

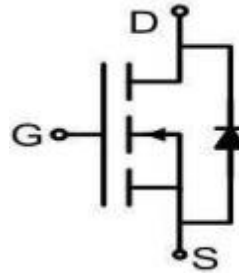
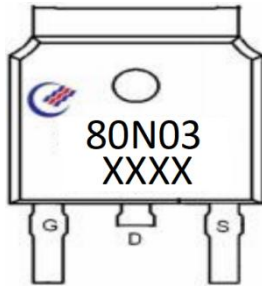


SLS80N03 N-channel MOSFET

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, $V_{GS} @ 10V^1$	80		A
$I_D @ T_C = 100\text{C}$	Continuous Drain Current, $V_{GS} @ 10V^1$	50		A
I_{DM}	Pulsed Drain Current ²	192		A
EAS	Single Pulse Avalanche Energy ³	306		m J
I_{AS}	Avalanche Current	53.8		A
$P_D @ T_C = 25\text{C}$	Total Power Dissipation ⁴	82.5		W
T_{STG}	Storage Temperature Range	-55 to 175		°C
T_J	Operating Junction Temperature Range	-55 to 175		°C



热特性/Thermal Characteristic

Symbol	Parameter	Typ.	Max.	Unit	
$R_{\theta JC}$	Thermal Resistance Junction- Case ¹	---	0.56	C/W	
	Thermal Resistance, Junction-to- Case ^(Note 2)		$R_{\theta JC}$	1.8	CW

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain- Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$	-	-	1	μA
Gate- Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.6	3	V
Drain-Source On- State Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=30A$	-	5.2	6.5	m Ω
		$V_{GS}=5V, I_D=24A$	-	7.5	10	
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=24A$	20	-	-	S
Dynamic Characteristics (Note4)						
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V,$ $F=1.0MHz$	-	2016	-	PF
Output Capacitance	C_{oss}		-	251	-	PF
Reverse Transfer Capacitance	C_{rss}		-	230	-	PF
Switching Characteristics (Note 4)						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=10V, I_D=30A$ $V_{GS}=10V, R_{GEN}=2.7\Omega$	-	20	-	nS
Turn-on Rise Time	t_r		-	15	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	60	-	nS
Turn-Off Fall Time	t_f		-	10	-	nS
Total Gate Charge	Q_g	$V_{DS}=10V, I_D=30A,$ $V_{GS}=10V$	-	60.5	-	nC
Gate- Source Charge	Q_{gs}		-	8.1	-	nC
Gate- Drain Charge	Q_{gd}		-	7.8	-	nC
Drain- Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V_{SD}	$V_{GS}=0V, I_S=24A$	-	-	1.2	V
Diode Forward Current (Note 2)	I_S		-	-	80	A
Reverse Recovery Time	t_{rr}	$T_J = 25^\circ C, I_F =$ $80A, di/dt =$ $100A/\mu S^{(Note3)}$	-	32	50	nS
Reverse Recovery Charge	Q_{rr}		-	12	20	nC
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

