

型号 : SLS70N07A

68V, 80A  $R_{DS(ON)} < 8.6m\Omega @ V_{GS} = 10V$   
N-Channel Enhancement Mode MOSFET

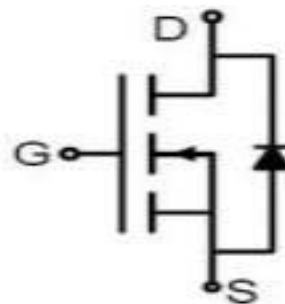
## 主要特性/Features

- 68V, 80A  
 $R_{DS(ON)} < 8.6m\Omega @ V_{GS} = 10V$
- Advanced Trench Technology
- Provide Excellent  $R_{DS(ON)}$  and Low Gate Charge
- Lead free product is acquired
- RoHS compliant / Green EMC;

## 应用/Application

电源管理 Power Management  
PWM应用 PWM applications  
负载开关 Load Switch

## 印字/MARKING 等效电路/Equivalent Circuit



**极限参数/Absolute Maximum Ratings(TA=25°C unless otherwise noted)**

Symbol	Parameter	Max.	Units
V <sub>DSS</sub>	Drain-Source Voltage	68	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Continuous Drain Current	T <sub>C</sub> = 25°C	80
		T <sub>C</sub> = 100°C	52
I <sub>DM</sub>	Pulsed Drain Current <sup>note1</sup>	320	A
E <sub>AS</sub>	Single Pulsed Avalanche Energy <sup>note2</sup>	121	J
P <sub>D</sub>	Power Dissipation	T <sub>C</sub> = 25°C	116
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	0.85	°C/W
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Temperature Range	-55 to +175	°C

**电性能参数/Electrical Characteristics(TA=25°C unless otherwise noted)**

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristic</b>						
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	68	-	-	V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =68V, V <sub>GS</sub> =0V,	-	-	1.0	A
I <sub>GSS</sub>	Gate to Body Leakage Current	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V	-	-	±100	A
<b>On Characteristics</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	2	-	4	V
R <sub>DS(on)</sub>	Static Drain-Source on-Resistance <sup>note3</sup>	V <sub>GS</sub> =10V, I <sub>D</sub> =30A	-	6.6	8.6	Ω
<b>Dynamic Characteristics</b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =25V, V <sub>GS</sub> =0V, f=1.0MHz	-	4062	-	F
C <sub>oss</sub>	Output Capacitance		-	261	-	F
C <sub>rss</sub>	Reverse Transfer Capacitance		-	231	-	F
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =30V, I <sub>D</sub> =20A, V <sub>GS</sub> =10V	-	35	-	C
Q <sub>gs</sub>	Gate-Source Charge		-	11	-	C
Q <sub>gd</sub>	Gate-Drain("Miller") Charge		-	9	-	C
<b>Switching Characteristics</b>						
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>DS</sub> =30V, I <sub>D</sub> =20A, R <sub>GEN</sub> =6Ω, V <sub>GS</sub> =10V	-	15	-	ns
t <sub>r</sub>	Turn-on Rise Time		-	94	-	ns
t <sub>d(off)</sub>	Turn-off Delay Time		-	46	-	ns
t <sub>f</sub>	Turn-off Fall Time		-	32	-	ns

Drain-Source Diode Characteristics and Maximum Ratings						
$I_S$	Maximum Continuous Drain to Source Diode Forward Current		-	-	80	A
$I_{SM}$	Maximum Pulsed Drain to Source Diode Forward Current		-	-	320	A
$V_{SD}$	Drain to Source Diode Forward Voltage	$V_{GS}=0V, I_S=80A$	-	-	1.2	V
$t_{rr}$	Body Diode Reverse Recovery Time	$T_J=25^\circ C$ $I_F=20A, dI/dt=100A/\mu s$	-	78	-	ns
$Q_{rr}$	Body Diode Reverse Recovery Charge		-	51	-	C

