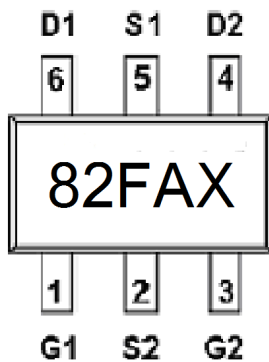


DESCRIPTION

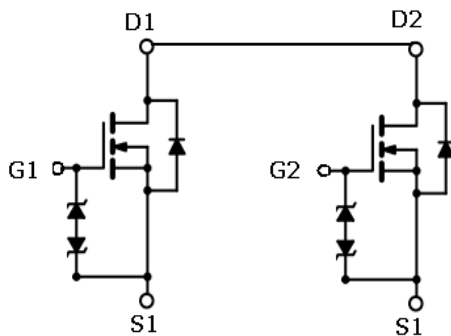
STN8822A is the dual N-Channel enhancement mode power field effect transistor which is produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application, such as notebook computer power management and other battery powered circuits, where high-side switching is required.

**PIN CONFIGURATION
TSOP-6**


F: Year Code
A: Produces Code
X: Wafer Code

FEATURE

- 20V/6.0A, $R_{DS(ON)} = 25\text{m-ohm}$
@ $V_{GS} = 4.5\text{V}$
- 20V/5.0A, $R_{DS(ON)} = 42\text{m-ohm}$
@ $V_{GS} = 2.5\text{V}$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional low on-resistance and maximum DC current capability
- TSOP-6 package design



**STN8822A**

Dual N Channel Enhancement Mode MOSFET

6.0A**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}	+/-10	V
Continuous Drain Current (T _J =150°C)	T _A =25°C	I _D	6.0	A
	T _A =70°C		3.4	
Pulsed Drain Current		I _{DM}	15	A
Continuous Source Current (Diode Conduction)		I _S	1.5	A
Power Dissipation	T _A =25°C	P _D	2.0	W
	T _A =70°C		1.2	
Operation Junction Temperature		T _J	-40/140	°C
Storage Temperature Range		T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient		R _{θJA}	105	°C/W



STN8822A



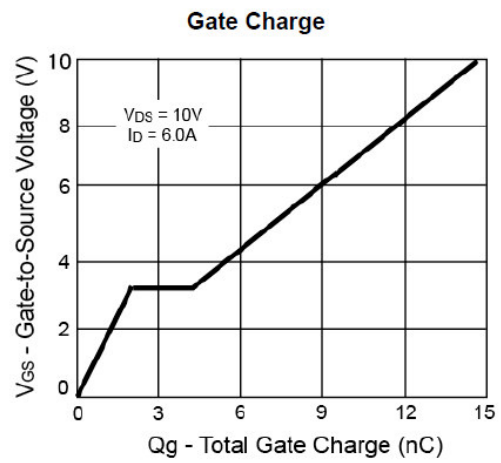
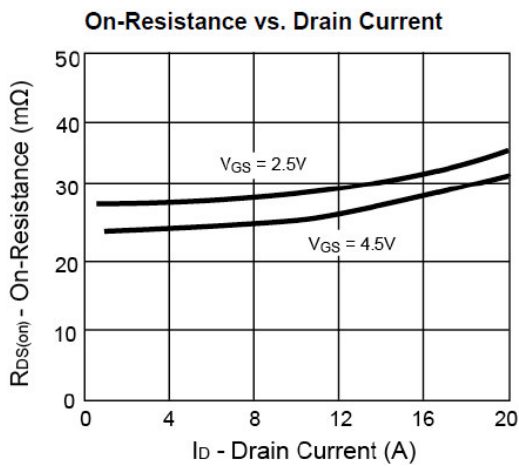
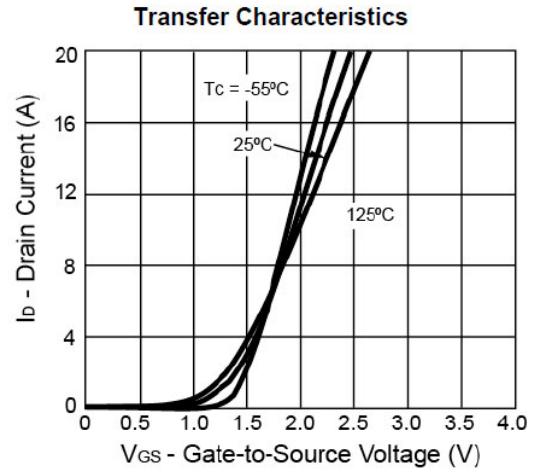
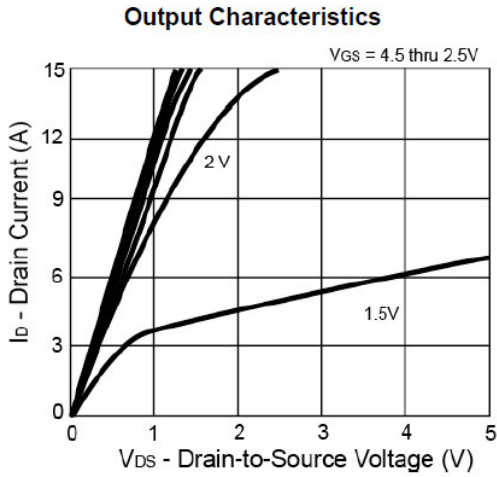
Dual N Channel Enhancement Mode MOSFET

