



SPN8822A

Common-Drain Dual N-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPN8822A is the Common-Drain Dual N-Channel logic enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application , notebook computer power management and other battery powered circuits where high-side switching .

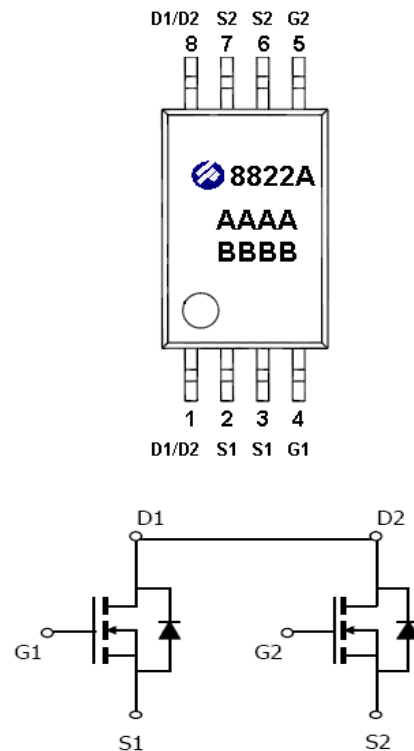
FEATURES

- ◆ 20V/5.8A, $R_{DS(ON)}=30m\Omega@V_{GS}=4.5V$
- ◆ 20V/5.0A, $R_{DS(ON)}=42m\Omega@V_{GS}=2.5V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ TSSOP-8 package design

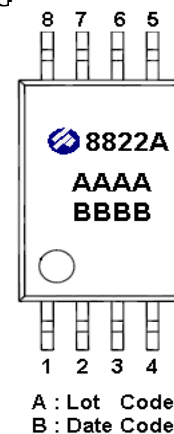
APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION(TSSOP-8)



PART MARKING





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PIN DESCRIPTION

Pin	Symbol	Description
1	D1 / D2	Drain
2	S1	Source
3	S1	Source
4	G1	Gate
5	G2	Gate
6	S2	Source
7	S2	Source
8	D1 / D2	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPN8822ATS8RGB	TSSOP-8	8822A
SPN8822ATS8TGB	TSSOP-8	8822A

※ SPN8822ATS8RGB : 13" Tape Reel ; Pb – Free; Halogen - Free

※ SPN8822ATS8TGB : Tube ; Pb – Free; Halogen - Free

ABSOLUTE MAXIMUM RATINGS

(TA=25°C Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V _{DSS}	20	V
Gate –Source Voltage	V _{GSS}	±12	V
Continuous Drain Current(T _J =150°C)	I _D	7.2	A
		5.4	
Pulsed Drain Current	I _{DM}	30	A
Continuous Source Current(Diode Conduction)	I _S	2.3	A
Power Dissipation	P _D	1.5	W
		0.9	
Operating Junction Temperature	T _J	-55/150	°C
Storage Temperature Range	T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient	R _{θJA}	80	°C/W



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ELECTRICAL CHARACTERISTICS

(T_A=25°C Unless otherwise noted)

