SSC8LA12GT4

N-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$	I_D
100V	±20V	3.7mΩ@10V	150A
		4.9mΩ@4V5	

➢ 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!

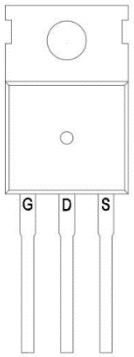
➢ Applications

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

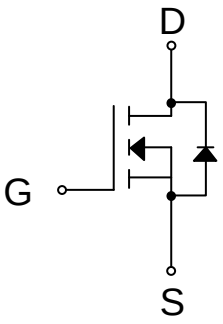
➢ Ordering Information

Device	Package	Shipping
SSC8LA12GT4	TO-220-3L	50/Tube

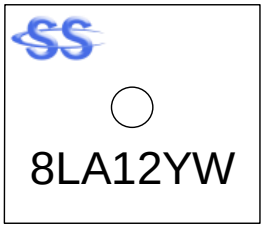
➢ Pin Configuration



TO-220-3L (Top View)



Pin Configuration



Marking

(YW: Internal Traceability Code)

➢ Absolute Maximum Ratings (T_A=25℃ 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℃	150	A
		T_C=100℃	69	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	26	A
		T_A=70℃	19	
I_{DM}	Pulsed Drain Current [b]		450	A
P_D	Power Dissipation [c]	T_C=25℃	96	W
		T_C=100℃	38	
P_{DSM}	Power Dissipation [a]	T_A=25℃	4.2	W
		T_A=70℃	2.7	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		45	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		506	mJ
T_J	Operation junction temperature		-55~150	℃
T_{STG}	Storage temperature range		-55~150	

➢ Thermal Resistance Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	30	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.0	

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t≤10s thermal resistance rating.

b. Repetitive rating, pulse width limited by junction temperature.

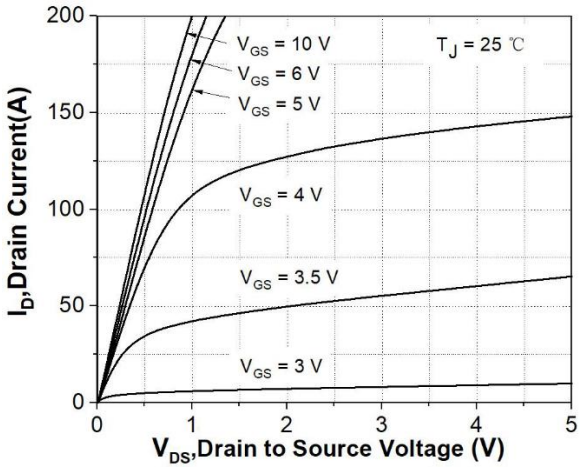
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

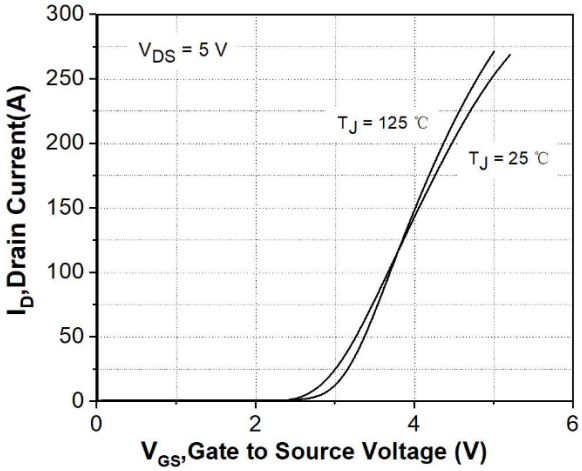
d. The maximum current rating is package limited.

