

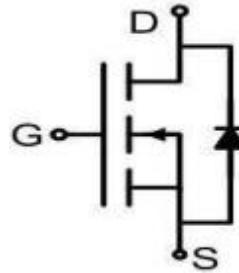
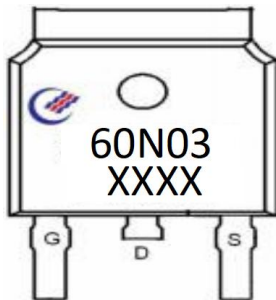


SLS60N03 N-channel MOSFET

主要特征/Features

- ◇ Surface Mount TO-252-2L Package ;
- ◇ TrenchFET Power MOSFET;
- ◇ High Power and current handing capability;
- ◇ RoHS compliant / Green EMC;

印字/MARKING 等效电路/Equivalent Circuit



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

Symbol	Parameter	Rating		Units
		10s	Steady State	
V_{DS}	Drain- Source Voltage	30		V
V_{GS}	Gate- Source Voltage	± 20		V
$I_D @ T_C = 25\text{C}$	Continuous Drain Current, $V_{GS} @ 10V^1$	60		A
$I_D @ T_C = 100\text{C}$	Continuous Drain Current, $V_{GS} @ 10V^1$	33		A
I_{DM}	Pulsed Drain Current ²	198		A
EAS	Single Pulse Avalanche Energy ³	36		m J
I_{AS}	Avalanche Current	53.8		A
$P_D @ T_C = 25\text{C}$	Total Power Dissipation ⁴	32.5		W
T_{STG}	Storage Temperature Range	-55 to 175		°C
T_J	Operating Junction 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
Off Characteristic						
$V_{(BR)DSS}$	Drain- Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V,$	-	-	1.0	μA
I_{GSS}	Gate to Body Leakage Current	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0	1.5	2.5	V
$R_{DS(on)}$	Static Drain- Source on- Resistance note3	$V_{GS}=10V, I_D=25A$	-	6.5	7.5	m Ω
		$V_{GS}=4.5V, I_D=15A$	-	10	14	
Dynamic Characteristics						
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V,$ $f=1.0MHz$	-	1140	-	PF
C_{oss}	Output Capacitance		-	175	-	PF
C_{riss}	Reverse Transfer Capacitance		-	151	-	PF
Q_g	Total Gate Charge	$V_{DS}=15V, I_D=25A,$ $V_{GS}=10V$	-	13.3	-	nC
Q_{gs}	Gate- Source Charge		-	3.1	-	nC
Q_{gd}	Gate-Drain(“Miller”) Charge		-	5	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	$V_{DS}=15V,$ $I_D=25A, R_{GEN}=3\Omega,$ $V_{GS}=10V$	-	15	-	ns
t_r	Turn-on Rise Time		-	19	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	35	-	ns
t_f	Turn-off Fall Time		-	21	-	ns
Drain- Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	50	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	200	A
V_{SD}	Drain to Source Diode Forward Voltage	$V_{GS}=0V, I_S=30A$	-	-	1.2	V
t_{rr}	Body Diode Reverse Recovery Time	$I_F=30A, di/dt=100A/\mu s$	-	25	-	ns
Q_{rr}	Body Diode Reverse Recovery Charge		-	26	-	nC

- Notes: 1. Surface Mounted on FR4 Board, $t \leq 10$ sec.
 2. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
 3. Guaranteed by design, not subject to production.



