N-Channel Enhancement Mode MOSFET

1. Product Information

1.1 Features

☑ Surface-mounted package

☑ Advanced trench cell design

1.2 Applications

☑ LCD TV appliances
☑ LCDM appliances

☑ High power inverter system

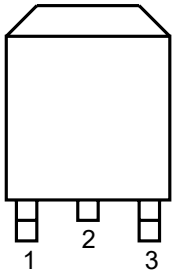
1.3 Quick reference

☑ BV ≧ 60 V
☑ P_{tot} ≦35 W
☑ I_D ≦ 24 A

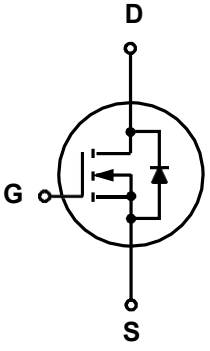
☑ $R_{DS(ON)}$ ≦ 32mΩ @ V_{GS} = 10 V
☑ $R_{DS(ON)}$ ≦ 40mΩ @ V_{GS} = 4.5 V

2. Pin Description

Pin	Description	Simplified Outline	Symbol
1	Gate(G)		
2	Drain(D)		
3	Source(S)		



Top View
TO-252-3L



Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

3. Limiting Values

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	Drain-Source Voltage	T_C = 25 ℃	-	60	V
V_{GS}	Gate-Source Voltage	T_C = 25 ℃	-	±20	V
I_D***	Drain Current (DC)	T_C = 25 ℃, V_{GS} = 10 V	-	24	A
		T_C = 100 ℃, V_{GS} = 10 V	-	17	A
I_{DM}*,***	Drain Current (Pulsed)	T_C = 25 ℃, V_{GS} = 10 V	-	48	A
P_{tot}	Drain power dissipation	T_C = 25 ℃	-	35	W
T_{stg}	Storage Temperature		-55	150	℃
T_J	Junction Temperature		-	150	℃
I_S	Continuous-Source Current	T_C = 25 ℃	-	24	A
$R_{\theta JA}$**	Thermal Resistance- Junction to Ambient		-	50	℃/W
$R_{\theta JC}$**	Thermal Resistance- Junction to Case		-	3.5	

Notes：

* Pulse width ≤ 300 μs, duty cycle ≤ 2 %

** Mounted on Large Heat Sink

*** limited by bonding wire

4. Marking Information

Product Name	Marking
SN35N06K	**35N06K XXXXX** **X : Date Code**

5. Ordering Code

XXXXX □

└── Assembly Material

Assembly Material

G: Halogen and Lead Free Device

Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

6. Electrical Characteristics (T_A=25 ° Unless Otherwise Noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 250 μA	60	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_{DS} = 250 μA	1.5	-	2.5	V
I_{DSS}	Drain Leakage Current	V_{DS} = 48 V, V_{GS} = 0 V	-	-	1	μA
I_{GSS}	Gate Leakage Current	V_{GS} = 0 V, V_{GS} = ± 20 V	-	-	±100	nA
$R_{DS(ON)}$ [a]	On-State Resistance	V_{GS} = 10 V, I_{DS} = 10 A	-	26	32	mΩ
		V_{GS} = 4.5 V, I_{DS} =5 A	-	31	40	
Diode Characteristics						
V_{SD} [a]	Diode Forward Voltage	I_{SD} = 10 A, V_{GS} = 0 V	-	-	1.3	V
t_{rr}	Reverse Recovery Time	I_{DS} = 10 A, V_{GS} = 0 V dI_{SD}/dt = 100 A/μs	-	12.7	-	nS
Q_{rr}	Reverse Recovery Charge		-	2.8	-	μC
Dynamic Characteristics[b]						
C_{iss}	Input Capacitance	V_{GS} = 0 V, V_{DS} = 30 V Frequency = 1 MHz	-	1058	-	pF
C_{oss}	Output Capacitance		-	42	-	
C_{rss}	Reverse Transfer Capacitance		-	35	-	
t_d(on)	Turn-on Delay Time	V_{DS} = 30 V, V_{GEN} = 10 V, R_G = 4.5 Ω, R_L = 3 Ω, I_{DS} = 10 A	-	7.4	-	nS
t_r	Turn-on Rise Time		-	26	-	
t_d(off)	Turn-off Delay Time		-	17	-	
t_f	Turn-off Fall Time		-	28	-	
Gate Charge Characteristics[b]						
Q_g	Total Gate Charge	V_{DS} = 30 V, V_{GS} = 10 V, I_{DS} = 10 A	-	19	-	nC
Q_{gs}	Gate-Source Charge		-	5	-	
Q_{gd}	Gate-Drain Charge		-	2.6	-	