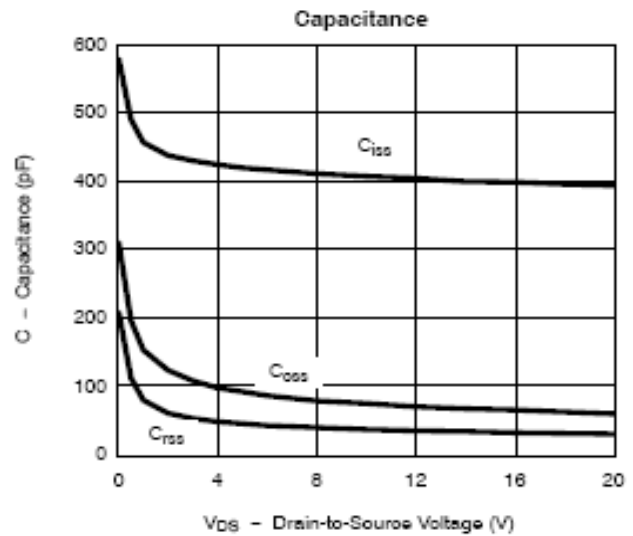
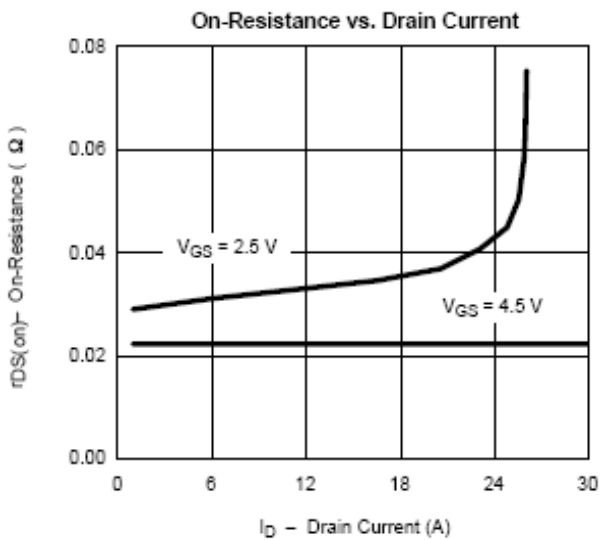
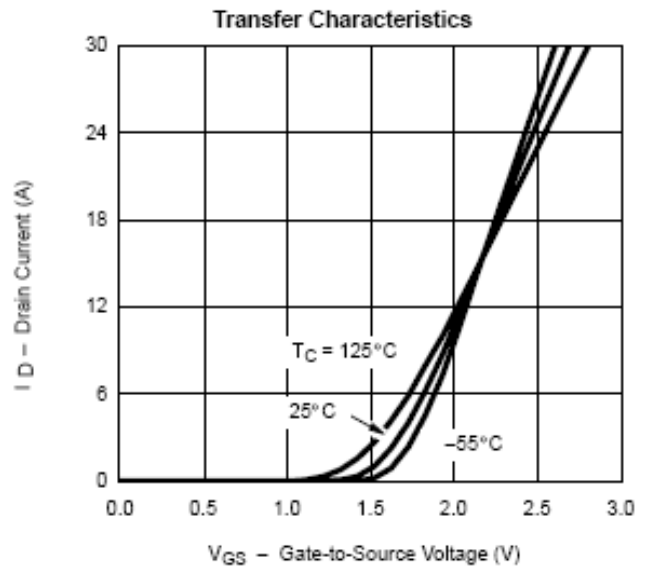
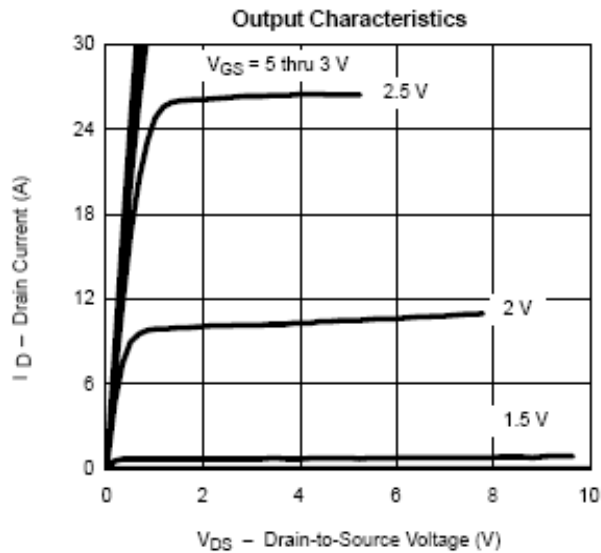
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250uA	20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	0.6			
Gate Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	uA
		V _{DS} =20V, V _{GS} =0V T _J =55°C			10	
On-State Drain Current	I _{D(on)}	V _{DS} ≥5V, V _{GS} =4.5V	6			A
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =5.8A		0.024	0.030	Ω
		V _{GS} =2.5V, I _D =5.0A		0.032	0.042	
Forward Transconductance	g _{fs}	V _{DS} =15V, I _D =5.0A		30		S
Diode Forward Voltage	V _{SD}	I _S =1.7A, V _{GS} =0V		0.8	1.2	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =6.0A		2		nC
Gate-Source Charge	Q _{gs}			2.5		
Gate-Drain Charge	Q _{gd}			2.1		
Input Capacitance	C _{iss}	V _{DS} =8V, V _{GS} =0V f=1MHz		575		pF
Output Capacitance	C _{oss}			84		
Reverse Transfer Capacitance	C _{rss}			22		
Turn-On Time	t _{d(on)}	V _{DD} =10V, R _L =6Ω I _D =1.0A, V _{GEN} =4.5V R _G =6Ω		10	14	nS
	t _r			16	20	
Turn-Off Time	t _{d(off)}			35	40	
	t _f			3	10	



