



SSC8L60GT8

N-Channel Enhanced MOSFET

➤ Features

VDS	VGS	RDS(on) Typ.	ID
60V	±20V	3mΩ@10V	120A
		5mΩ@4.5V	

➤ Description

This device is N-Channel enhancement MOSFET. Uses advanced trench technology and design to provide excellent RDS(on) with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100%UIS Test.

➤ Applications

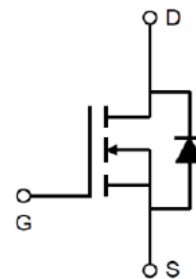
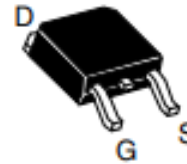
- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

➤ Ordering Information

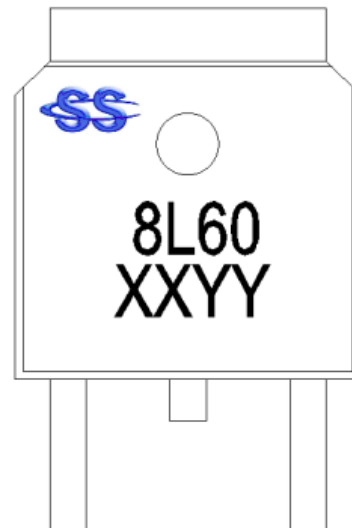
Device	Package	Shipping
SSC8L60GT8	TO-252	2500/Reel

➤ Pin configuration

Top view



TO-252-3



Marking

(XX: product year / YY: product week)

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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	60	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^d	$T_C=25^{\circ}\text{C}$	120
		$T_C=100^{\circ}\text{C}$	60
I_{DSM}	Continuous Drain Current ^a	$T_A=25^{\circ}\text{C}$	35
		$T_A=70^{\circ}\text{C}$	25
I_{DM}	Pulsed Drain Current ^b	480	A
P_D	Power Dissipation ^c	$T_C=25^{\circ}\text{C}$	69
		$T_C=100^{\circ}\text{C}$	27
P_{DSM}	Power Dissipation ^a	$T_A=25^{\circ}\text{C}$	5.9
		$T_A=70^{\circ}\text{C}$	3.8
I_{AS}	Avalanche Current ^b L=0.5mH Single Pulse	50	A
E_{AS}	Avalanche Energy ^b L=0.5mH Single Pulse	625	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	21	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.8	

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.