otes: 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

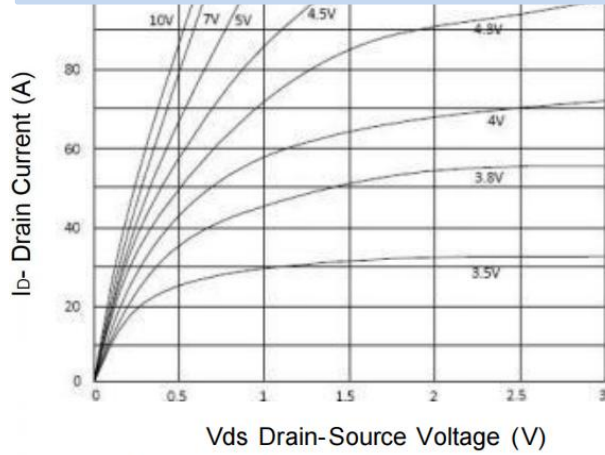


Figure 1 Output Characteristics

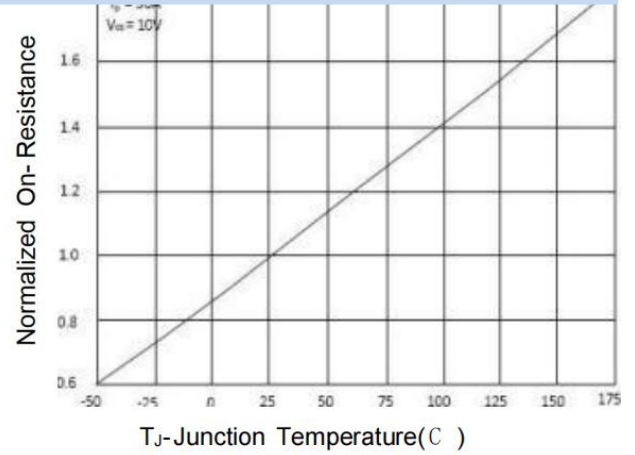


Figure 4 R_{dson} - Junction Temperature

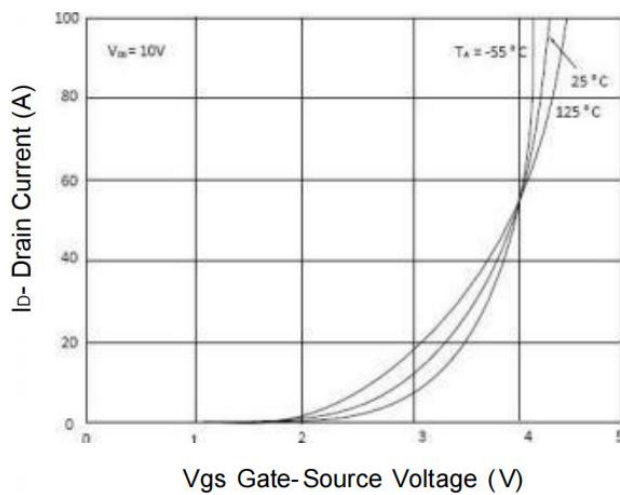


Figure 2 Transfer Characteristics

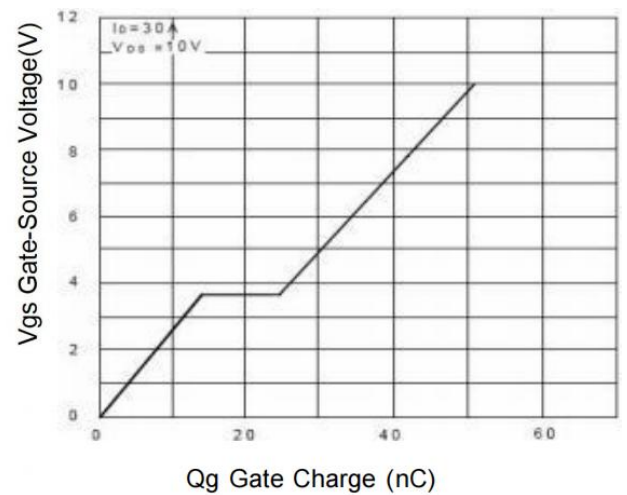


