STN8882D

N Channel Enhancement Mode MOSFET

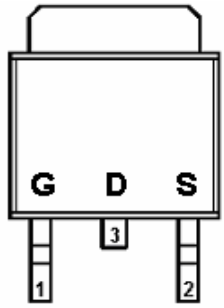
80.0A

DESCRIPTION

STN8882D is the N-Channel logic enhancement mode power field effect transistor which is produced using high cell density, DMOS trench technology. The STN8882D has been designed specially to improve the overall efficiency of DC/DC converters using either synchronous or conventional switching PWM controllers. It has been optimized for low gate charge, low $R_{DS(ON)}$ and fast switching speed.

PIN CONFIGURATION (D-PAK)

TO-252

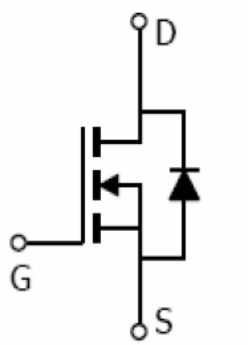


FEATURE

- 30V/ 35A, $R_{DS(ON)}$ = 3.6mΩ（Typ.）
  @V_{GS} = 10V
- 30V/32A, $R_{DS(ON)}$ = 5.5mΩ
  @V_{GS} = 4.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- TO-252 package design

PART MARKING

Y： **Year Code**
A： **Date Code**
B： **Wafer Code**



STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com

STANSON

STN8882D

N Channel Enhancement Mode MOSFET

80.0A

ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		VDSS	30	V
Gate-Source Voltage		VGSS	±20	V
Continuous Drain Current (TJ=150℃)	TA=25℃ TA=70℃	ID	80 50	A
Pulsed Drain Current		IDM	100	A
Continuous Source Current (Diode Conduction)		IS	50	A
Power Dissipation	TA=25℃ TA=70℃	PD	40 55	W
Operation Junction Temperature		TJ	150	℃
Storgae Temperature Range		TSTG	-55/150	℃
Thermal Resistance-Junction to Ambient		RθJA	100	℃/W

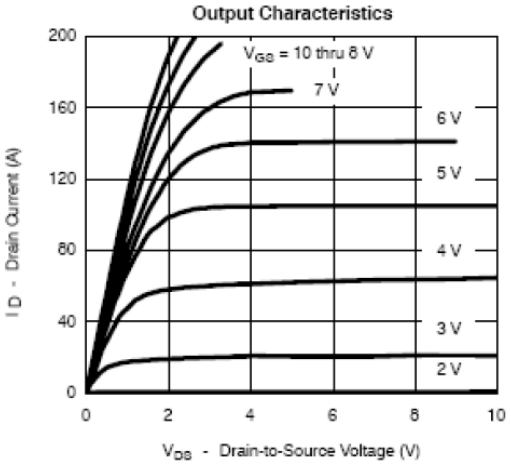
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com

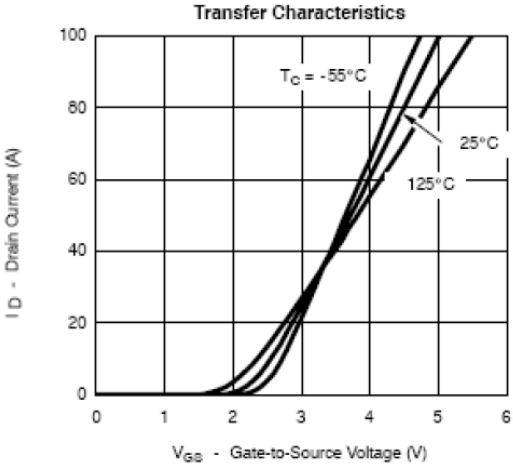
ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

