



SSC8LA20GT6

N-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)}	I _D
100V	±20V	3.4mΩ@10V	170A

➤ Description

This device is N-Channel enhancement MOSFET. Uses SGT technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100% UIS + ΔVDS + Rg Tested!

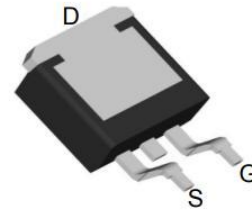
➤ Applications

- Motor Drive Control
- Portable Devices
- DCDC Conversion
- Power Supplies
- Synchronous Rectification

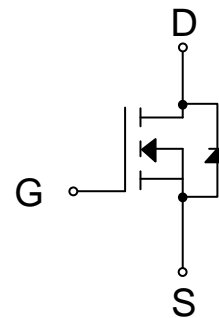
➤ Ordering Information

Device	Package	Shipping
SSC8LA20GT6	TO-263-3L	1000/Box

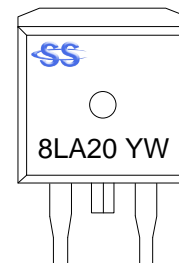
➤ Pin Configuration



TO-263-3L (Bottom View)



Pin Configuration



Marking

(YW: 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	100	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^d	$T_C=25^{\circ}\text{C}$	170
		$T_C=100^{\circ}\text{C}$	100
I_{DSM}	Continuous Drain Current ^a	$T_A=25^{\circ}\text{C}$	20
		$T_A=70^{\circ}\text{C}$	15
I_{DM}	Pulsed Drain Current ^b	680	A
P_D	Power Dissipation ^c	$T_C=25^{\circ}\text{C}$	192
		$T_C=100^{\circ}\text{C}$	76
P_{DSM}	Power Dissipation ^a	$T_A=25^{\circ}\text{C}$	3.1
		$T_A=70^{\circ}\text{C}$	2
I_{AS}	Avalanche Current ^b L=0.5mH Single Pulse	40	A
E_{AS}	Avalanche Energy ^b L=0.5mH 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	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	55	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	0.65	

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.

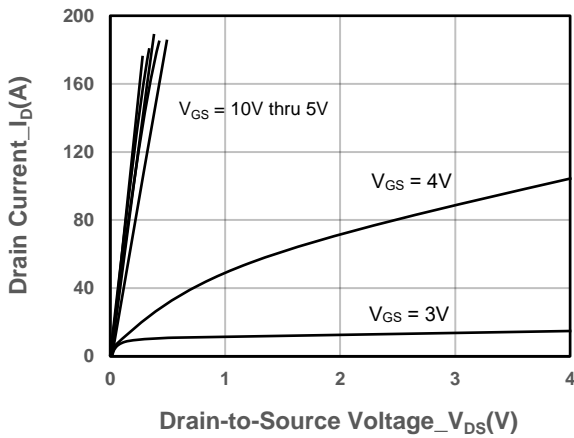


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

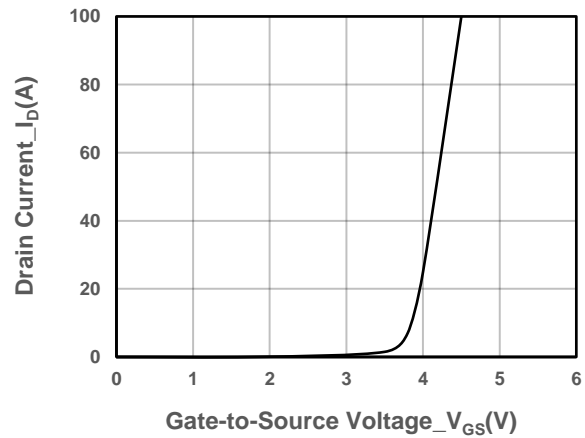
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	2	3	4	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 30A		3.4	4	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 100V, 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		60		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 10A		0.8	1.3	V
Input Capacitance	C _{ISS}	V _{DS} = 50V, V _{GS} = 0V, f = 1MHz		5200		pF
Output Capacitance	C _{OSS}			1400		
Reverse Transfer Capacitance	C _{RSS}			40		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 50V, I _D = 20A		84		nC
Gate to Source Charge	Q _{GS}			22		
Gate to Drain Charge	Q _{GD}			21		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 50V, I _D = 20A, R _G = 6Ω		20		ns
Rise Time	T _r			34		
Turn-off Delay Time	T _{D(OFF)}			70		
Fall Time	T _f			45		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=100A/us		80		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/us		170		nC



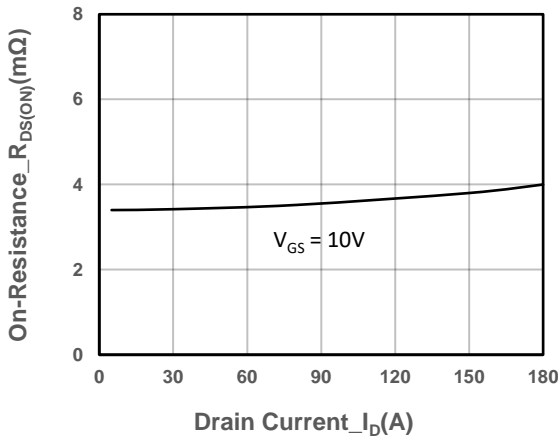
➤ **Typical Performance Characteristics (T_A=25°C unless otherwise noted)**