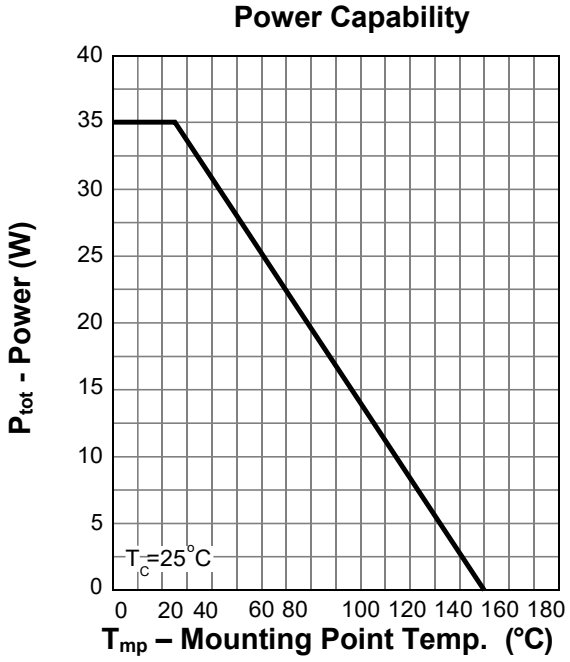
Notes:

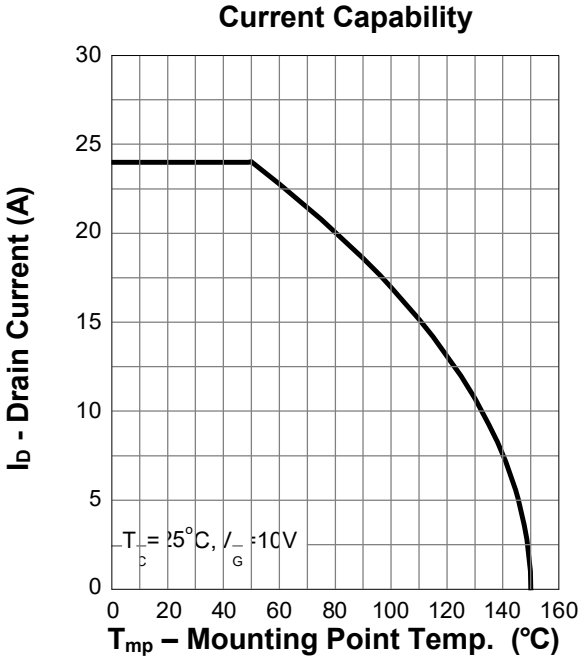
a : Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2%

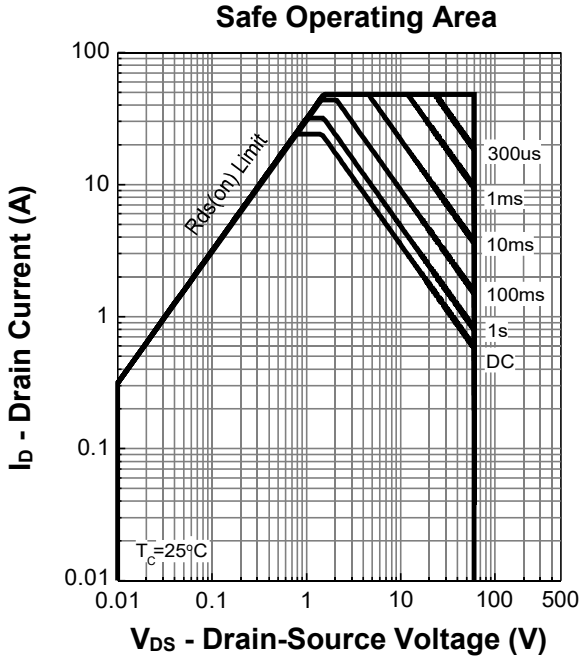
b : Guaranteed by design, not subject to production testing