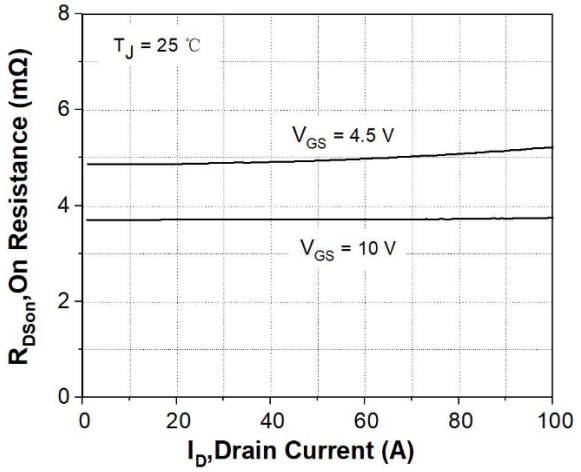
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

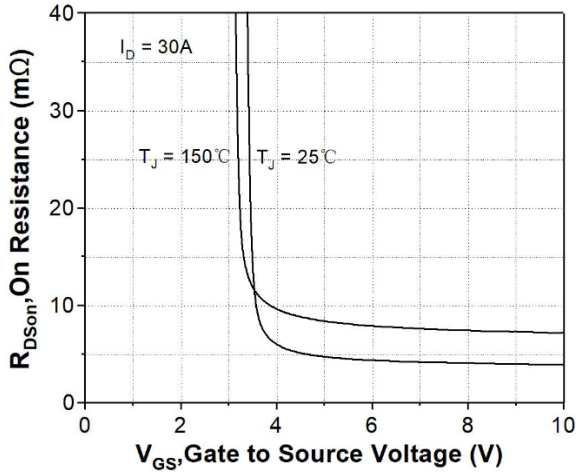
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	100			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250uA	1.4	2	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 30A		3.7	5	mΩ
		V_{GS} = 4.5V, I_D = 20A		4.9	7.5	
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		60		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = 20A		0.8	1.3	V
Gate Resistance	R_G	V_{DS} = 0V, f = 1MHz		2.7		Ω
Input Capacitance	C_{ISS}	V_{DS} = 50V, V_{GS} = 0V, f = 1MHz		4560		pF
Output Capacitance	C_{OSS}			674		
Reverse Transfer Capacitance	C_{RSS}			31		
Total Gate Charge	Q_G	V_{GS} = 10V, V_{DS} = 50V, I_D = 20A		64		nC
Gate to Source Charge	Q_{GS}			15		
Gate to Drain Charge	Q_{GD}			11		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = 10V, V_{DS} = 50V, R_L = 2.5Ω, R_G = 3Ω		22		ns
Rise Time	T_r			27		
Turn-off Delay Time	$T_{D(OFF)}$			66		
Fall Time	T_f			73		
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		110		nC

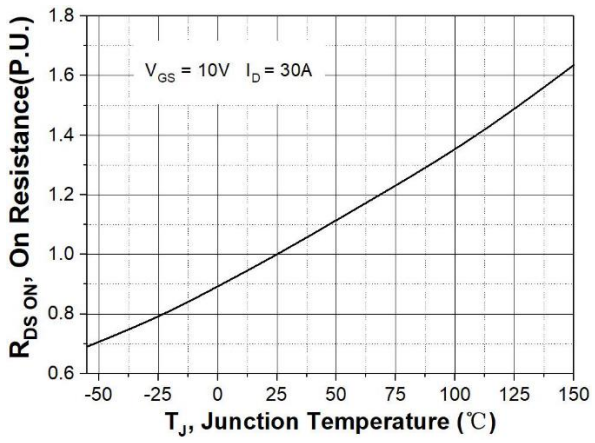
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)

