SSC8130GT8

N-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	4mR@10V	100A
		6mR@4.5V	

➢ Description

This device is N-Channel enhancement MOSFET. Uses advanced trench 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.

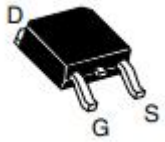
➢ Applications

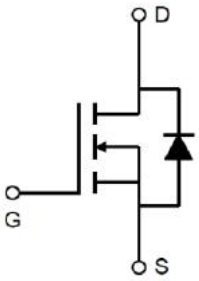
- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

➢ Ordering Information

Device	Package	Shipping
SSC8130GT8	TO-252	2500/Reel

➢ Pin configuration





Marking

（Y:Product Year/W: Product Week）

➢ Absolute Maximum Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		30	V
V_{GSS}	Gate-to-Source Voltage		±20	V
I_D	Continuous Drain Current [d]	T_C=25℃	100	A
		T_C=100℃	60	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	36	A
		T_A=70℃	26	
I_{DM}	Pulsed Drain Current [b]		300	A
P_D	Power Dissipation [c]	T_C=25℃	78	W
		T_C=100℃	31	
P_{DSM}	Power Dissipation [a]	T_A=25℃	8.3	W
		T_A=70℃	5.3	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		25	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		156	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]	15	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.6	

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.

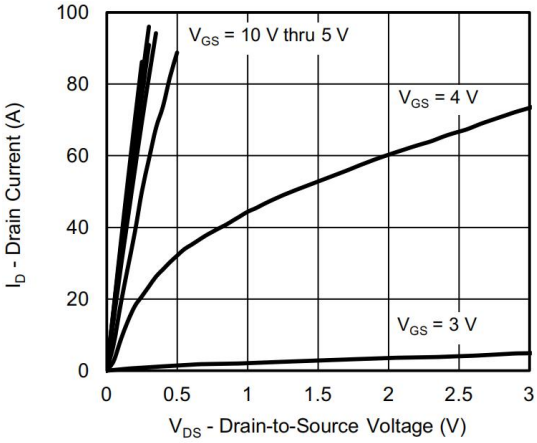
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

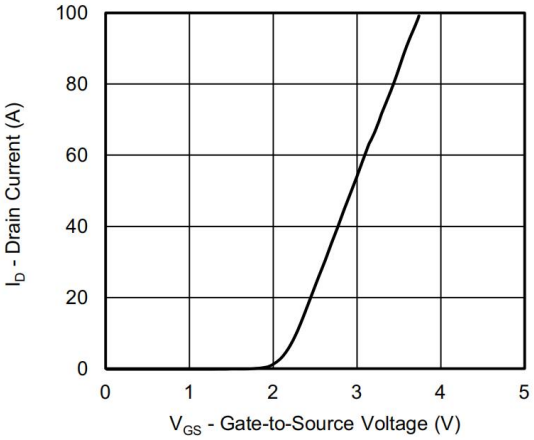
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V ,ID=250uA	30			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS ,ID=250uA	1	1.7	2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=20A		4	5.5	mR
		VGS=4.5V , ID=15A		6	7.5	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=24V ,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V ,VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=5V ,ID=5A		14		S
V_{SD}	Forward Voltage	VGS=0V , IS=10A		0.81	1.3	V
Ciss	Input Capacitance	VDS=15V , VGS=0V, f=1MHz		2078		pF
Coss	Output Capacitance			296		
Crss	Reverse Transfer Capacitance			265		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, RL=1.5R VDS=15V , RG=1R		11		ns
Tr	Rise time			68		
$T_{D(OFF)}$	Turn-off delay time			94		
Tf	Fall time			53		
Q_G	Total Gate Charge	VGS=10V, VDS=15V ID=30A		38		nC
Q_{GS}	Gate Source Charge			8		
Q_{GD}	Gate Drain Charge			9.3		
Trr	Diode Recovery Time	IF=20A , di/dt=100A/us		15		ns
Qrr	Diode Recovery Charge	IF=20A , di/dt=100A/us		6.0		uC