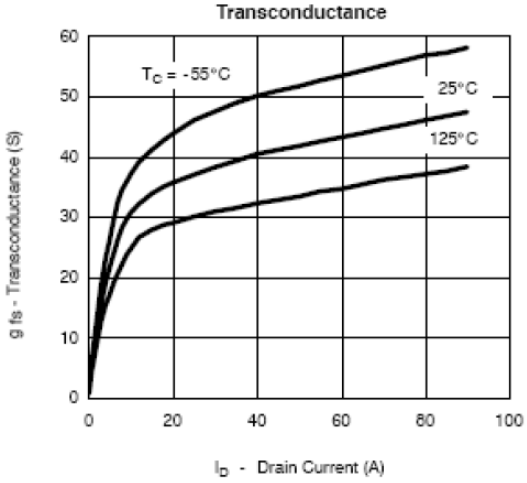
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,ID=250mA	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},ID=250uA	1.0		2.0	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V,V_{GS}=0V			1	uA
		V_{DS}=30V,V_{GS}=0V T_J=120℃			5	
On-State Drain Current	$I_{D(on)}$	V_{DS}≧5V,V_{GS}=10V	100			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=35A V_{GS}=4.5V,I_D=32A		3.7 5.5	5 6	mΩ
Forward Transconductance	gfs	V_{DS}=5V,I_D=12A		110		S
Diode Forward Voltage	V_{SD}	I_S=1.0A,V_{GS}=0V			1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=15V,V_{GS}=4.5V I_D≡20A		41.3	54	nC
Gate-Source Charge	Q_{gs}			18	23	
Gate-Drain Charge	Q_{gd}			13	17	
Input Capacitance	C_{iss}	V_{DS} =15V,VGS=0V F=1MHz		4826		pF
Output Capacitance	C_{oss}			683.3		
Reverse TransferCapacitance	C_{rss}			374.9		
Turn-On Time	$t_{d(on)}$	V_{DD}=15V,R_L= 15Ω I_D=1.0A,V_{GEN}=10V R_G=6Ω		23.6	47	nS
	tr			12	24	
Turn-Off Time	$t_{d(off)}$			114	227	
	tf			97.2	195	

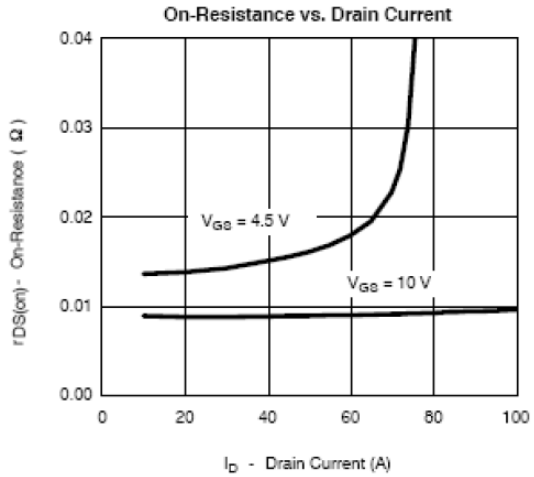
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com

