



SSC8121GS6

P-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-20V	$\pm 8V$	180m Ω @-4V5	-1.2A
		210m Ω @-2V5	
		255m Ω @-1V8	

➤ Description

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications 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.

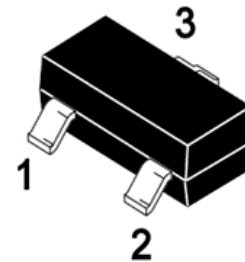
➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion

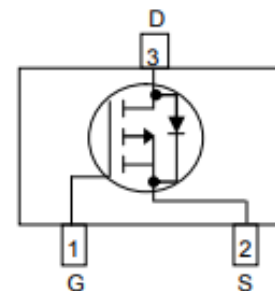
➤ Ordering Information

Device	Package	Shipping
SSC8121GS6	SOT-23	3000/Reel

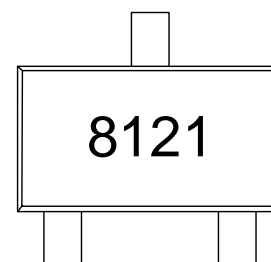
➤ Pin configuration



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	-20	V
V_{GSS}	Gate-to-Source Voltage	± 8	V
I_D	Continuous Drain Current	-1.2	A
I_{DM}	Pulsed Drain Current	-5.5	A
P_D	Power Dissipation	0.55	W
T_J	Operation junction temperature	-55~150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55~150	$^{\circ}\text{C}$

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

Symbol	Parameter	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance	227	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	112	

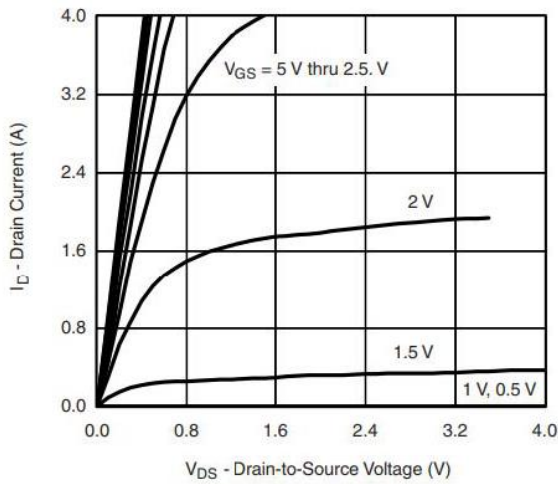


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

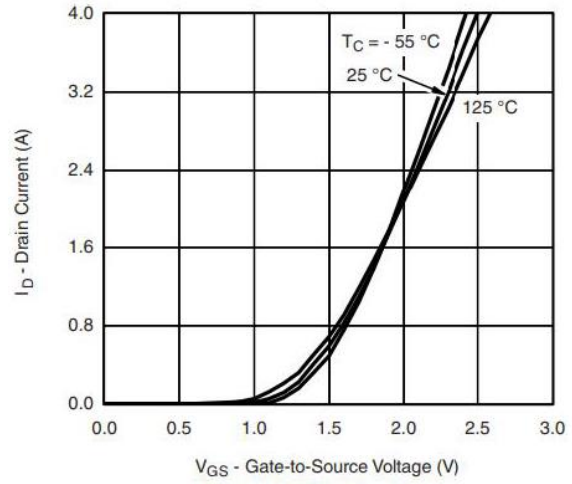
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.45	-0.75	-1.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -0.45A		180	350	mΩ
		V _{GS} = -2.5V, I _D = -0.35A		210	450	
		V _{GS} = -1.8V, I _D = -0.25A		255	700	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -20V, V _{GS} = 0V			-1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±100	nA
Transconductance	G _{FS}	V _{DS} = -5V, I _D = -1.4A		6.5		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -1A	-0.5		-1.2	V
Input Capacitance	C _{ISS}	V _{DS} = -6V, V _{GS} = 0V, f = 1MHz		376		pF
Output Capacitance	C _{OSS}			187		
Reverse Transfer Capacitance	C _{RSS}			78		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = -6V, V _{GEN} = -4.5V, R _L = 6Ω, R _G = 6Ω, I _D = -10A		13	25	ns
Turn-off Delay Time	T _{D(OFF)}			42	70	



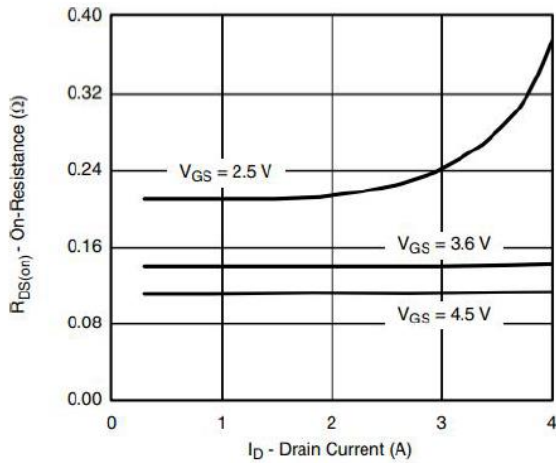
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