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TYPICAL CHARACTERISTICS

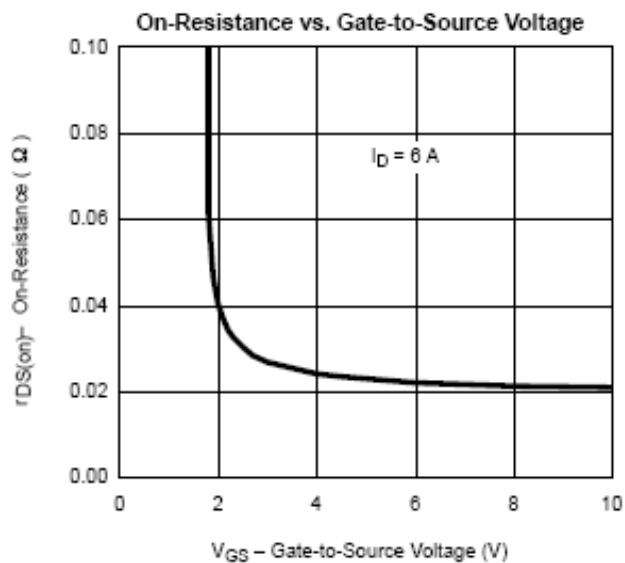
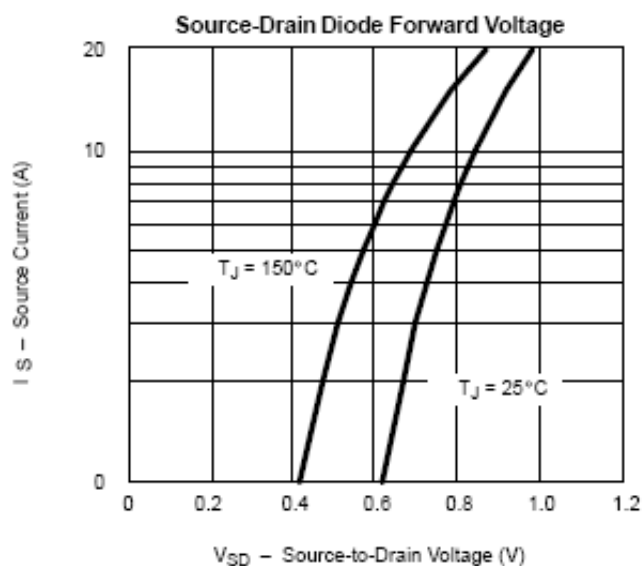
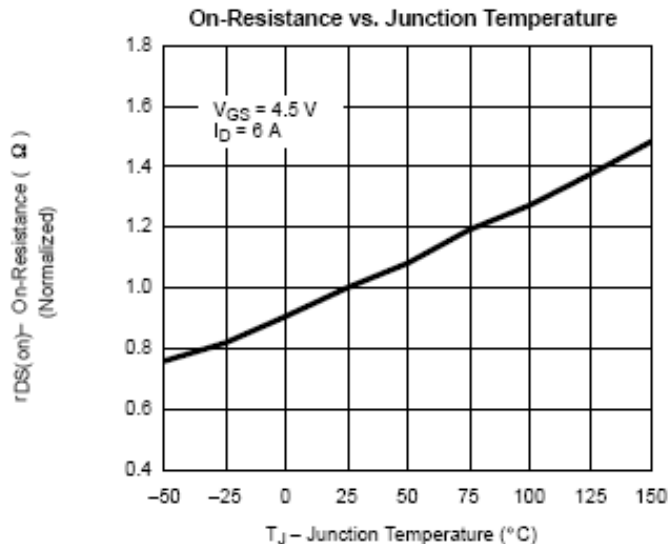
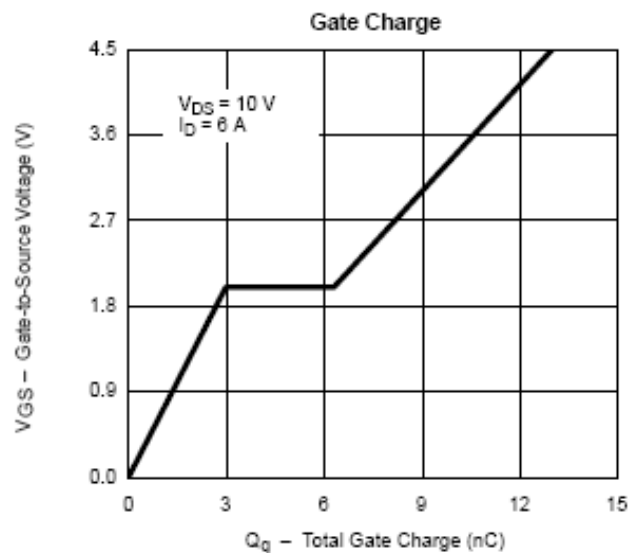