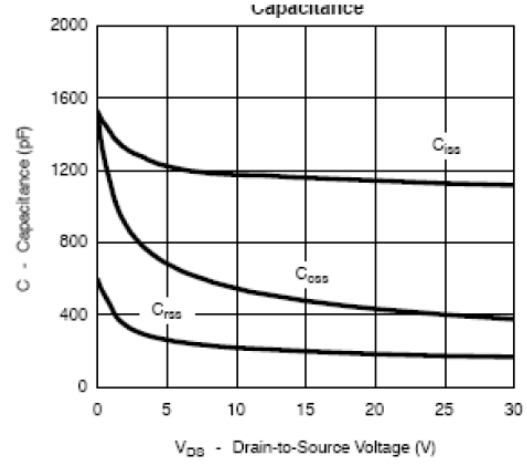
TYPICAL CHARACTERICTICS

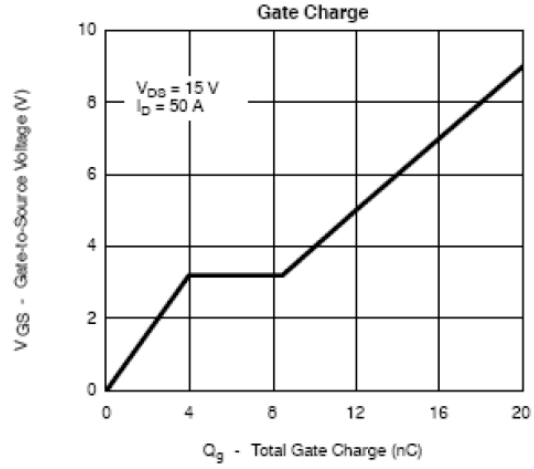






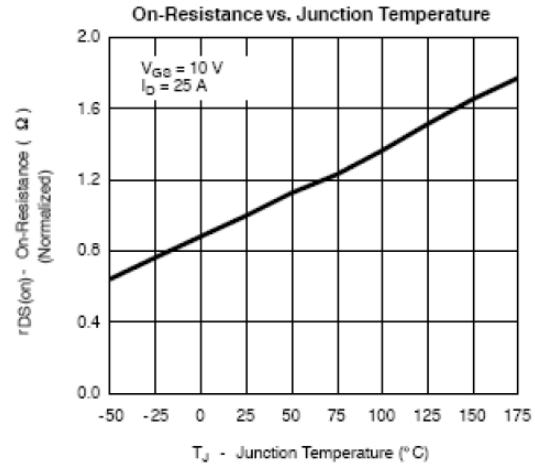


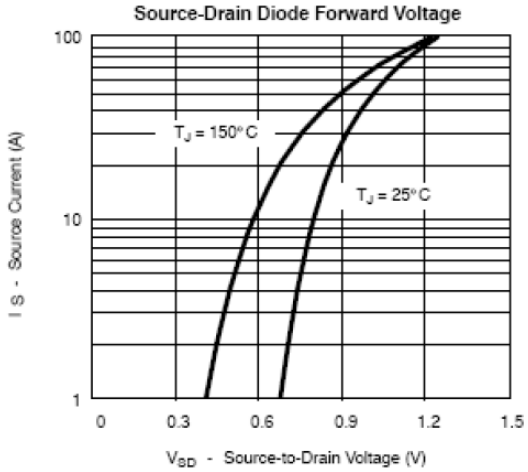


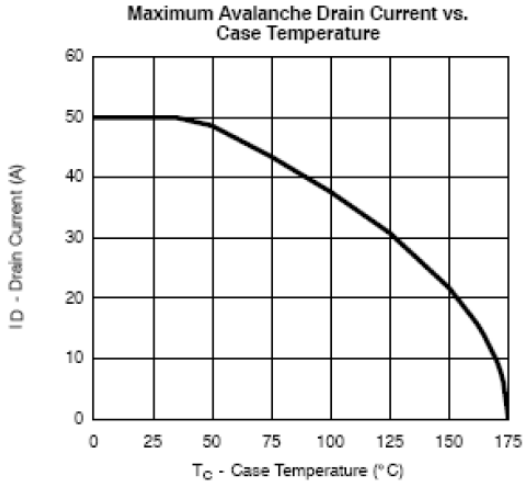


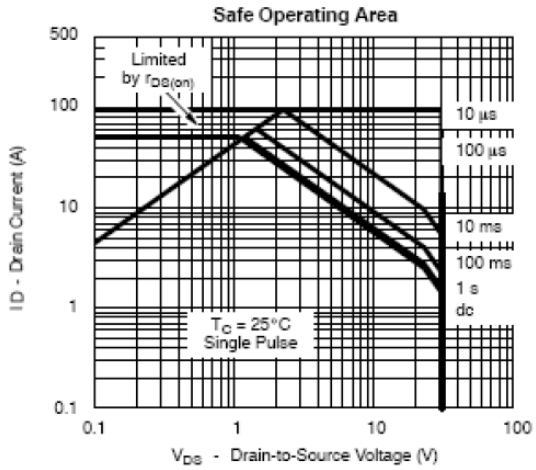
STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com

