



SSC8L82GT4

N-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
80V	$\pm 20V$	$3.8m\Omega@10V$	171A

➤ Description

This device is N-Channel enhancement MOSFET. Uses SGT technology and design to provide excellent $R_{DS(ON)}$ with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100% UIS + ΔV_{DS} + R_g Tested!

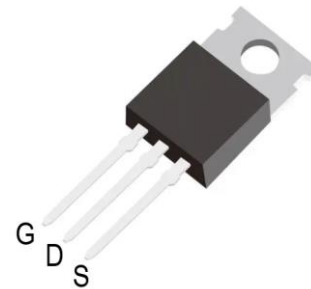
➤ Applications

- Load Switch
- PWM Application
- Power Management
- DC-DC Conversion

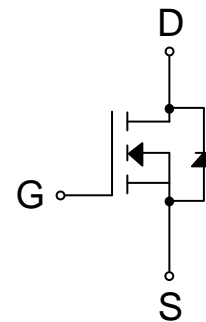
➤ Ordering Information

Device	Package	Shipping
SSC8L82GT4	TO-220-3L	50/Tube

➤ Pin configuration



TO-220-3L (Top View)



Pin Configuration



Marking

(XXYY: Internal Traceability Code)

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

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		80	V
V_{GSS}	Gate-to-Source Voltage		± 20	V
I_D	Continuous Drain Current ^d	$T_C=25^{\circ}\text{C}$	171	A
		$T_C=100^{\circ}\text{C}$	95	
I_{DSM}	Continuous Drain Current ^a	$T_A=25^{\circ}\text{C}$	20	A
		$T_A=70^{\circ}\text{C}$	15	
I_{DM}	Pulsed Drain Current ^b		684	A
P_D	Power Dissipation ^c	$T_C=25^{\circ}\text{C}$	179	W
		$T_C=100^{\circ}\text{C}$	71	
P_{DSM}	Power Dissipation ^a	$T_A=25^{\circ}\text{C}$	2.5	W
		$T_A=70^{\circ}\text{C}$	1.6	
I_{AS}	Avalanche Current ^b $L=0.5\text{mH}$ Single Pulse		40	A
E_{AS}	Avalanche Energy ^b $L=0.5\text{mH}$ Single Pulse		400	mJ
T_J	Operation junction temperature		-55~150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range		-55~150	

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

Symbol	Parameter	Type	Max.	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	50	65	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	0.7	1.0	

Note:

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

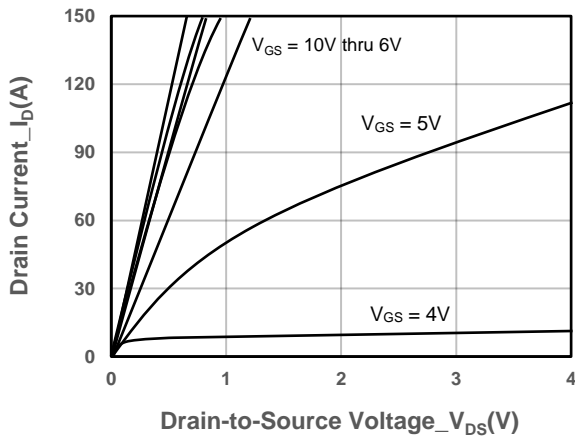


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

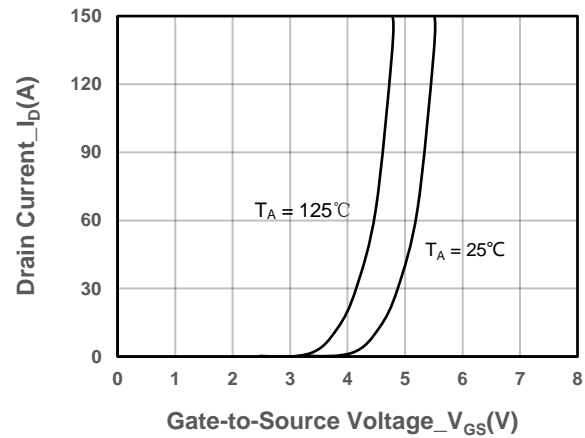
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	80			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	2	3	4	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 20A		3.8	4.9	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 80V, V _{GS} = 0V			1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Transconductance	G _{FS}	V _{DS} = 5V, I _D = 20A		30		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 20A		0.7	1.4	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		2.6		Ω
Input Capacitance	C _{ISS}	V _{DS} = 40V, V _{GS} = 0V, f = 1MHz		3240		pF
Output Capacitance	C _{OSS}			1060		
Reverse Transfer Capacitance	C _{RSS}			30		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 40V, I _D = 20A		48		nC
Gate to Source Charge	Q _{GS}			16		
Gate to Drain Charge	Q _{GD}			12		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 40V, R _L = 2Ω, R _G = 3Ω,		18		ns
Rise Time	T _r			27		
Turn-off Delay Time	T _{D(OFF)}			30		
Fall Time	T _f			9		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=100A/us		50		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/us		80		nC