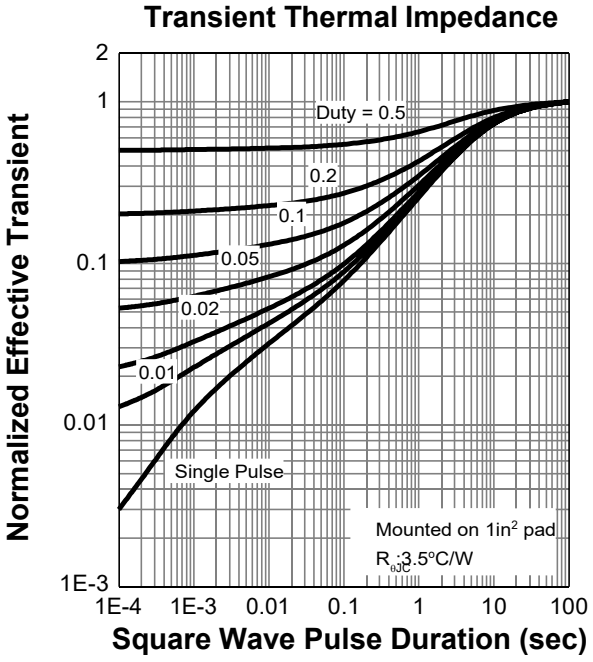
Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