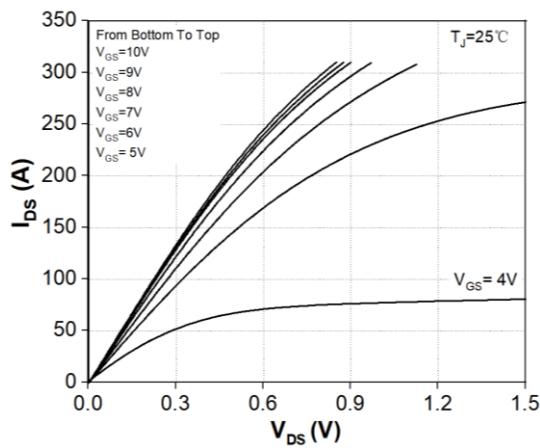


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

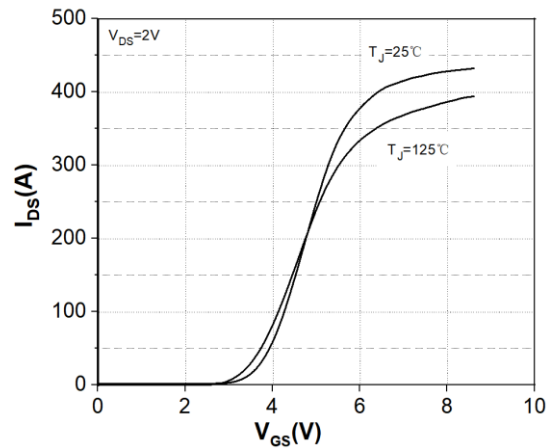
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	2	2.5	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=30A$		3	4	m Ω
		$V_{GS}=4.5V, I_D=20A$		5	6.5	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=48V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=5V, I_D=20A$		42		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=20A$		0.8	1.3	V
R_g	Gate Resistance	$V_{DS}=0V, f=1\text{MHz}$		1		Ω
C_{iss}	Input Capacitance	$V_{DS}=30V, V_{GS}=0V,$ $f=1\text{MHz}$		5300		pF
C_{oss}	Output Capacitance			870		
C_{rss}	Reverse Transfer Capacitance			61		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V, R_L=2.5\Omega$ $V_{DS}=30V, R_G=3\Omega$		21		ns
T_r	Rise time			29		
$T_{D(OFF)}$	Turn-off delay time			59		
T_f	Fall time			25		
Q_G	Total Gate Charge	$V_{GS}=10V, V_{DS}=30V$ $I_D=20A$		85		nC
Q_{GS}	Gate Source Charge			21		
Q_{GD}	Gate Drain Charge			15		
T_{rr}	Diode Recovery Time	$I_F=20A, di/dt=500A/\mu s$		35		ns
Q_{rr}	Diode Recovery Charge	$I_F=20A, di/dt=500A/\mu s$		70		nC



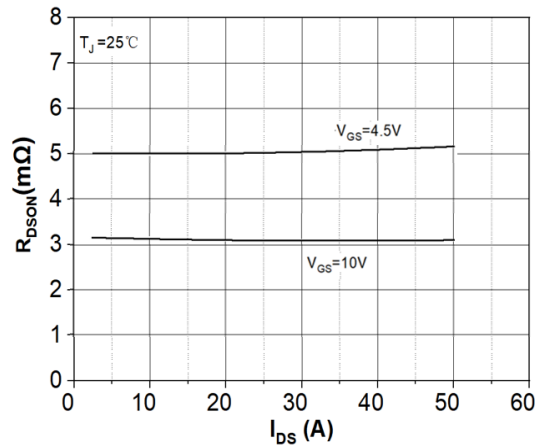
➤ **Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



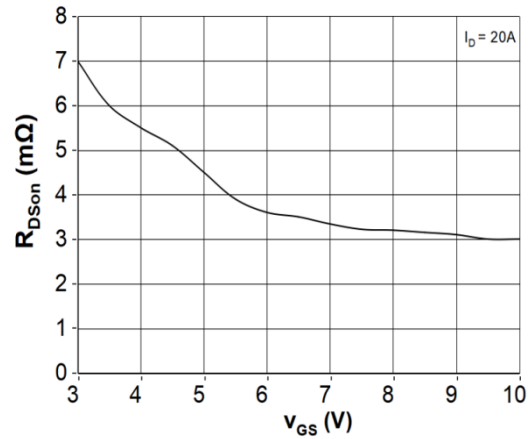
Output Characteristics@ $T_J=25^\circ\text{C}$



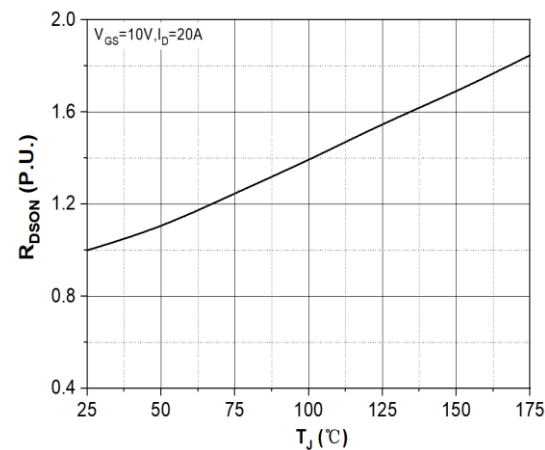
Transfer Characteristics@ $T_J=25/125^\circ\text{C}$