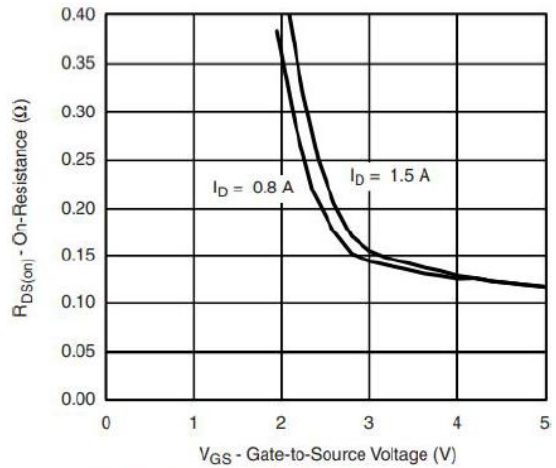
Output Characteristics



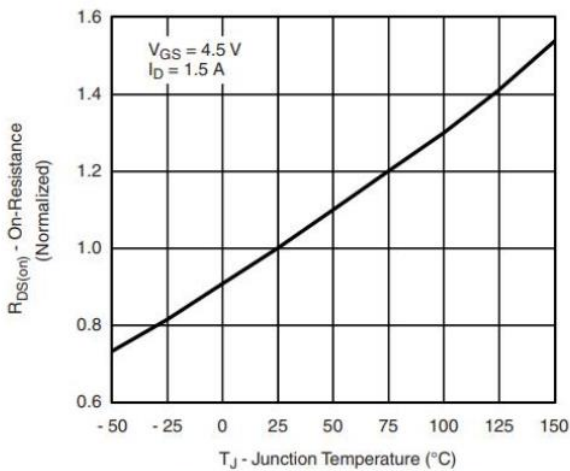
Transfer Characteristics



On-Resistance vs. Drain Current

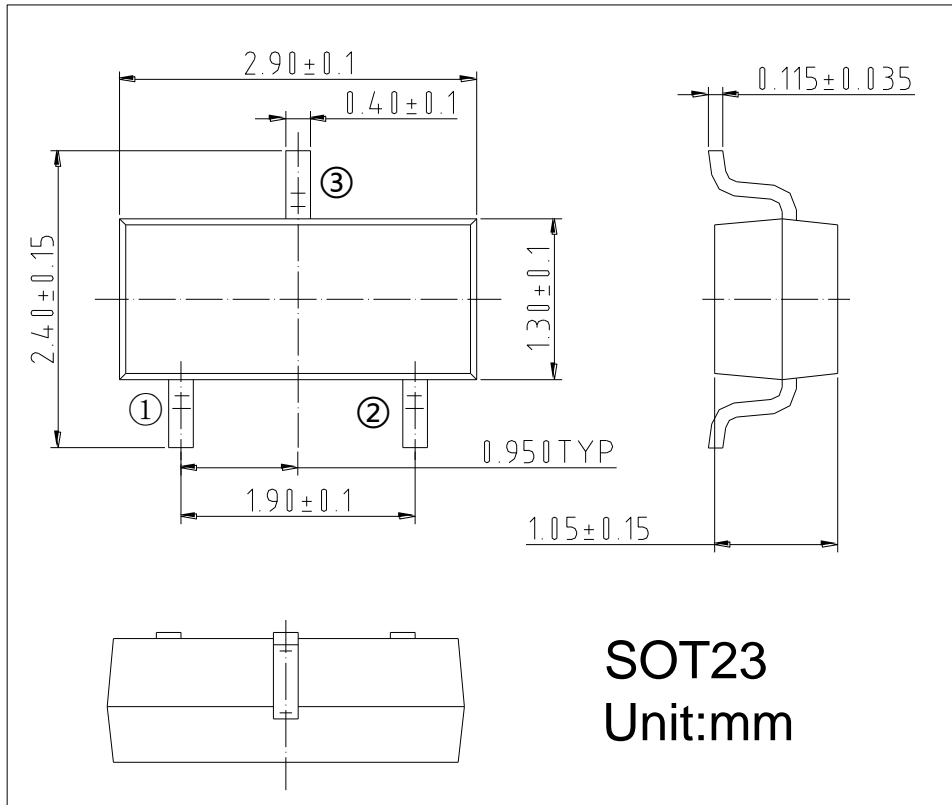


On-Resistance vs. Gate-to-Source Voltage

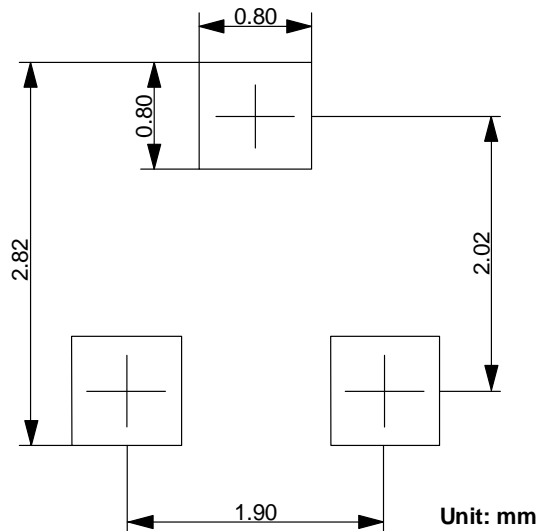


On-Resistance vs. Junction Temperature

➤ Package Information



➤ Recommended Pad outline





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