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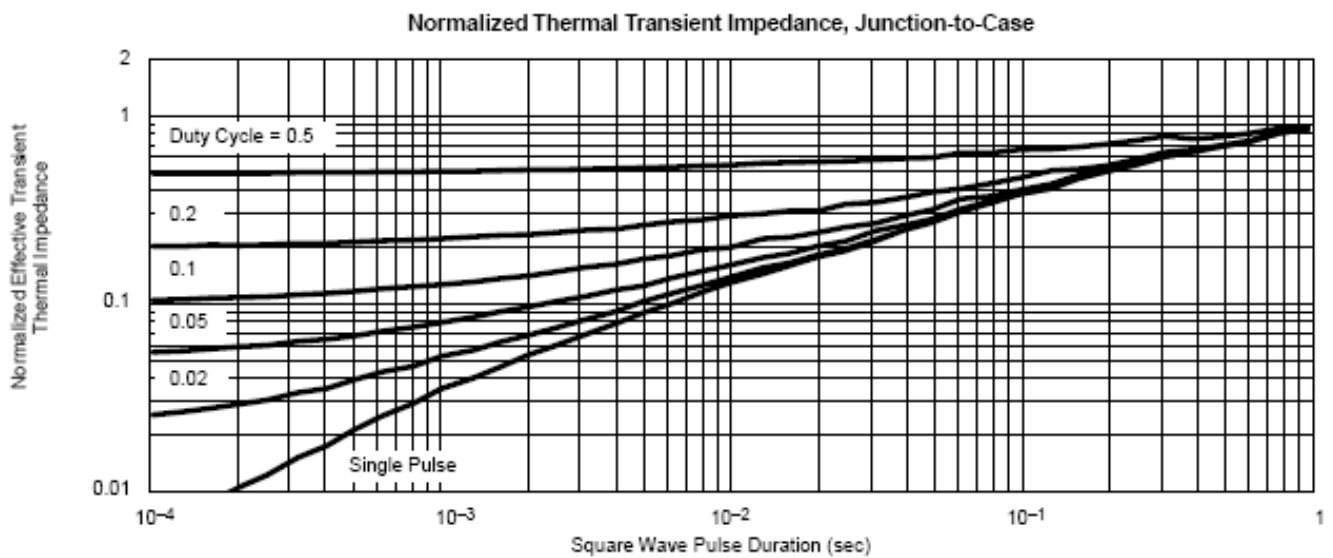
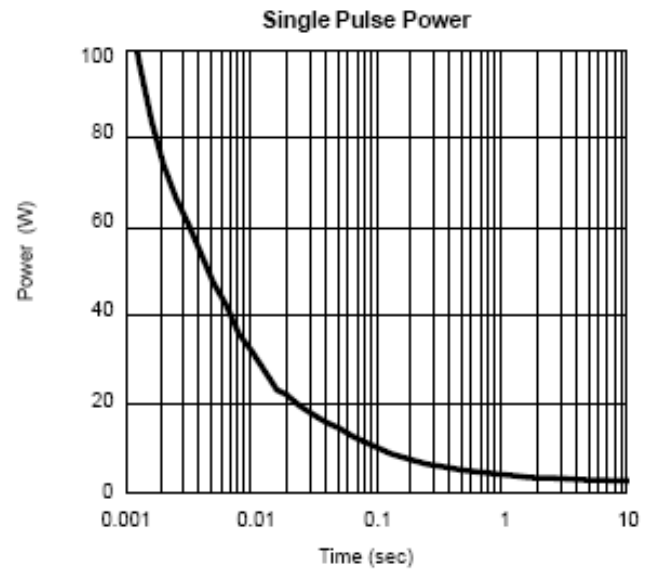
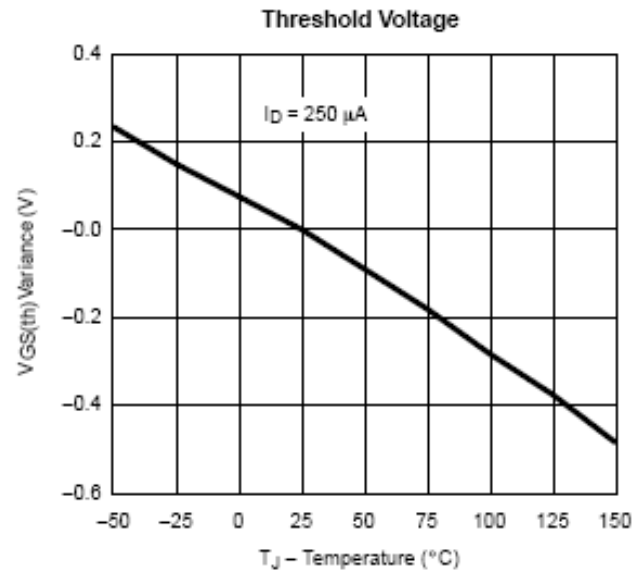




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TYPICAL CHARACTERISTICS





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