance vs. Gate-to-Source Voltage**



**On-Resistance vs. Junction Temperature**



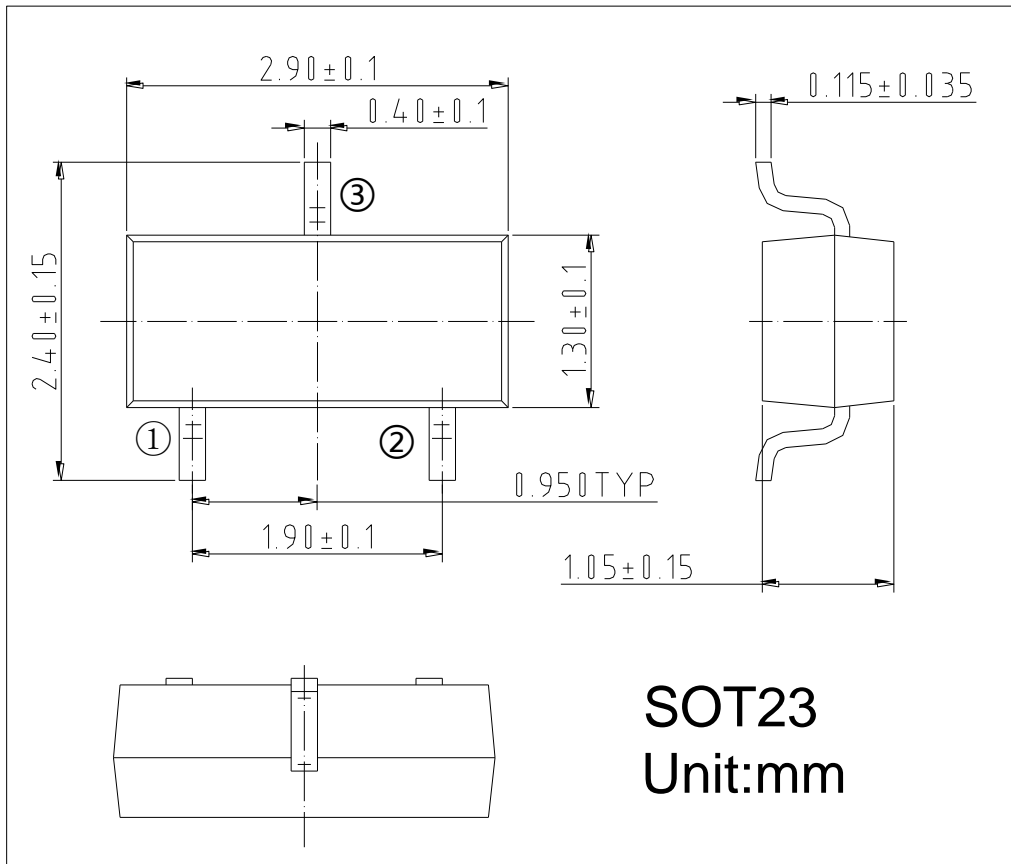
**Safe Operating Area, Junction-to-Ambient**



Normalized Thermal Transient Impedance, Junction-to-Ambient



➤ Package Information



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