典型特性/Typical Performance Characteristics

Figure 1: Output Characteristics

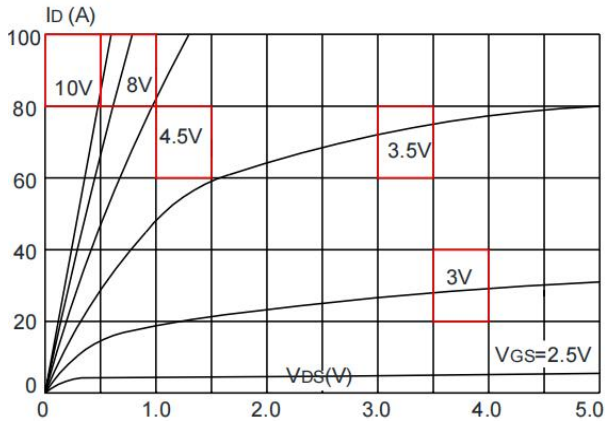


Figure 2: Typical Transfer Characteristics

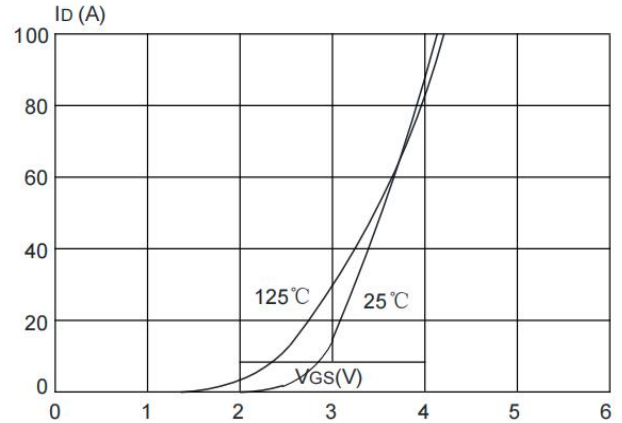


Figure 3: On-resistance vs. Drain Current

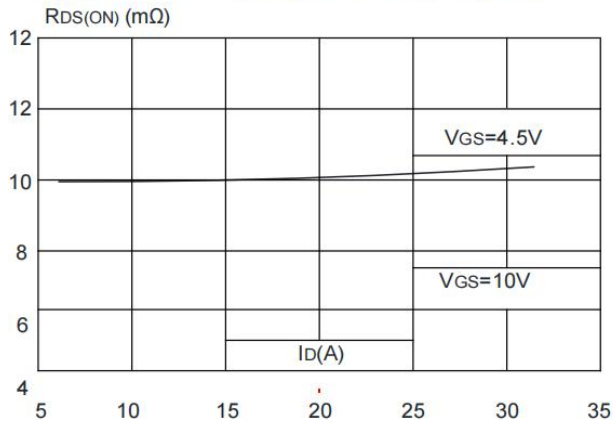


Figure 4: Body Diode Characteristics

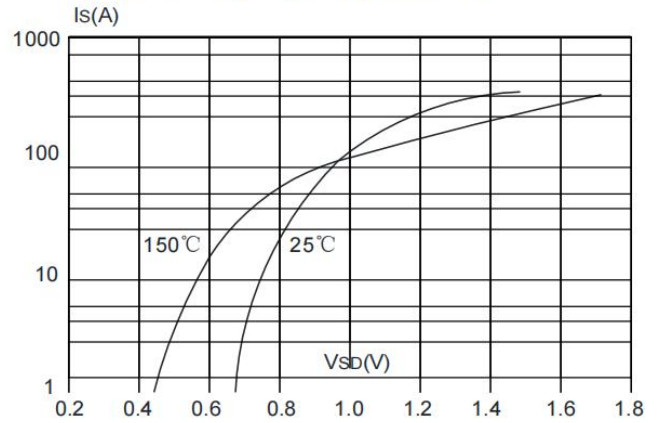


Figure 5: Gate Charge Characteristics

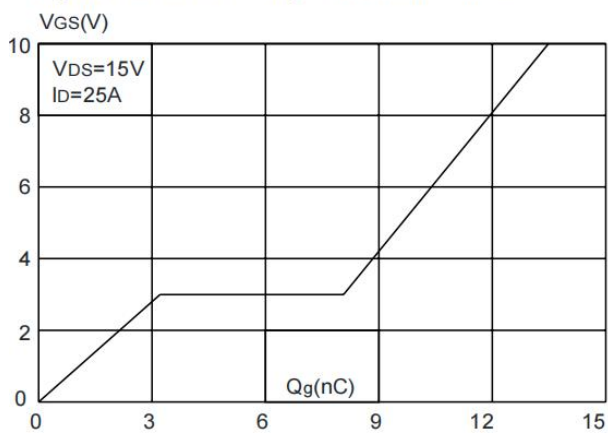