Notes:1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature

2. EAS condition:  $T_J=25^\circ C, V_{DD}=35V, V_G=10V, R_G=25\Omega, L=0.5mH, I_{AS}=22A$

3. Pulse Test: Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 0.5\%$

## 典型特征/Typical Performance Characteristics

Figure1: Output Characteristics

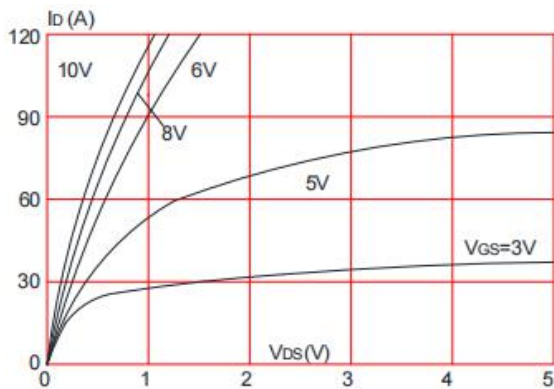


Figure 2: Typical Transfer Characteristics

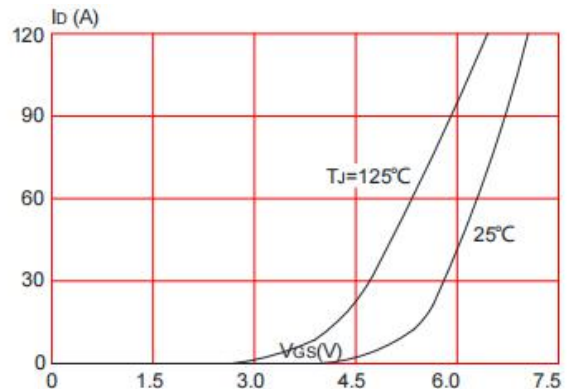


Figure 3: On-resistance vs. Drain Current

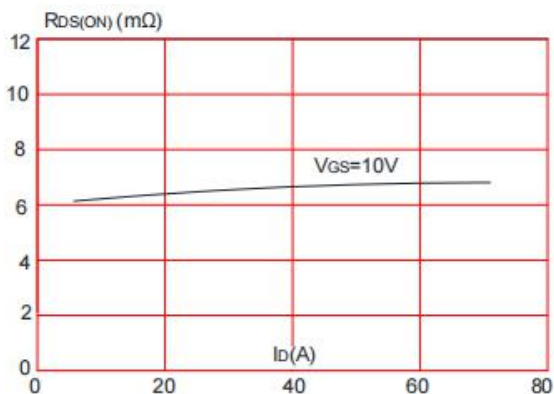


Figure 4: Body Diode Characteristics

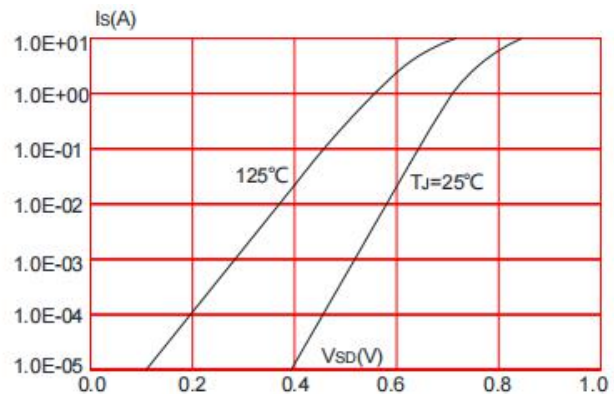