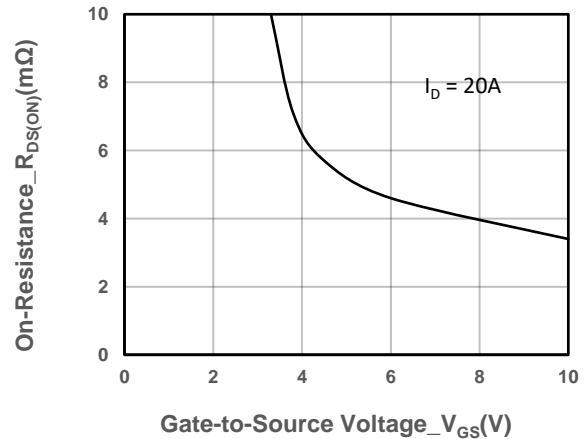
Output Characteristics



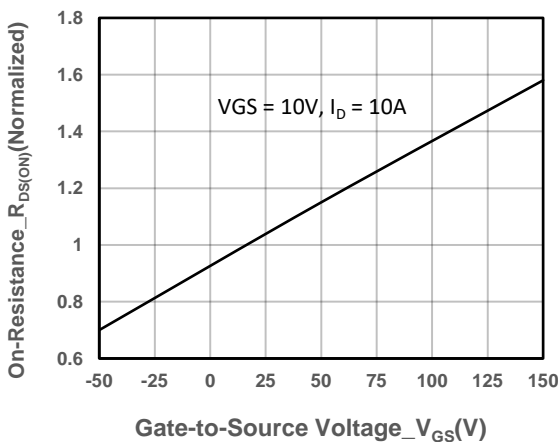
Transfer Characteristics



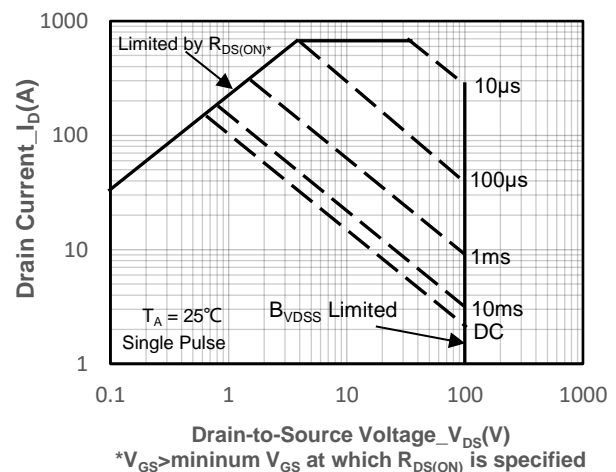
On-Resistance vs. Drain Current and Gate Volt



On-Resistance vs. Gate-to-Source Voltage



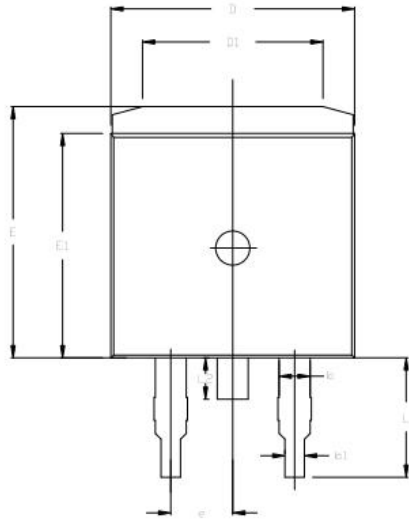
On-Resistance vs. Junction Temperature



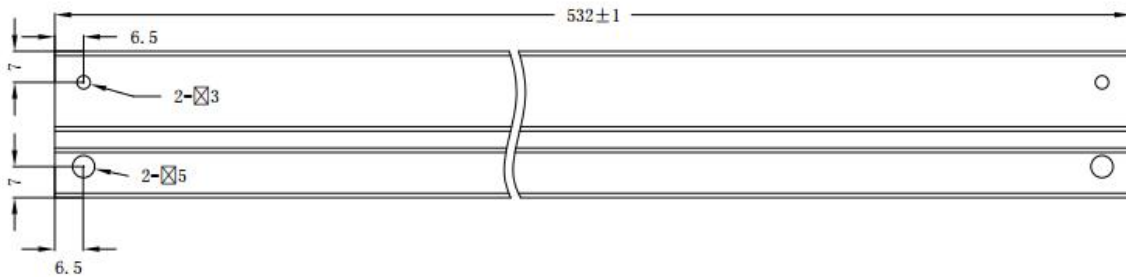
Safe Operating Area vs. Junction-to-Ambient



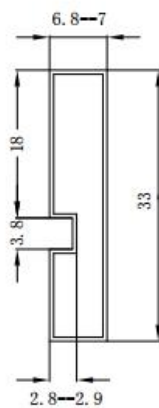
Package Information



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
C2	0.04	0.12	0.20
D	9.80	10.00	10.20
D1	7.25	7.40	7.55
E	10.20	10.30	10.40
E1	9.10	9.20	9.30
e	--	2.54	--
L	4.70	4.90	5.10
L1	2.40	2.60	2.80
L2	1.50	1.70	1.90



T=0.5 ±0.1



技术要求:

1. 材料: 透明PVC
2. 表面电阻: 10E5~10E10 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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