Figure 6: Capacitance Characteristics

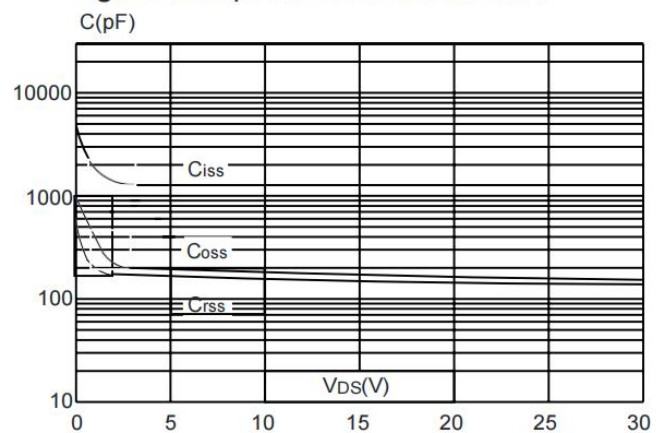




Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

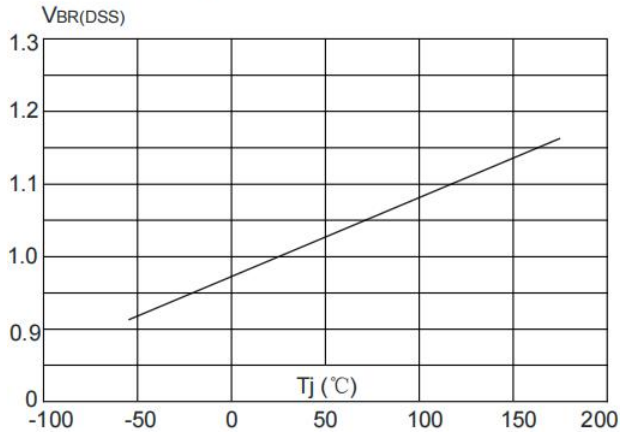


Figure 8: Normalized on Resistance vs. Junction Temperature

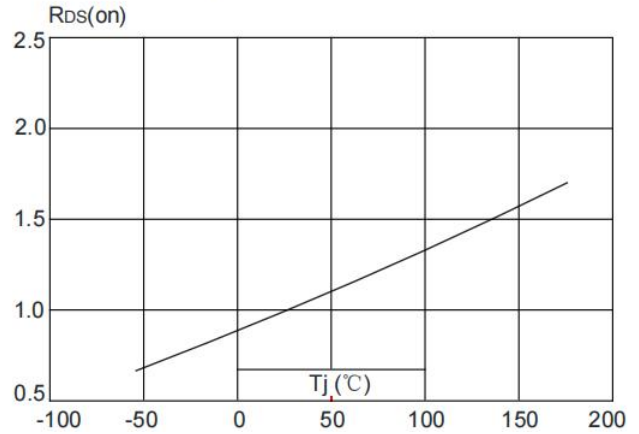


Figure 9: Maximum Safe Operating Area

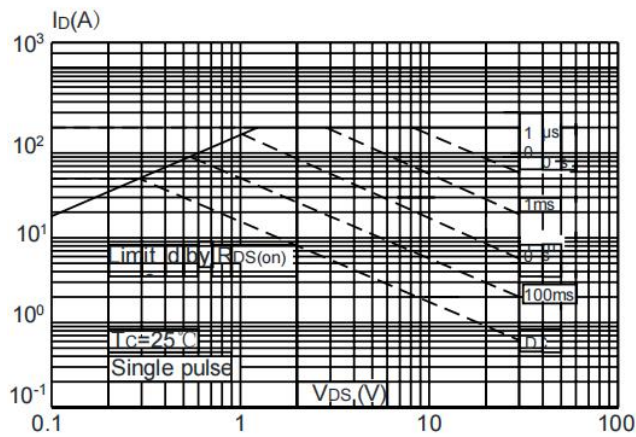
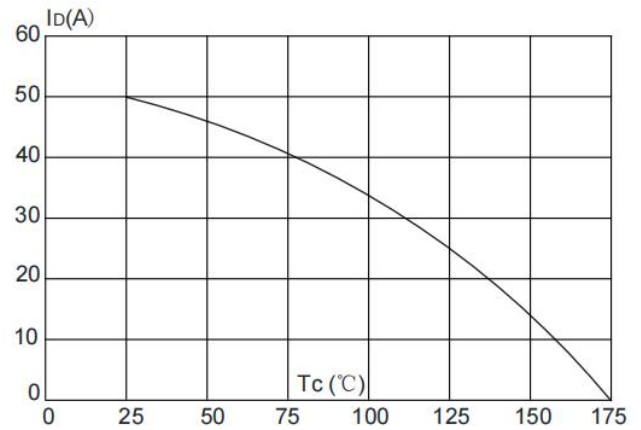
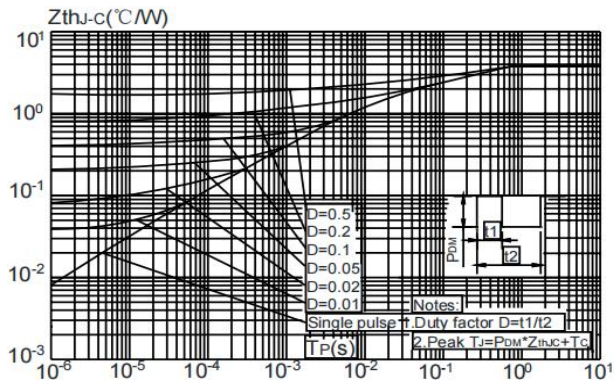