Figure 5: Gate Charge Characteristics

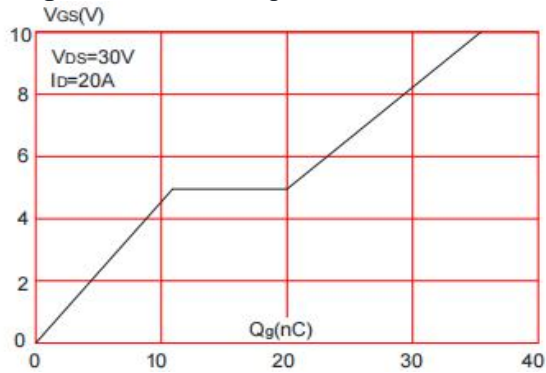


Figure 6: Capacitance Characteristics

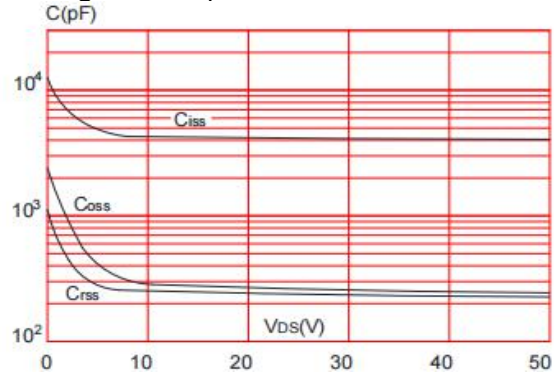


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

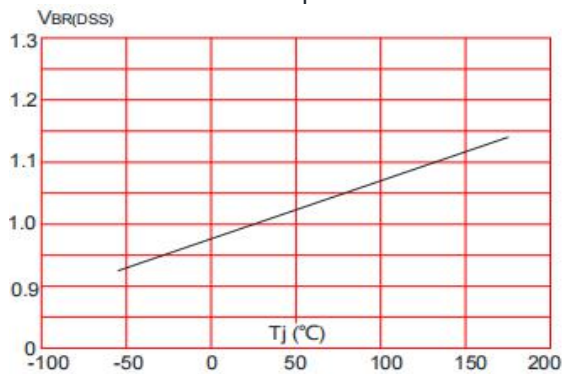


Figure 8: Normalized on Resistance vs. Junction Temperature

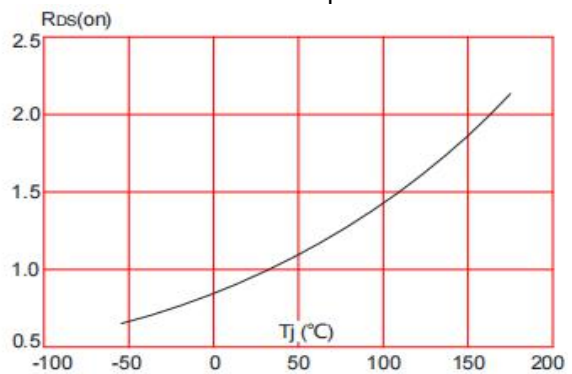


Figure 9: Maximum Safe operating Area

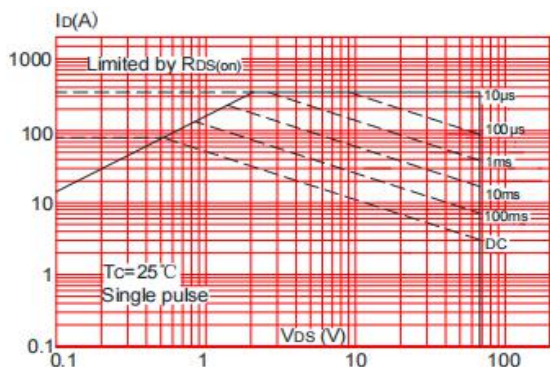


Figure 10: Continuous Drain Current vs. Case Temperature

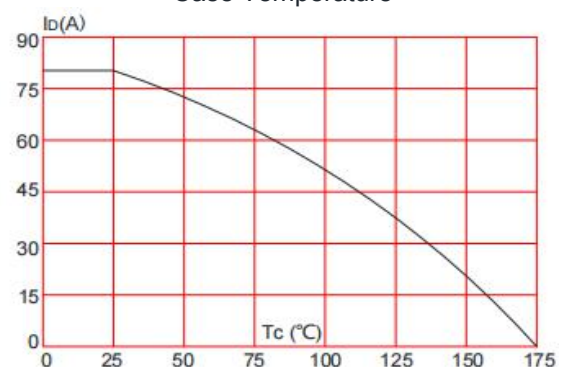
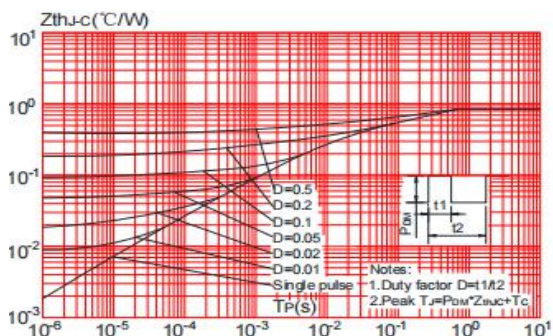


Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Case



测试电路/Test Circuit

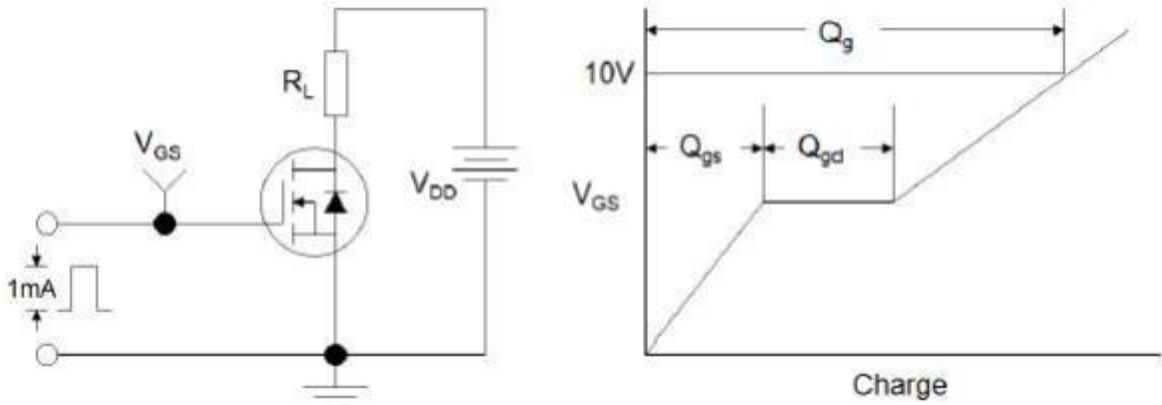


Figure1:Gate Charge Test Circuit & Waveform

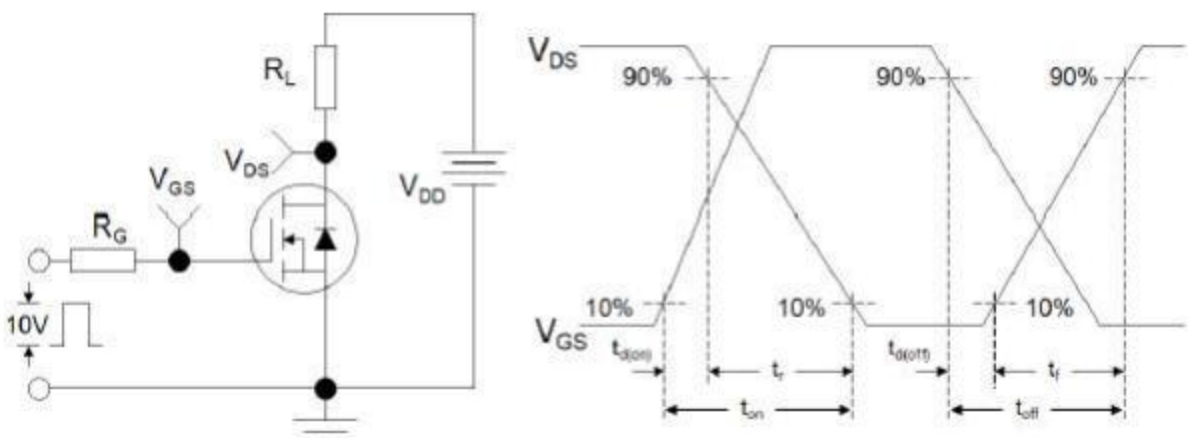


Figure 2: Resistive Switching Test Circuit & Waveforms

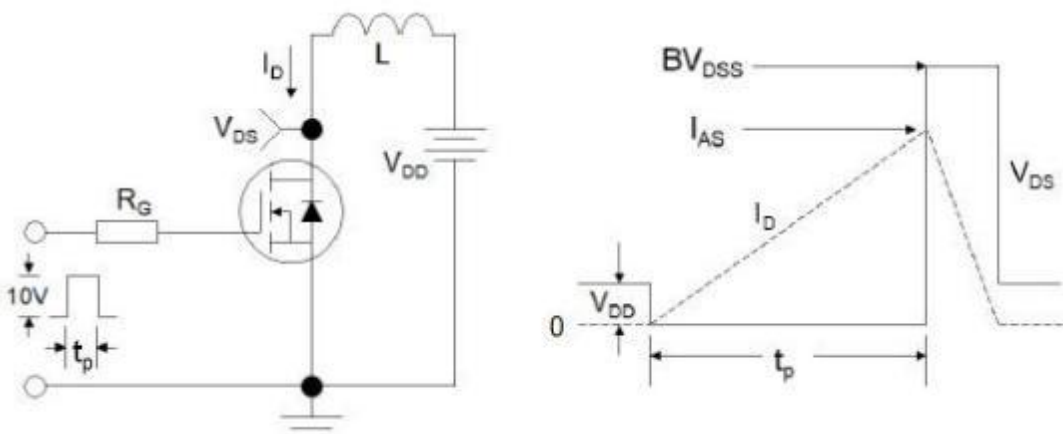
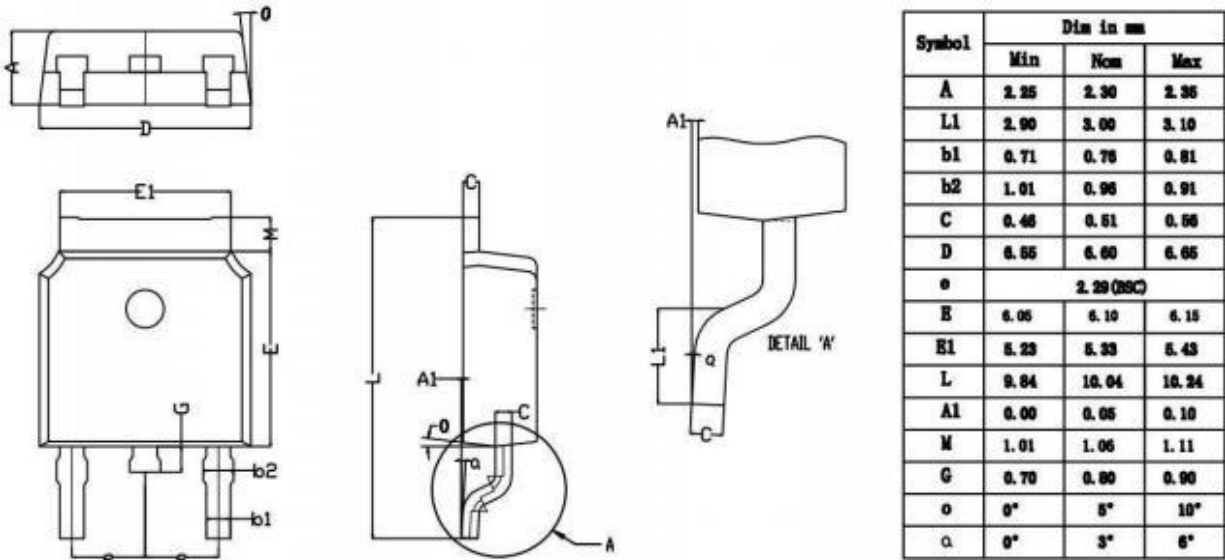