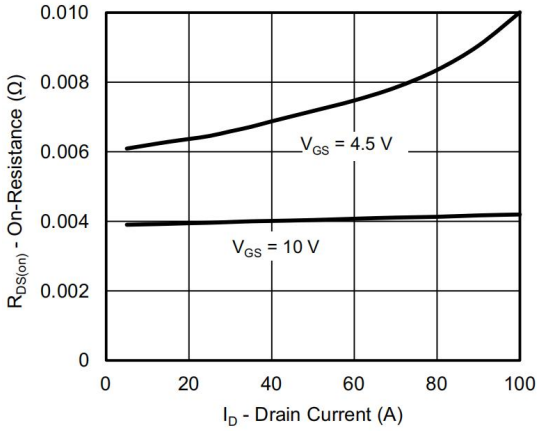
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



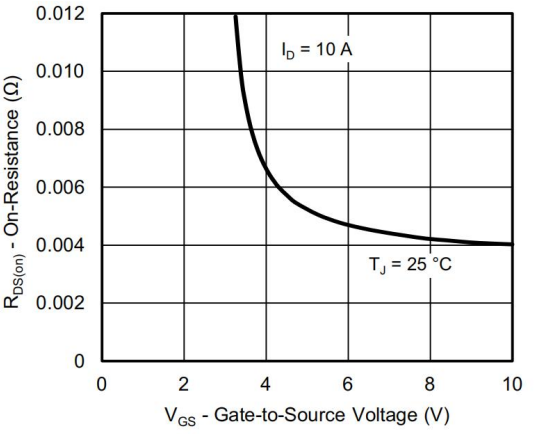
Output Characteristics



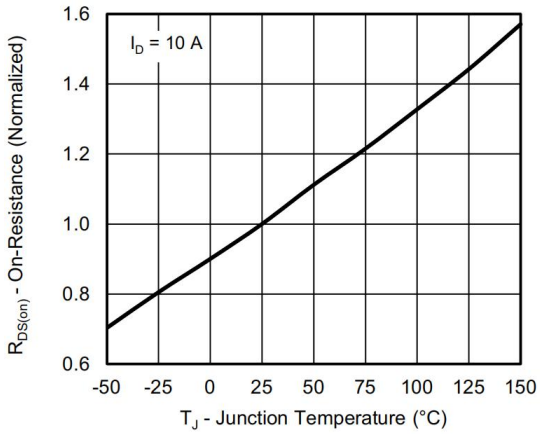
Transfer Characteristics



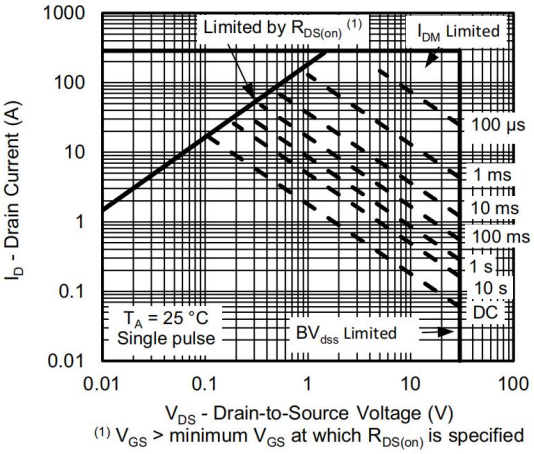
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