7. Typical Characteristics



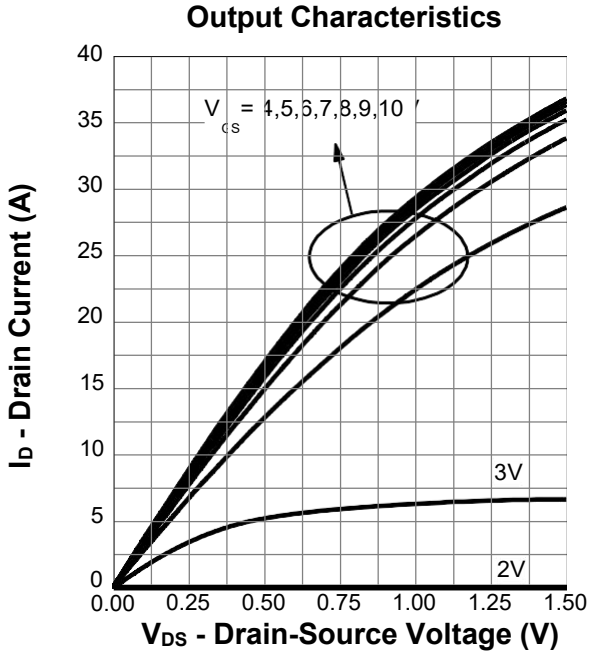


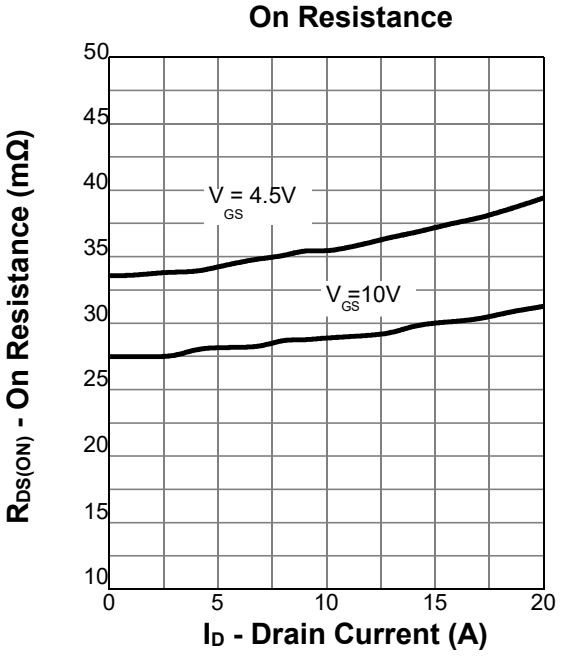


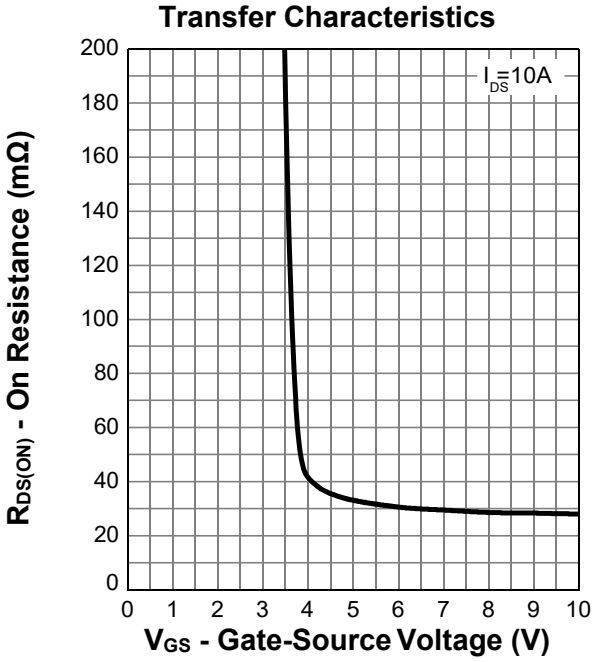


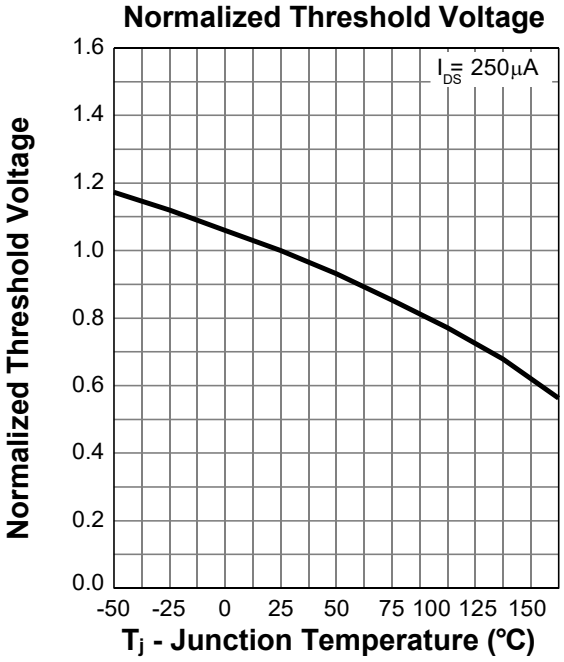
Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

