



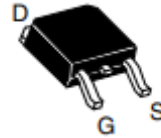
SSC8130GT8

N-Channel Enhanced MOSFET

➤ Features

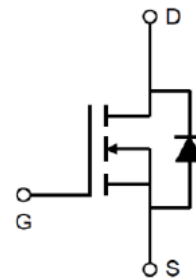
VDS	VGS	RDSON Typ.	ID
30V	±20V	5mR@10V	70A
		8mR@4.5V	

➤ Pin configuration



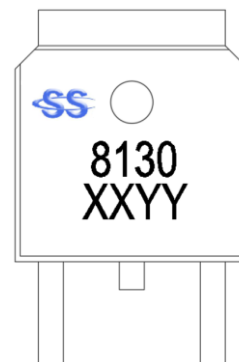
➤ Description

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



Marking

(Y:Product Year/W: Product Week)

➤ Ordering Information

Device	Package	Shipping
SSC8130GT8	TO-252	2500/Reel



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ 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	$T_C=25^{\circ}\text{C}$	70	A
		$T_C=100^{\circ}\text{C}$	35	
I_{DSM}	Continuous Drain Current ^a	$T_A=25^{\circ}\text{C}$	27	A
		$T_A=70^{\circ}\text{C}$	18	
I_{DM}	Pulsed Drain Current ^b	280	A	
P_D	Power Dissipation ^c	$T_C=25^{\circ}\text{C}$	44.6	W
		$T_C=100^{\circ}\text{C}$	17.8	
P_{DSM}	Power Dissipation ^a	$T_A=25^{\circ}\text{C}$	6.9	W
		$T_A=70^{\circ}\text{C}$	4.4	
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	$^{\circ}\text{C}$	
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	18	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	2.8	

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 $T_{J(\text{MAX})}=150^{\circ}\text{C}$, 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.

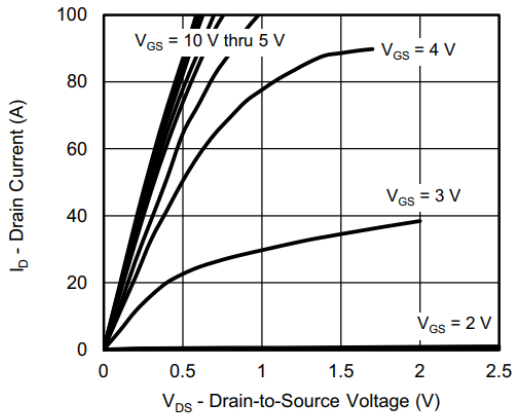


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

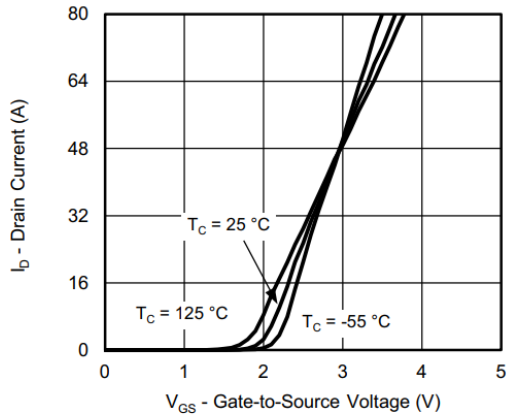
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.7	2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=20A$		5	7	mR
		$V_{GS}=4.5V, I_D=15A$		8	11	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=5V, I_D=5A$		14		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=10A$		0.81	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V,$ $f=1MHz$		2378		pF
C_{oss}	Output Capacitance			415		
C_{rss}	Reverse Transfer Capacitance			60		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V, R_L=1.5R$ $V_{DS}=15V, R_G=1R$		11		ns
T_r	Rise time			17		
$T_{D(OFF)}$	Turn-off delay time			22		
T_f	Fall time			5		
Q_G	Total Gate Charge	$V_{GS}=10V, V_{DS}=50V$ $I_D=30A$		21		nC
Q_{GS}	Gate Source Charge			8		
Q_{GD}	Gate Drain Charge			4		
T_{rr}	Diode Recovery Time	$I_F=20A, di/dt=500A/\mu s$		15		ns
Q_{rr}	Diode Recovery Charge	$I_F=20A, di/dt=500A/\mu s$		24		nC