Figure 10: Maximum Continuous Drain Current vs. Case Temperature



Maximum Effective Transient Thermal Impedance, Junction-to-Case





测试电路/Test Circuit

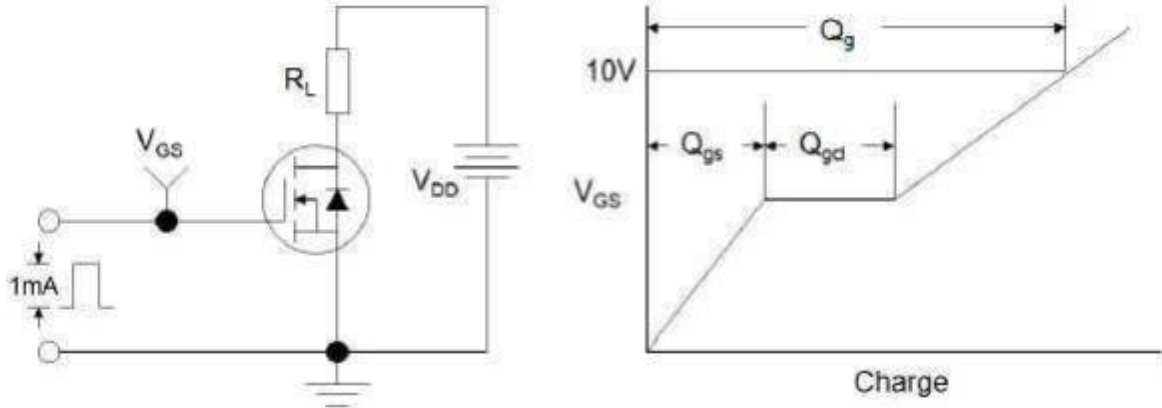


Figure1:Gate Charge Test Circuit & Waveform

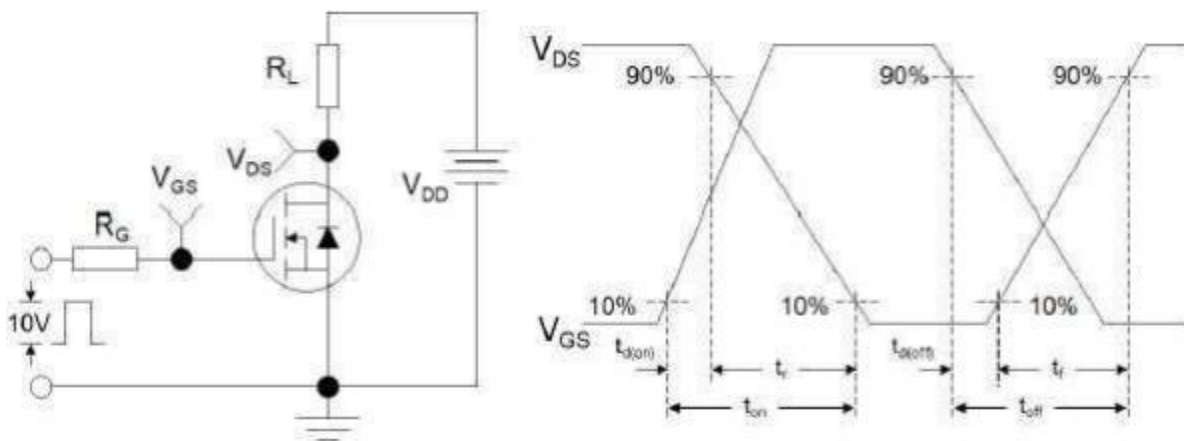


Figure 2: Resistive Switching Test Circuit & Waveforms

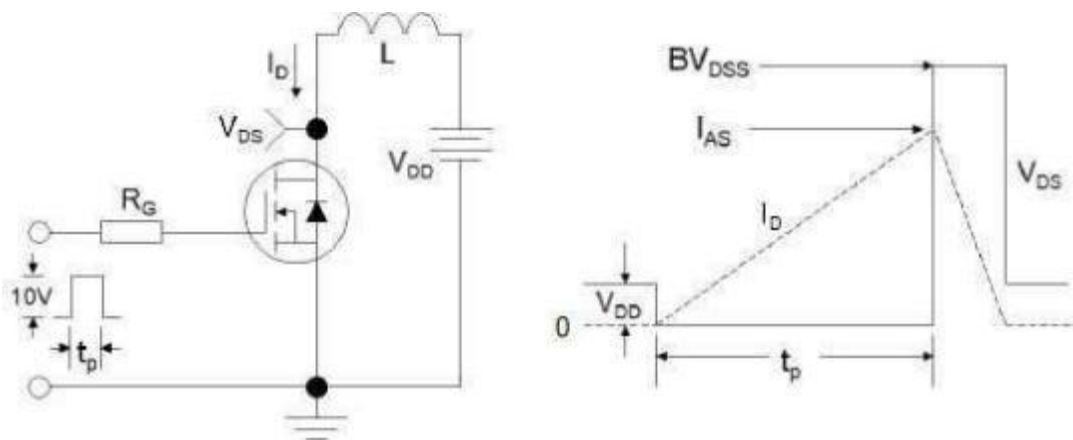
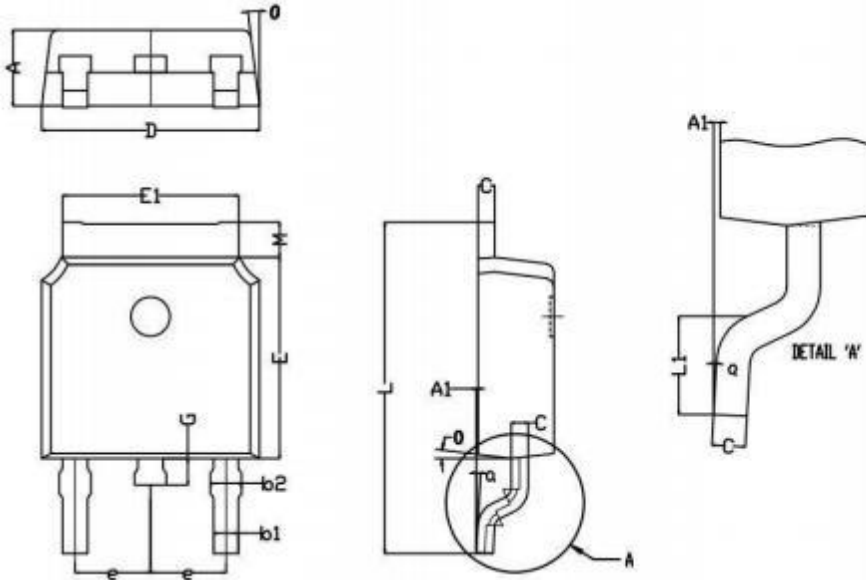