Figure 5 Gate Charge

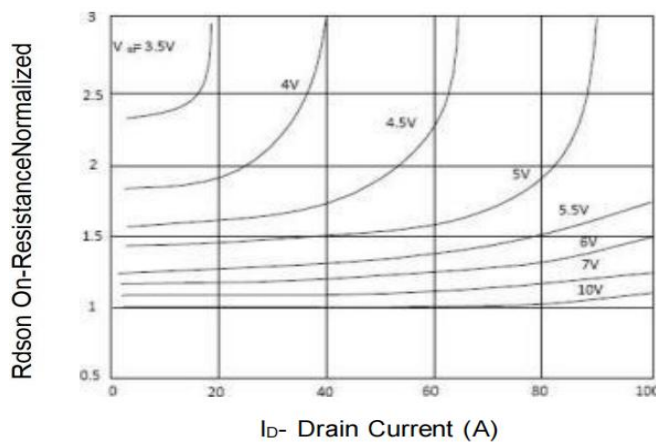


Figure 3 R_{dson} - Drain Current

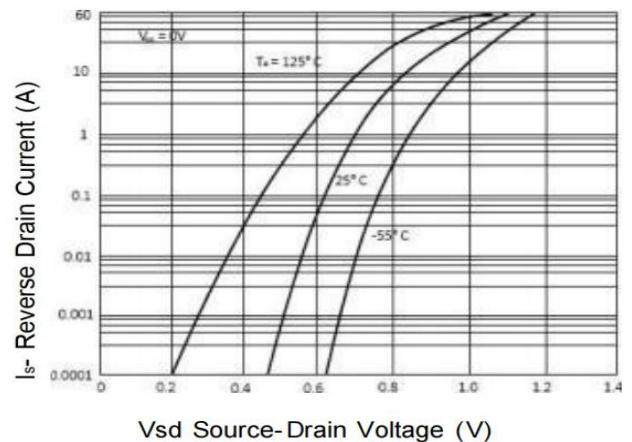


Figure 6 Source- Drain Diode Forward

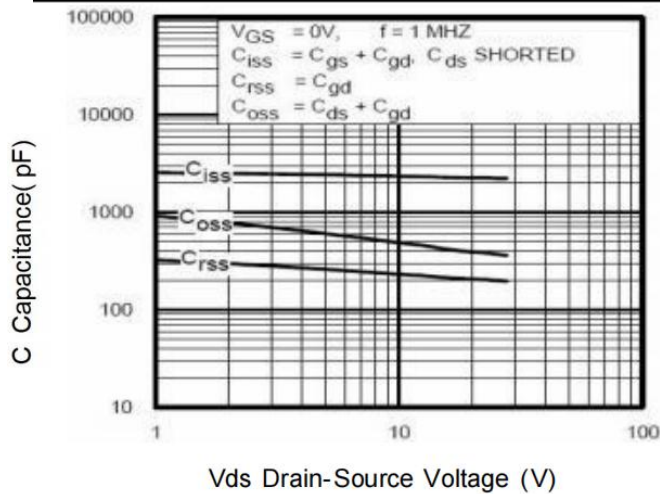


Figure 7 Capacitance vs Vds

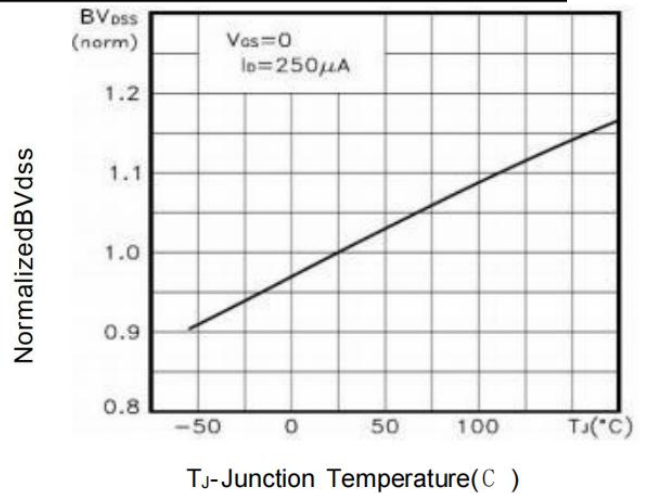


Figure 9 BV_{DSS} vs Junction Temperature