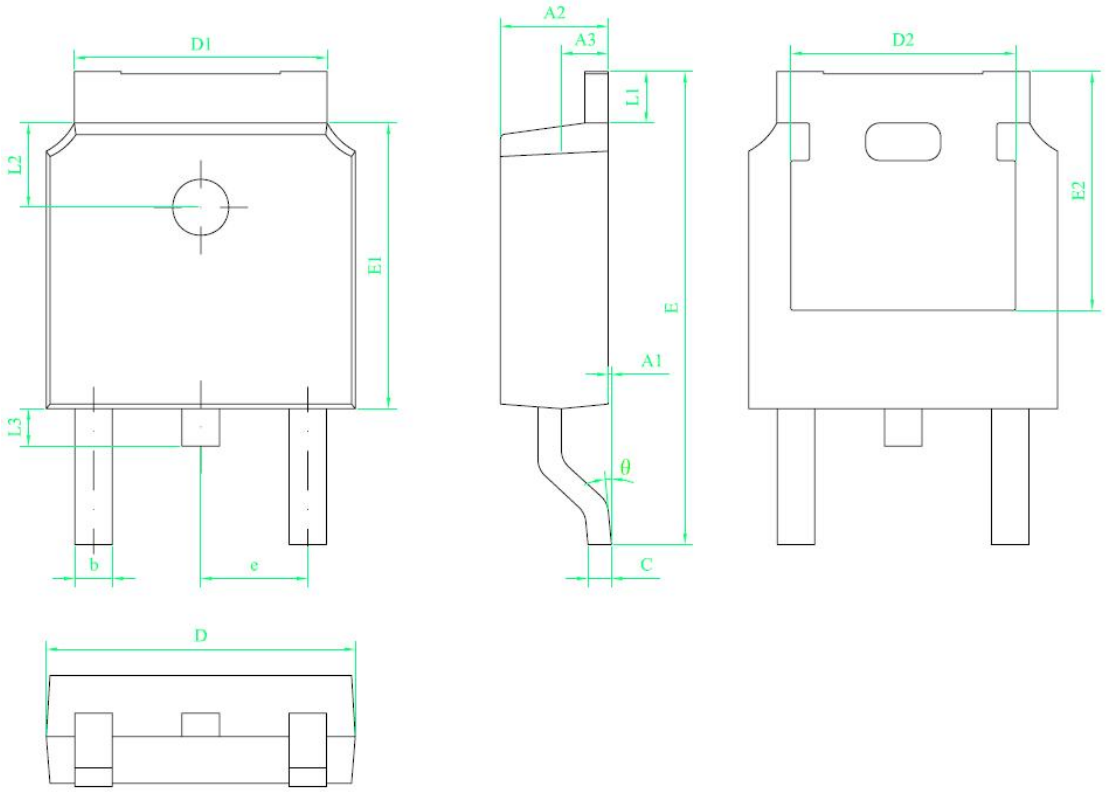


On-Resistance vs. Junction Temperature



Safe Operating Area

➢ Package Information

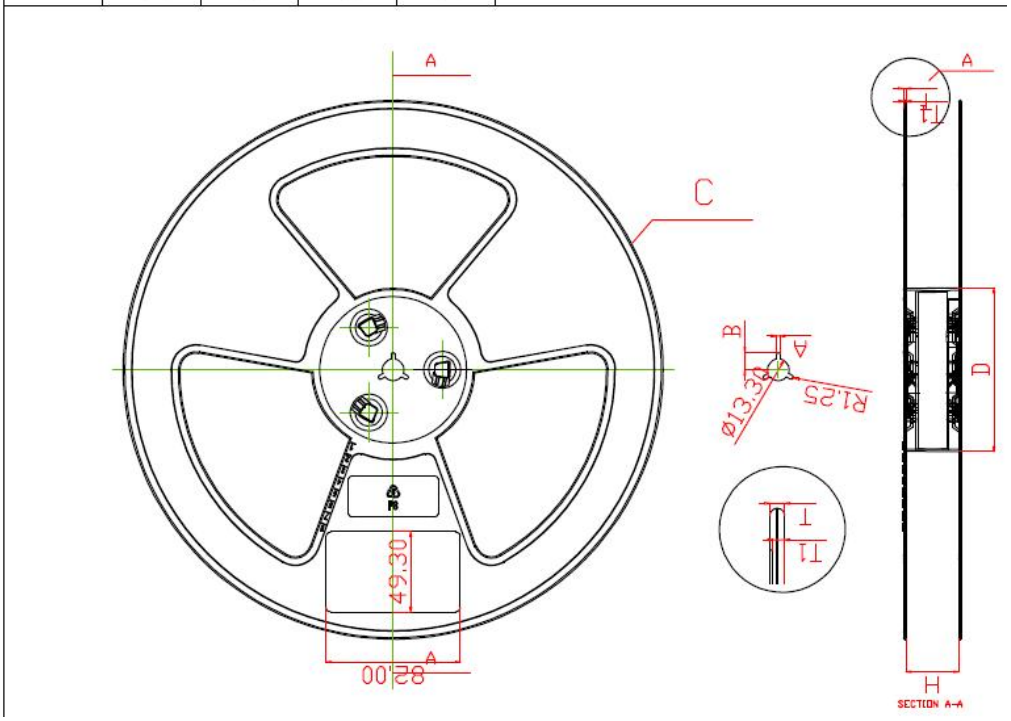


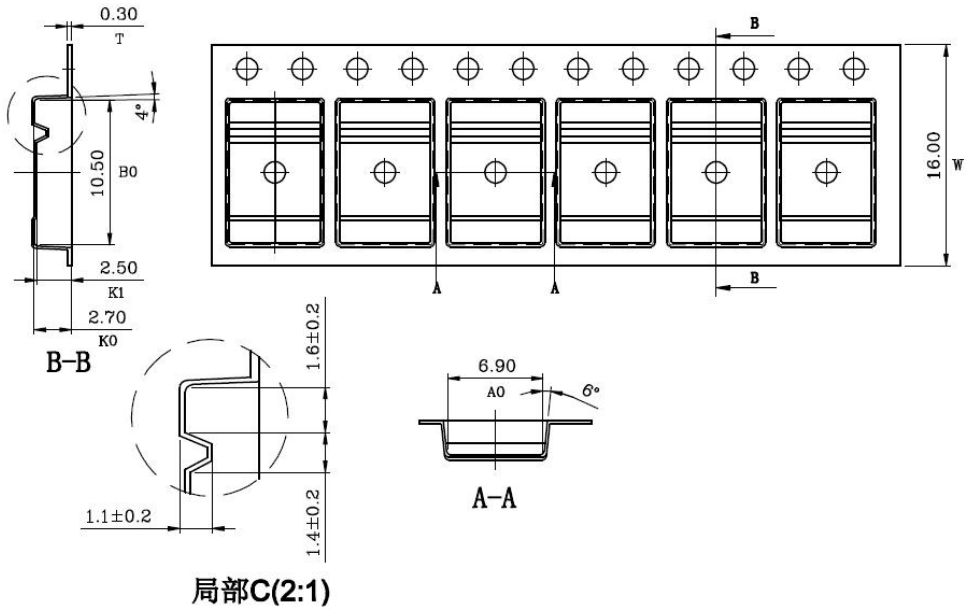
符 号	尺 寸		
	min	nom	max
A1	0	----	0.10
A2	2.20	2.30	2.40
A3	0.90	1.00	1.10
b	0.75	----	0.85
c	0.50	----	0.60
D	6.50	6.60	6.70
D1	5.30	5.40	5.50
D2	4.70	4.80	4.90
E	9.90	10.10	10.30
E1	6.00	6.10	6.20
E2	5.20	5.30	5.40
e	2.20	2.286	2.40
L1	0.90	----	1.25
L2	1.70	1.80	1.90
L3	0.60	0.80	1.00
θ	0°	----	8°

➢ Tape and Reel

材质： PS　　**未标注公差：** ± 0.2

H	12	16	24	32
C±0.2	330	330	330	330
T1±0.2	1.45	1.45	1.45	1.45
B±0.2	10.7	10.7	10.7	10.7
A±0.2	2.5	2.5	2.5	2.5
T±0.2	1.85	1.85	1.85	1.85
D±0.2	100	100	100	100





局部C(2:1)

DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.