6.0A

ELECTRICAL CHARACTERISTICS (Ta = 25°C unless otherwise noted)

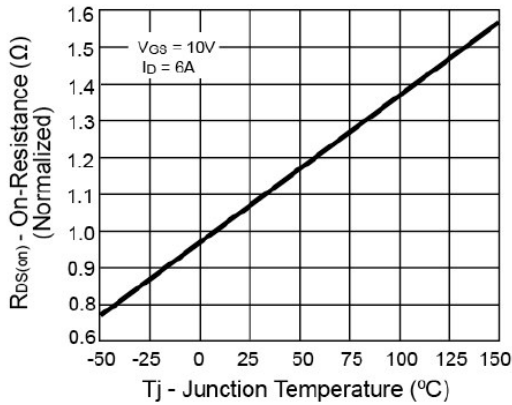
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6		1.0	V
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=+/-10V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	uA
		$V_{DS}=20V, V_{GS}=0V$ $T_J=85^\circ C$			5	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \leq 5V, V_{GS}=4.5V$	6			A
Drain-source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=6.0A$		0.020	0.025	Ω
		$V_{GS}=2.5V, I_D=5.0A$		0.032	0.042	
Forward Transconductance	g_{fs}	$V_{DS}=5V, I_D=3.6A$		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	$V_{DS}=10V, V_{GS}=4.5V, I_D=6.0A$		4		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}			330		
Reverse Transfer Capacitance	C_{rss}			140		
Turn-On Time	$T_{d(on)}$	$V_{DD}=10V, R_L=10\Omega, I_D=1.0A,$ $V_{GEN}=4.5V, R_G=6\Omega$		14		nS
	t_r			16		
Turn-Off Time	$T_{d(off)}$			35		
	t_f			30		