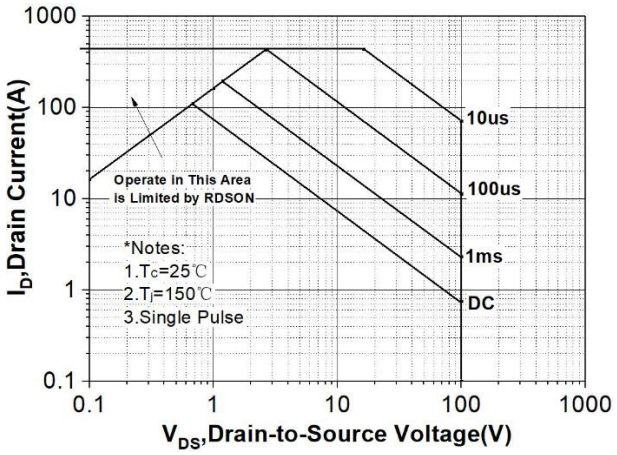




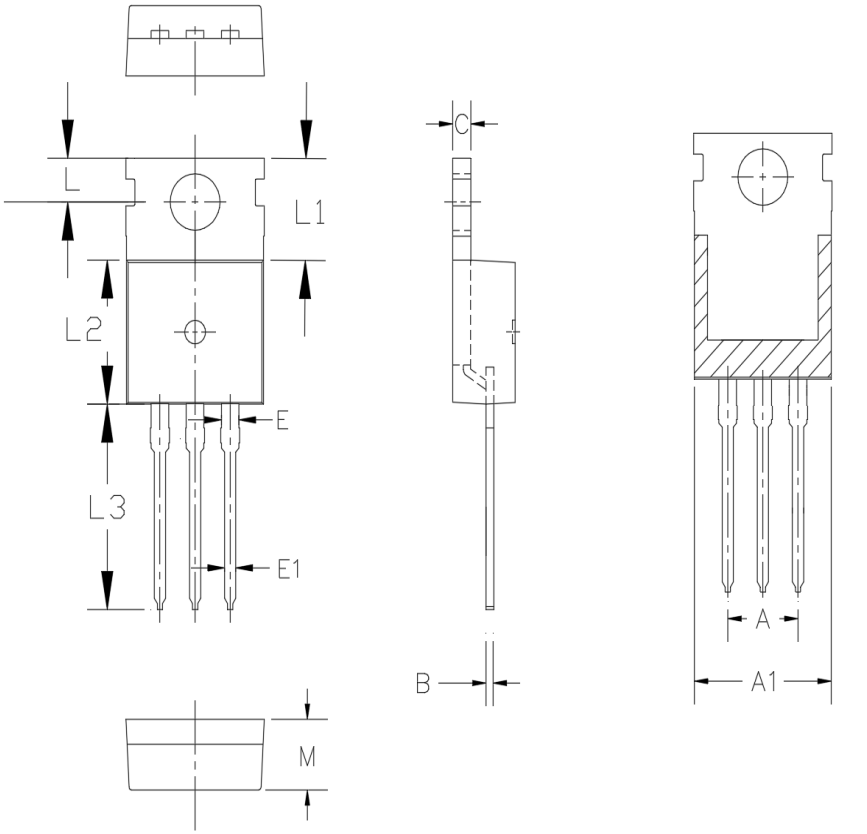




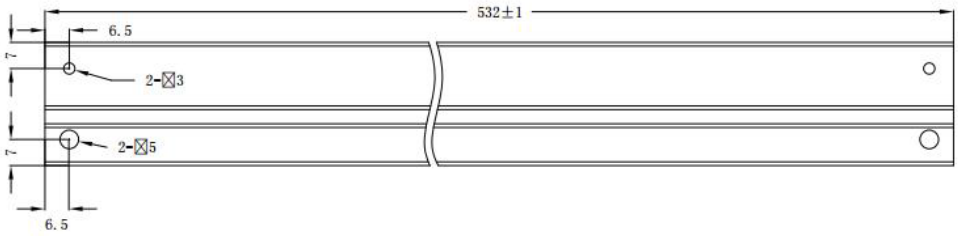




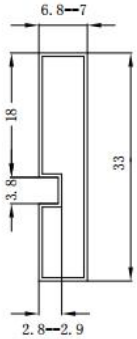
➢ Package Information



Symbol	MILL IMETER		
	Min	Nom	Max
A	5.08 BSC		
A1	9.00	10.00	11.00
B	0.33	--	0.65
C	1.20	--	1.40
E	1.17	--	1.37
E1	0.60	--	1.10
L	2.50	--	3.00
L1	6.3	6.5	6.7
L2	8.95	--	9.75
L3	12.88	--	13.40
M	4.30	--	4.70



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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