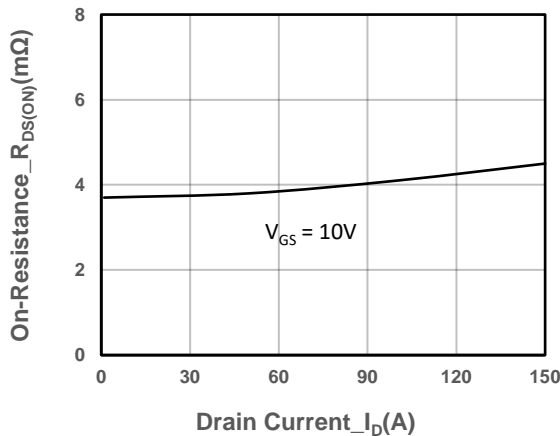
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



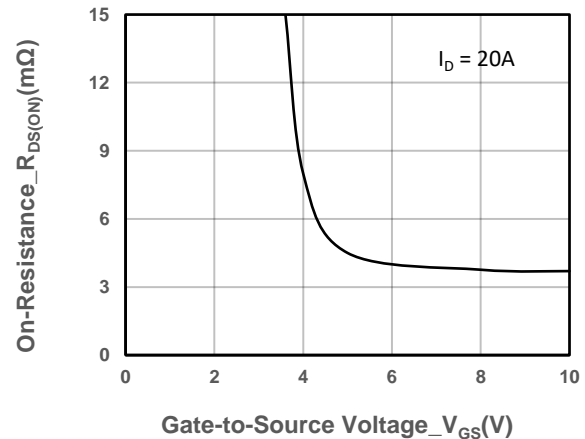
Output Characteristics



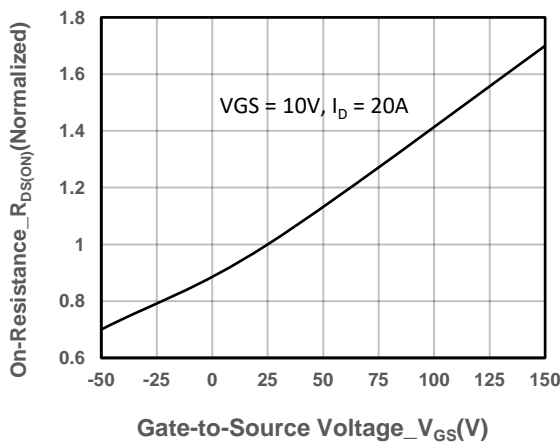
Transfer Characteristics



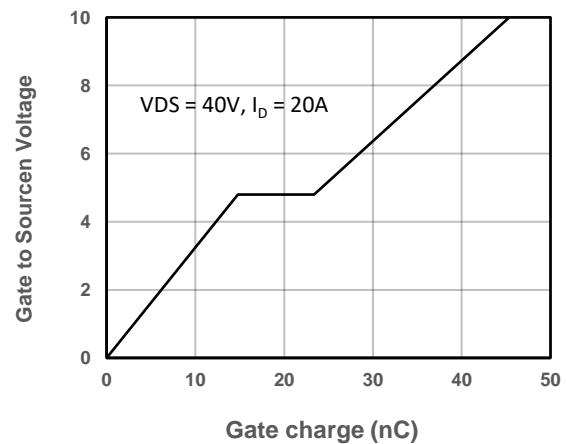
On-Resistance vs. Drain Current and Gate Voltage