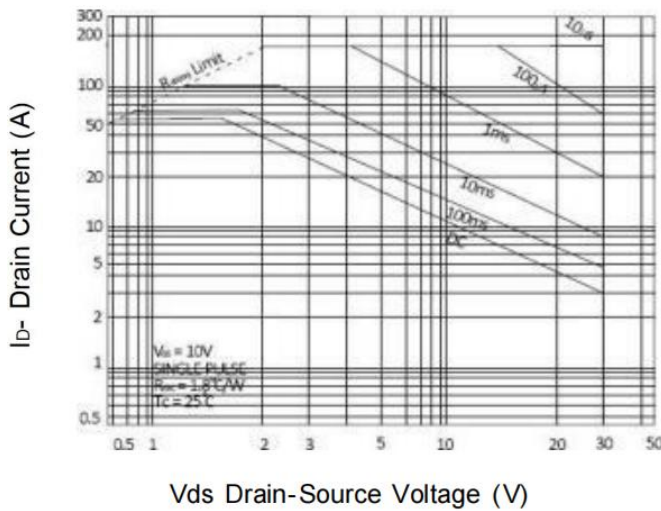


Figure 8 Safe Operation Area

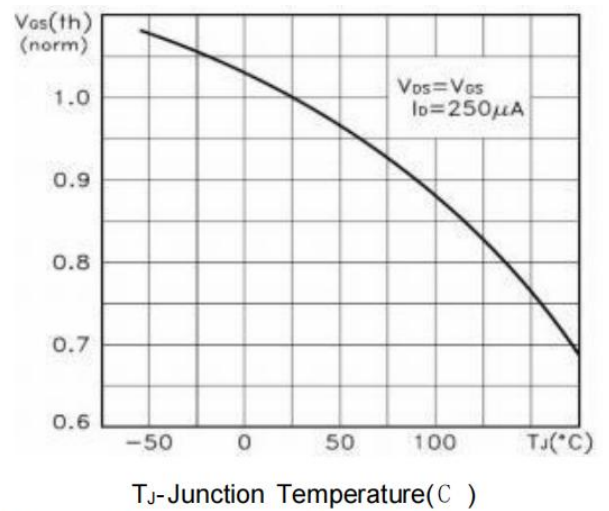


Figure 10 $V_{GS(th)}$ vs Junction Temperature

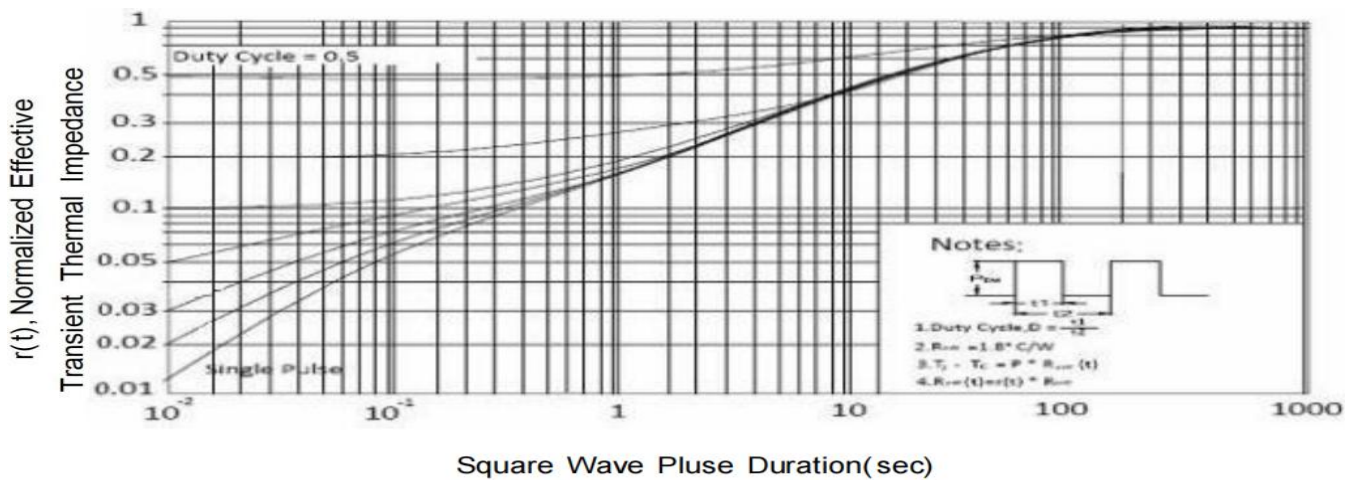
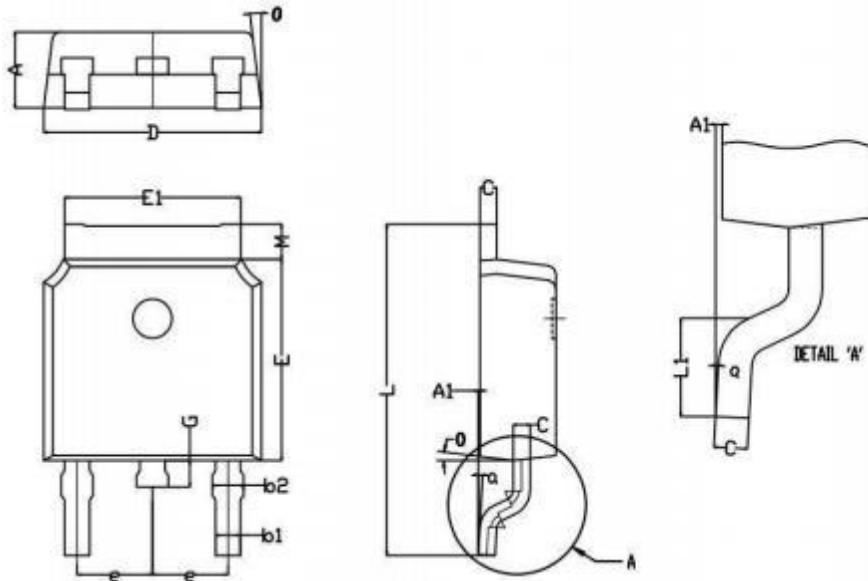


Figure 11 Normalized Maximum Transient Thermal Impedance

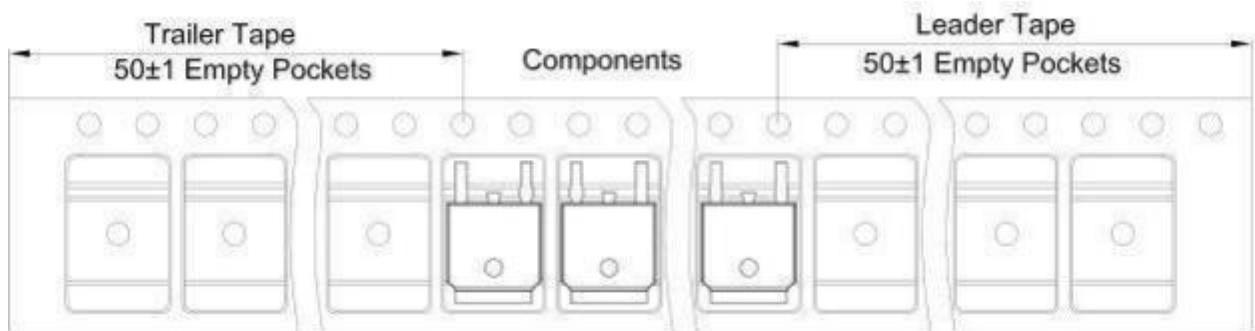


成品外观尺寸/T0-252-2L Package Information



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	0.98	0.91
C	0.48	0.51	0.55
D	6.55	6.60	6.65
e	2.29(BSC)		
E	6.05	6.10	6.15
E1	5.23	5.33	5.43
L	9.84	10.04	10.24
A1	0.00	0.05	0.10
M	1.01	1.06	1.11
G	0.70	0.80	0.90
o	0°	5°	10°
α	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