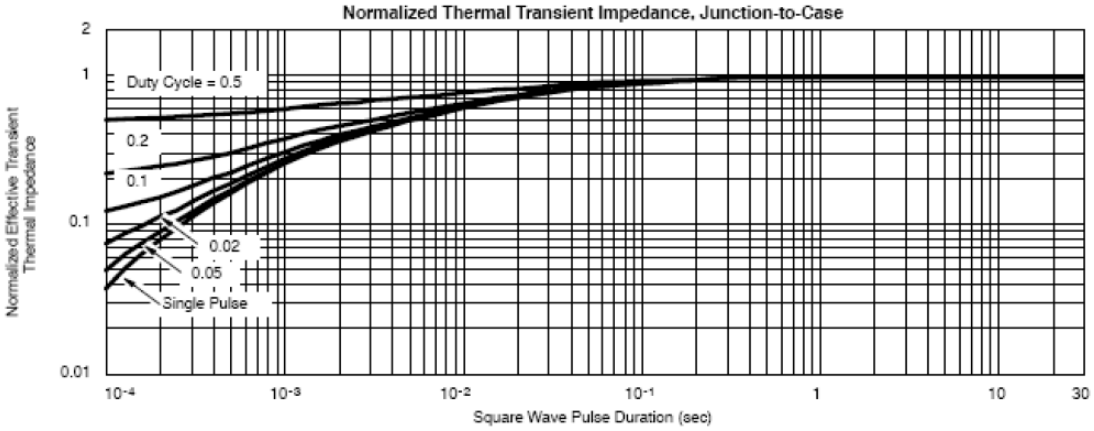
TYPICAL CHARACTERICTICS





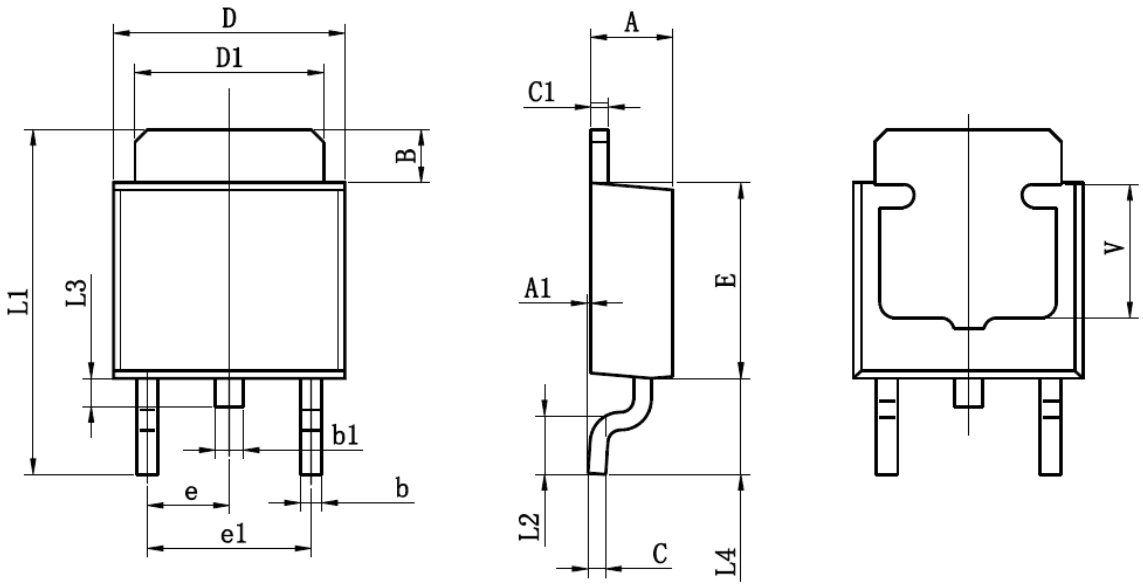






STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com

TO-252-2L PACKAGE OUTLINE SOP-8P



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	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300TYP		0.091TYP	
e1	4.500	4.700	0.177	0.185
L1	9.500	9.900	0.374	0.390
L2	1.400	1.780	0.055	0.070
L3	0.650	0.950	0.026	0.037
L4	2.550	2.900	0.100	0.114
V	3.80REF		0.150REF	

STANSON TECHNOLOGY
120 Bentley Square, Mountain View, Ca 94040 USA
www.stansontech.com