Figure 3: Unclamped Inductive Switching Test Circuit & Waveforms

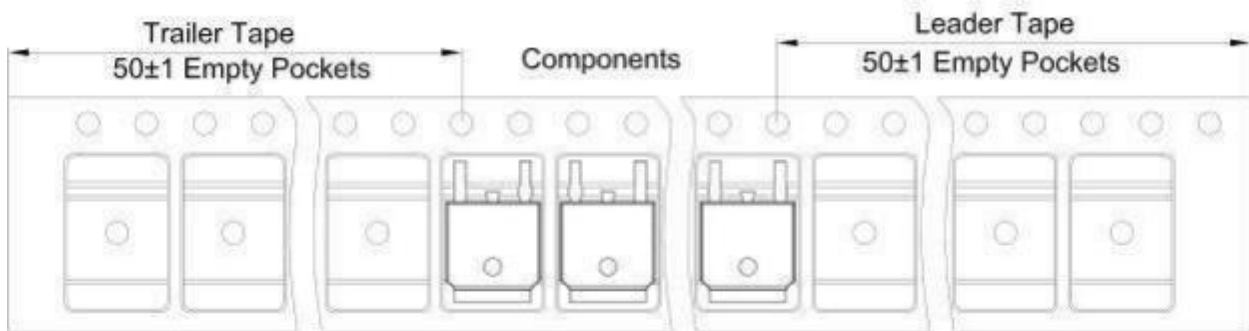


成品外观尺寸/T0-252-2L Package Information



Symbol	Dim in mm		
	Min	Nom	Max
A	2.25	2.30	2.35
L1	2.90	3.00	3.10
b1	0.71	0.75	0.81
b2	1.01	0.95	0.91
C	0.45	0.51	0.55
D	5.55	5.60	5.65
e	2.29(BSC)		
E	5.05	5.10	5.15
E1	5.23	5.33	5.43
L	9.84	10.04	10.24
A1	0.00	0.05	0.10
M	1.01	1.05	1.11
G	0.70	0.80	0.90
o	0°	5°	10°
a	0°	3°	6°

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