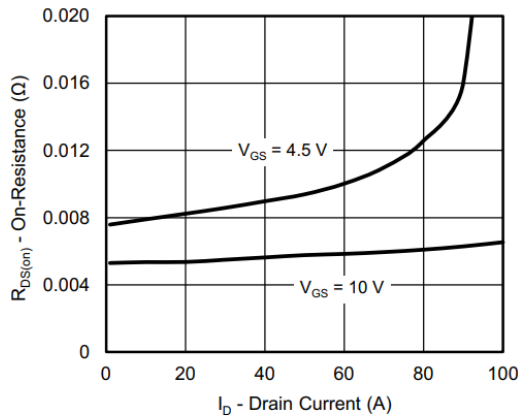
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



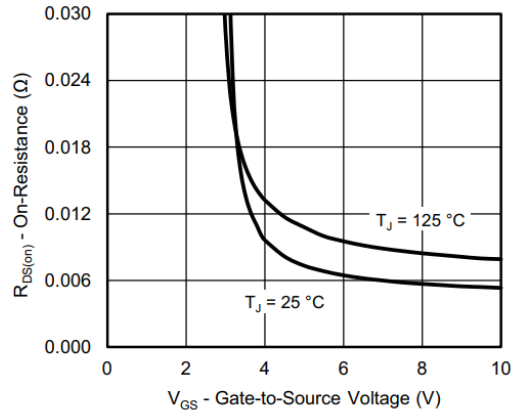
Output Characteristics



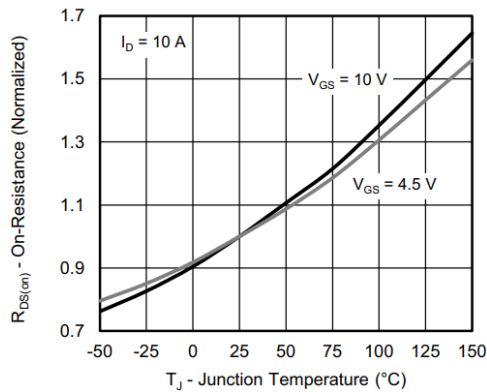
Transfer Characteristics



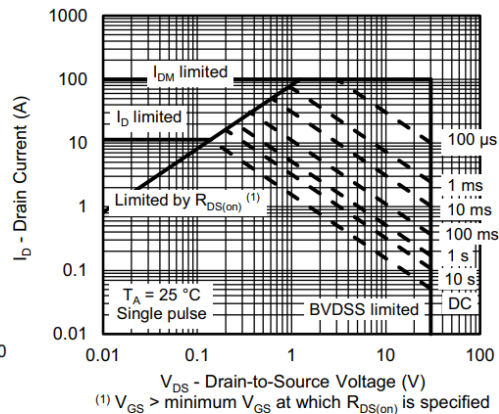
On-Resistance vs. Drain Current



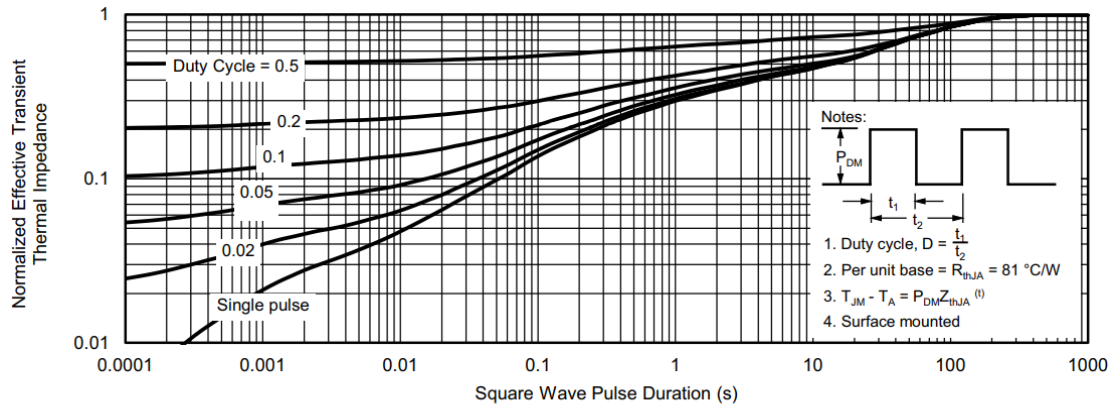
On-Resistance vs. Gate-to-Source Voltage