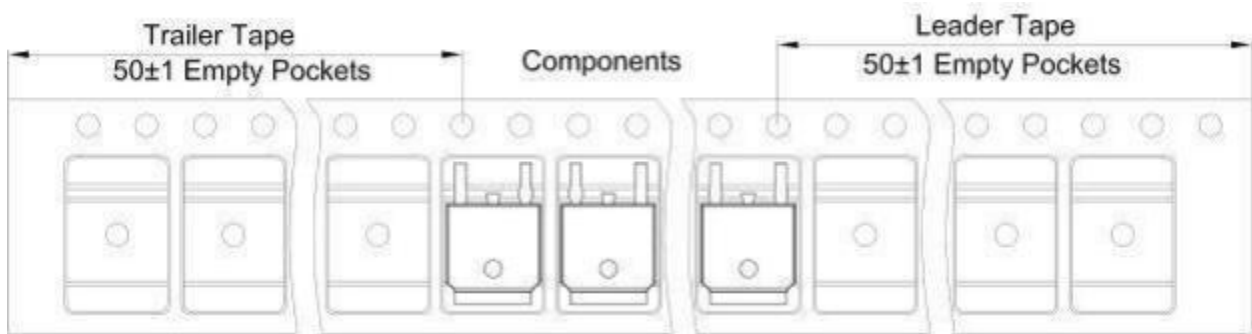


Figure 3:Unclamped Inductive Switching Test Circuit & Waveforms

成品外观尺寸/TO-252-2L Package Information



出货规范/Shipping Specifications



Reel	Reel Size	Box	Box Size(mm)	Carton	Carton size(mm)
2500 Pcs	13 inch	2500 Pcs	340×336×29	25 KPcs	353×345×365

## 说明/ instruction

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