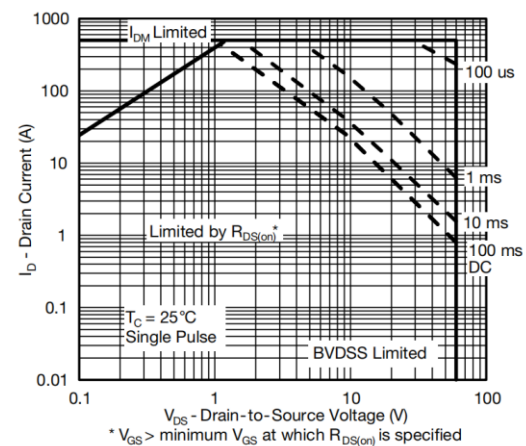
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



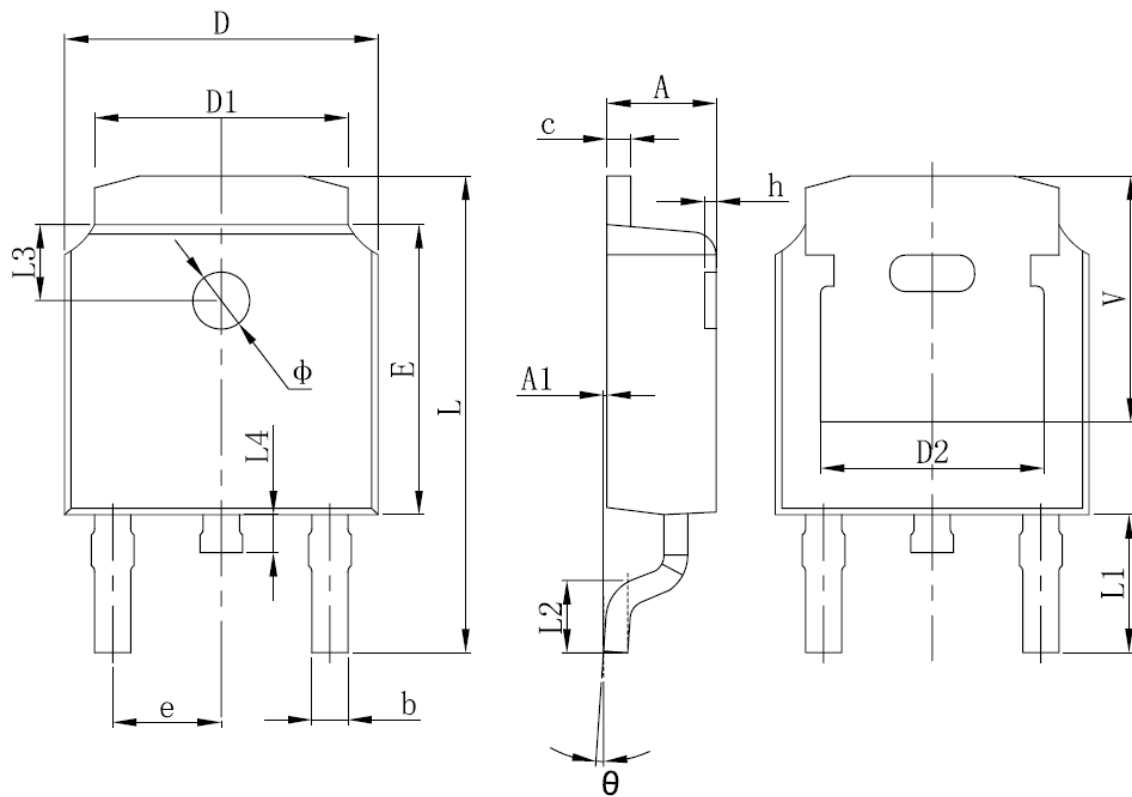
On-Resistance vs. Junction temperature



Safe Operating Area



➤ Package Information



Package: PDNF5X6-8L

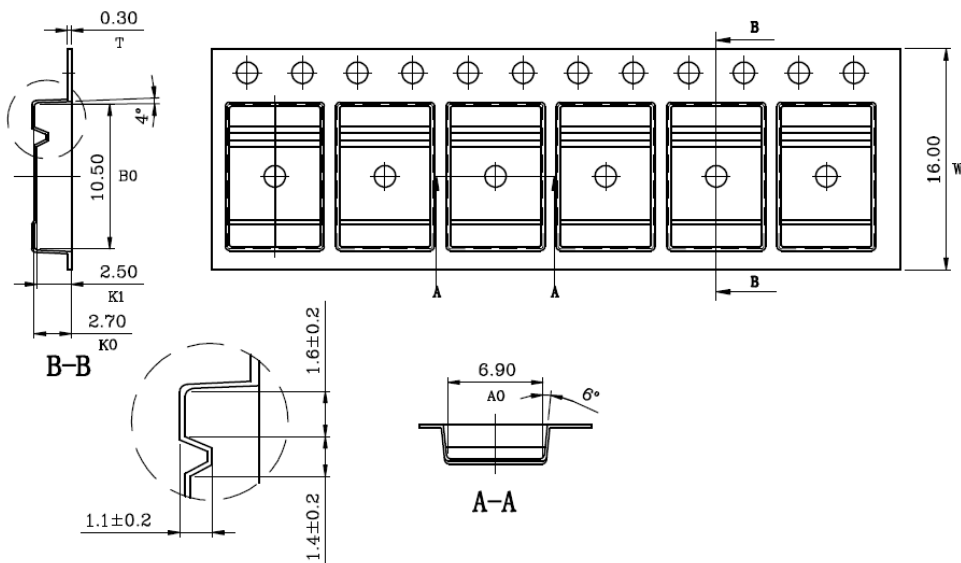