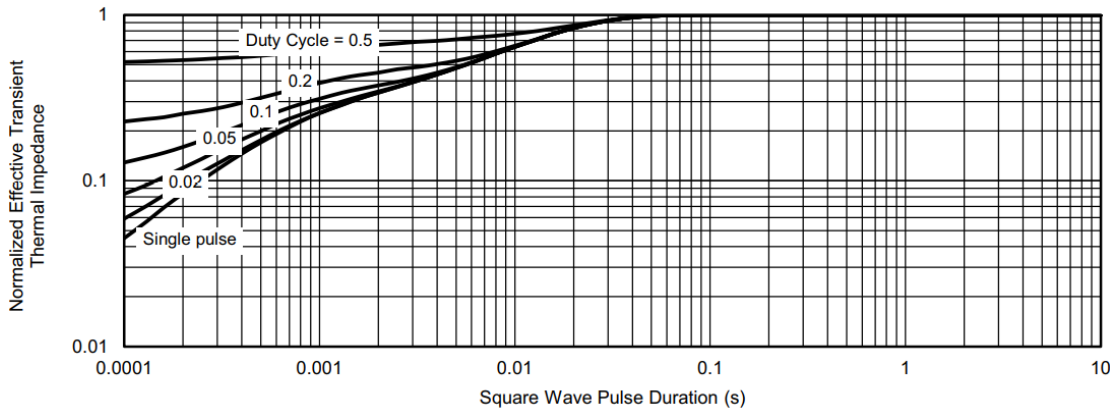
On-Resistance vs. Junction Temperature



Safe Operating Area



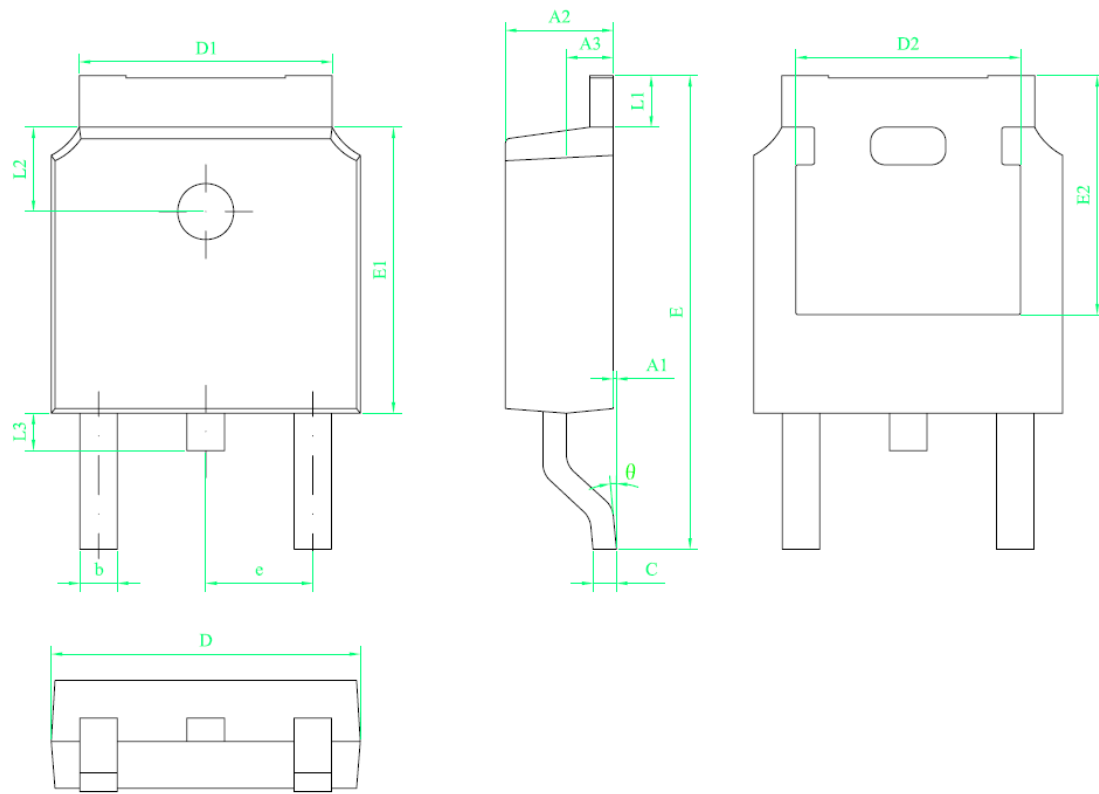
Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Case