7. Typical Characteristics (cont.)



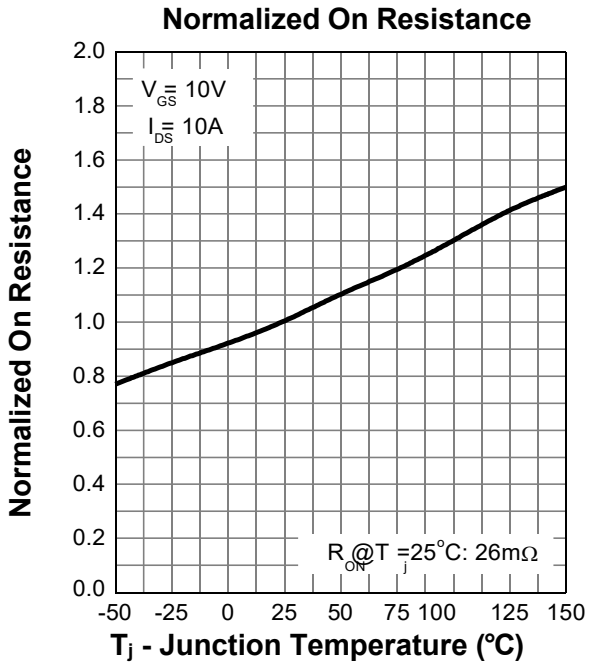


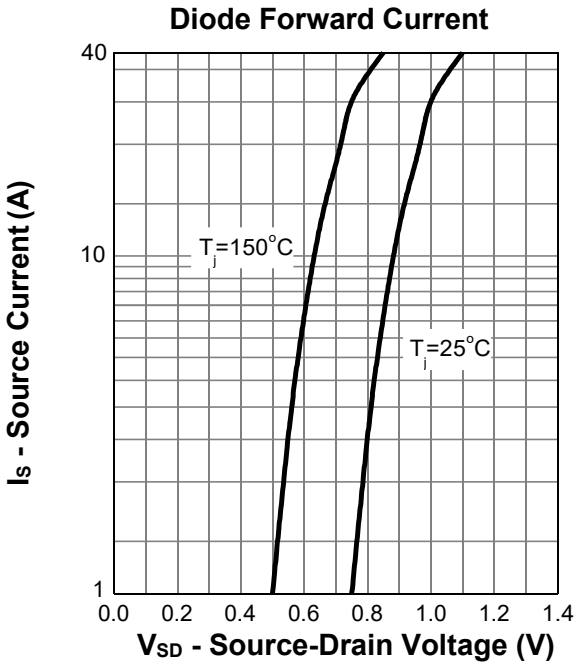


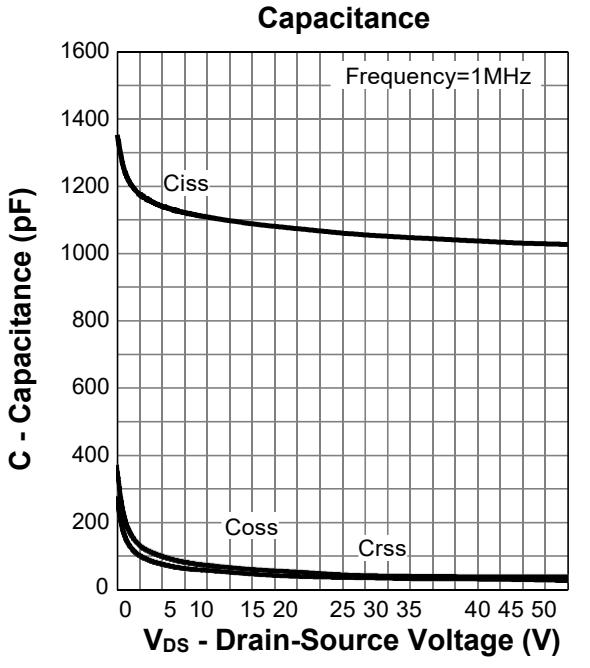


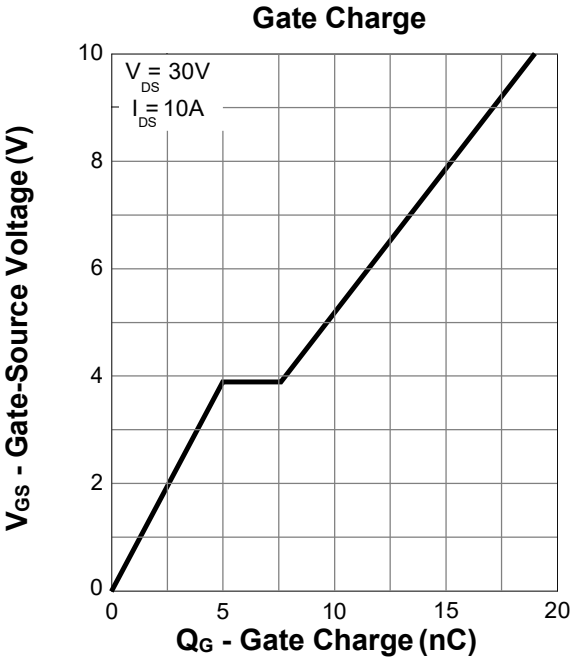
Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

7. Typical Characteristics (cont.)





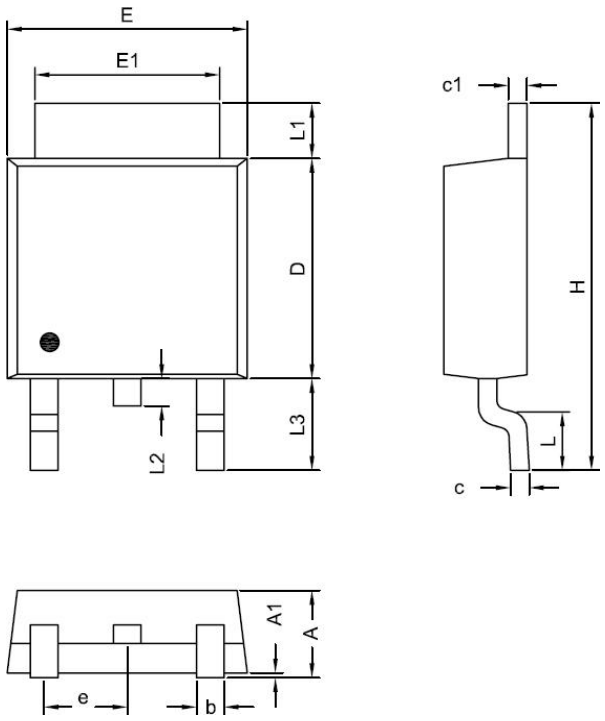




Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou

8.Package Dimensions

TO252-3L



Symbol	Dimensions In Millimeters	
	MIN.	MAX.
A	2.19	2.38
A1	0.02	0.13
D	5.30	6.40
E	6.35	6.80
E1	5.20	5.50
c	0.40	0.60
c1	0.40	0.60
b	0.55	0.85
e	2.30 BCS	
L	1.00	1.80
L1	0.70	1.80
L2	0.70 BCS	
L3	2.40	2.80
H	9.20	10.40

Guangzhou City Si Nuo Electronic Technology CO.,Ltd
Tel: 0086-15975549675 / 0086-20-66854248 Mr Li
Add: Room 620 , NO.2 Ascendas 1st Street, Sino-Singapore Guangzhou Knowledge City Guangzhou