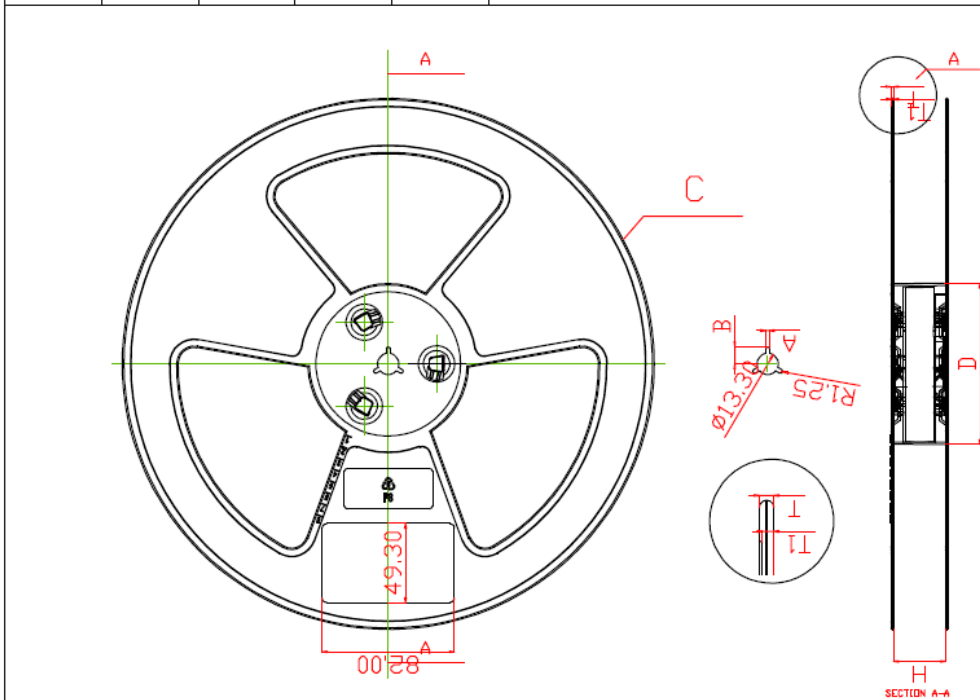
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	



➤ 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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➤ **History Version**

V1.0	Product datasheet release	2023-05-31
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