TYPICAL CHARACTERISTICS

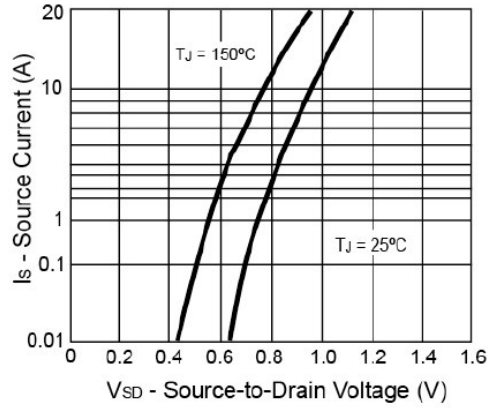


TYPICAL CHARACTERISTICS

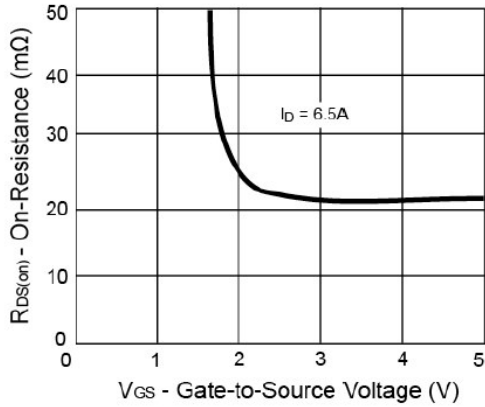
On-Resistance vs. Junction Temperature



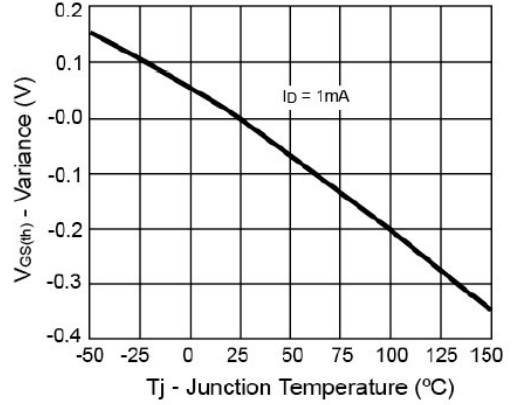
Source-Drain Diode Forward Voltage



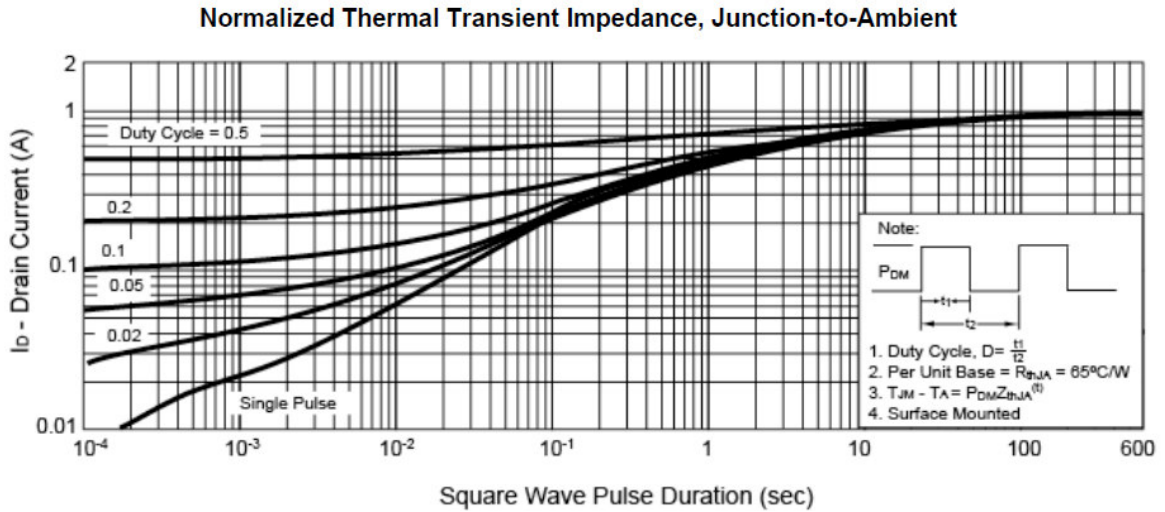
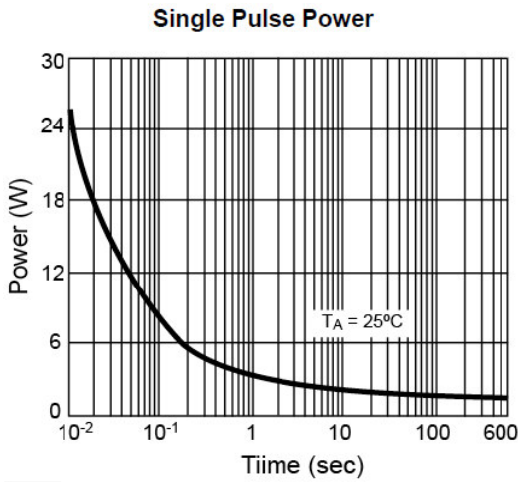
On-Resistance vs. Gate-Source Voltage

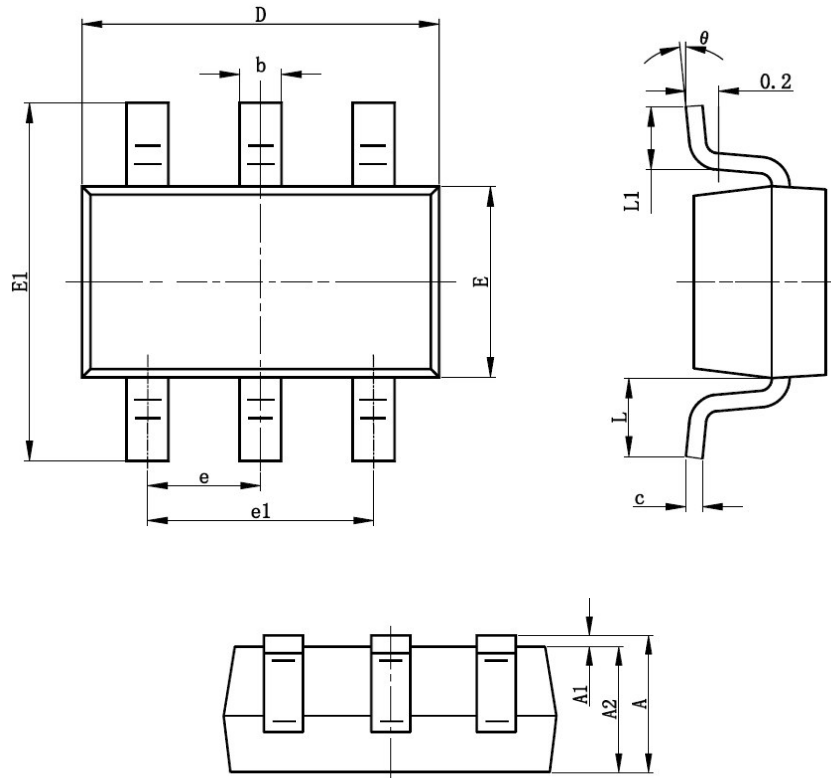


Threshold Voltage



TYPICAL CHARACTERISTICS



TSOP-6 PACKAGE OUTLINE


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.400	0.012	0.016
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°