➤ Package Information



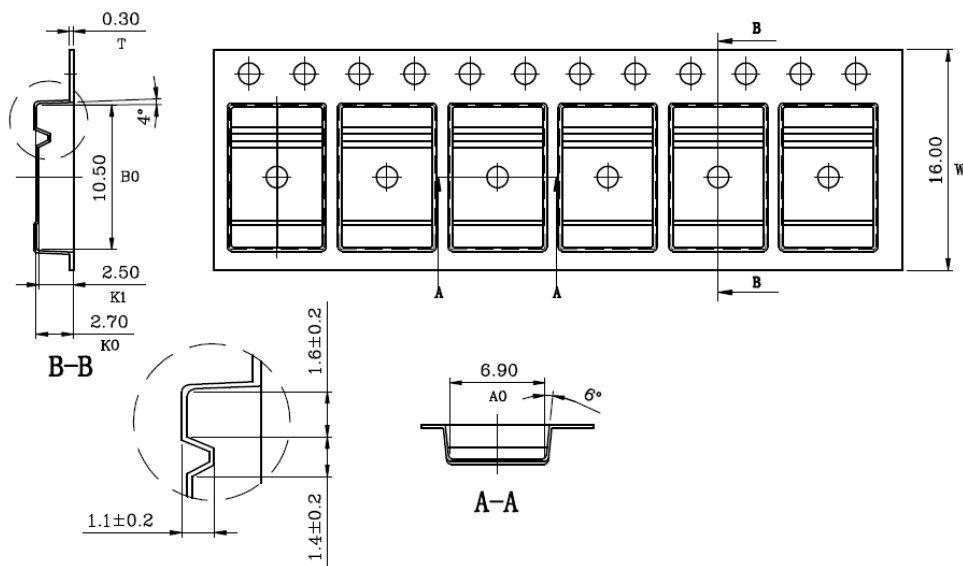
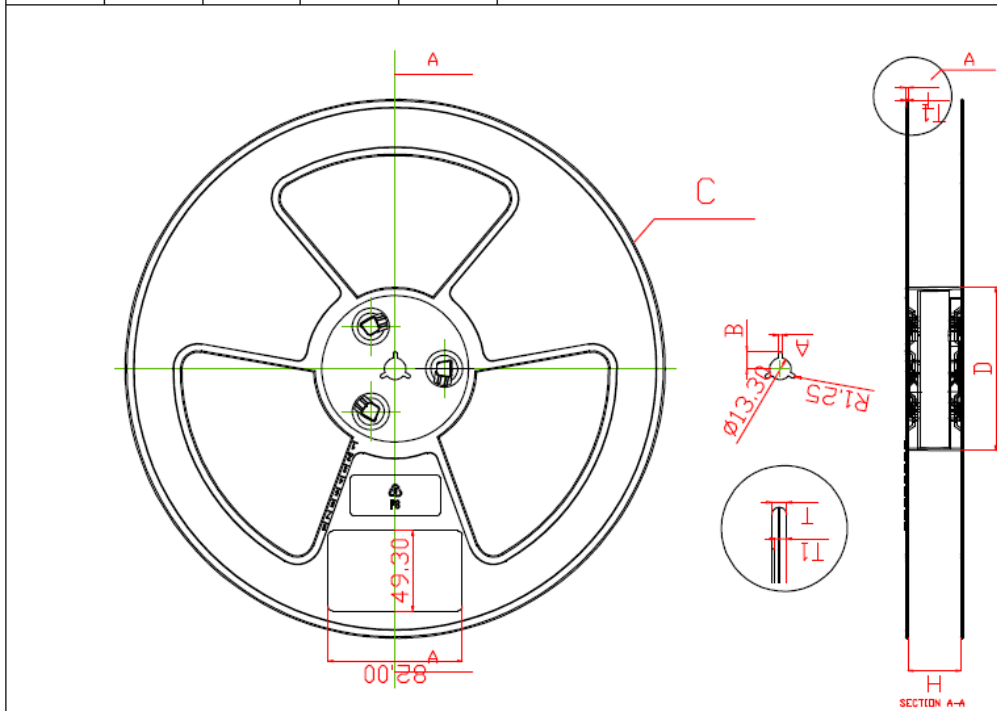
符号	尺寸		
	min	nom	max
A1	0	----	0.10
A2	2.20	2.30	2.40
A3	0.90	1.00	1.10
b	0.75	----	0.85
c	0.50	----	0.60
D	6.50	6.60	6.70
D1	5.30	5.40	5.50
D2	4.70	4.80	4.90
E	9.90	10.10	10.30
E1	6.00	6.10	6.20
E2	5.20	5.30	5.40
e	2.20	2.286	2.40
L1	0.90	----	1.25
L2	1.70	1.80	1.90
L3	0.60	0.80	1.00
θ	0°	----	8°



➤ 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



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