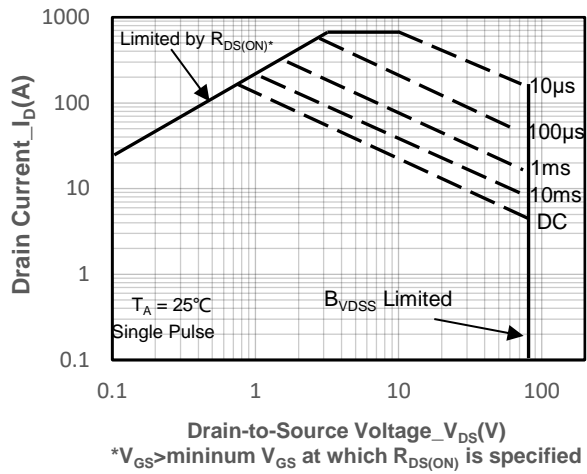
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature



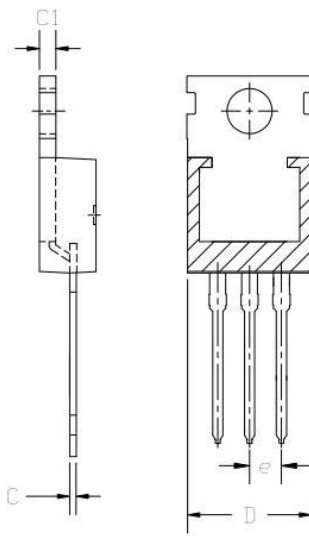
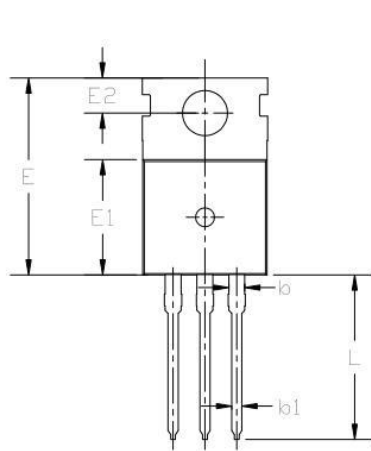
Gate-Source Voltage vs. Gate charge



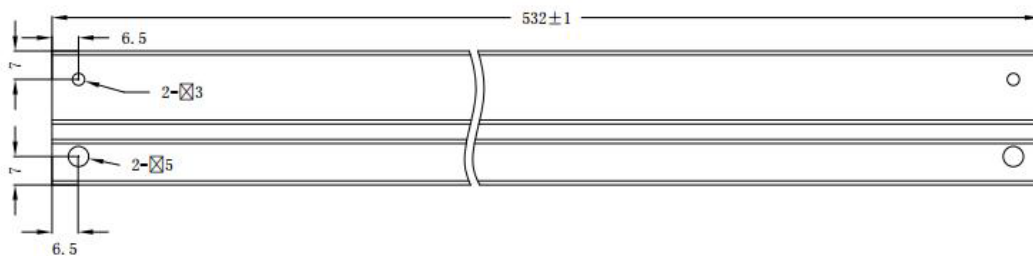
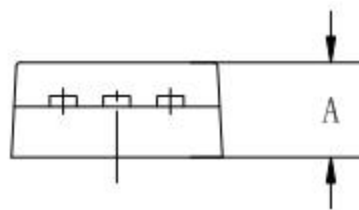
Safe Operating Area vs. Junction-to-Ambient



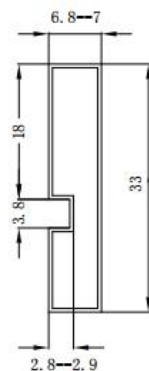
➤ Package Information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	4.40	--	4.60
b	1.20	--	1.36
b1	0.70	--	0.90
C	0.48	--	0.53
C1	1.28	--	1.32
D	9.80	10.00	10.20
E	15.20	15.45	15.75
E1	9.00	9.20	9.40
E2	2.60	--	2.90
e	--	2.54	--
L	13.00	--	13.40



T=0.5 ±0.1



技术要求:

1. 材料: 透明PVC
2. 表面电阻: $10E5 \sim 10E10$ OHMS/SQ
3. 未注尺寸公差 ± 0.3
4. 黑色钉子由厂家出货时塞于左端



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