



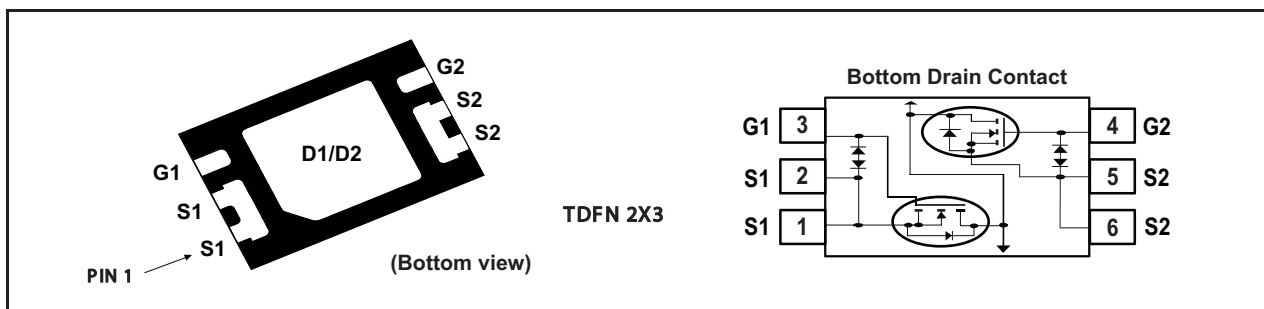
Dual N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY

V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
20V	8.0A	16.0 @ V _{GS} =4.5V
		17.0 @ V _{GS} =4.0V
		18.0 @ V _{GS} =3.7V
		21.0 @ V _{GS} =3.1V
		27.5 @ V _{GS} =2.5V

FEATURES

- Super high dense cell design for low R_{DS(ON)}.
- Rugged and reliable.
- Surface Mount Package.
- ESD Protected.



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Limit	Units
V _{DS}	Drain-Source Voltage	20	V
V _{GS}	Gate-Source Voltage	±12	V
I _D	Drain Current-Continuous ^c	T _A =25°C	8.0
		T _A =70°C	6.4
I _{DM}	-Pulsed ^{a c}	48	A
P _D	Maximum Power Dissipation	T _A =25°C	1.56
		T _A =70°C	1.00
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C

THERMAL CHARACTERISTICS

R _{θJA}	Thermal Resistance, Junction-to-Ambient	80	°C/W
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STF8810

Ver 1.3

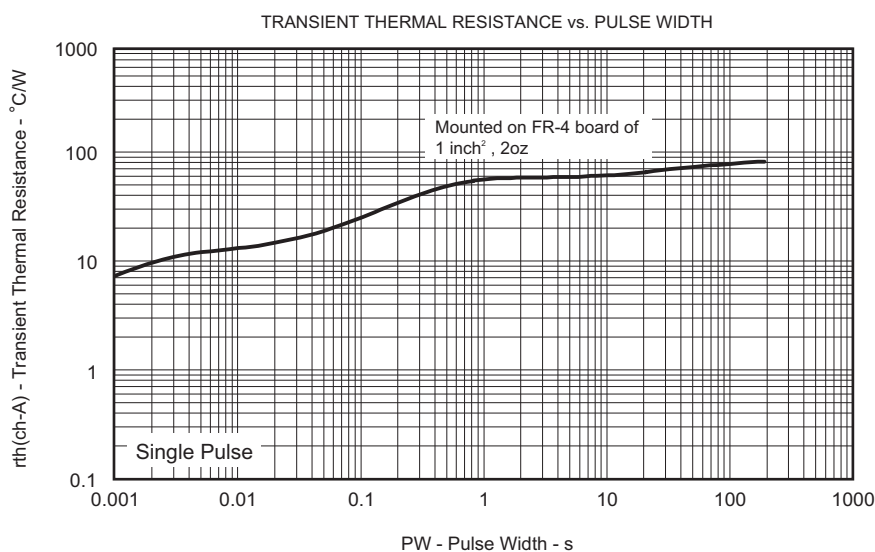
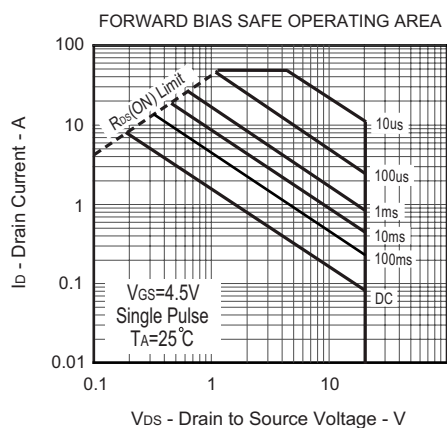
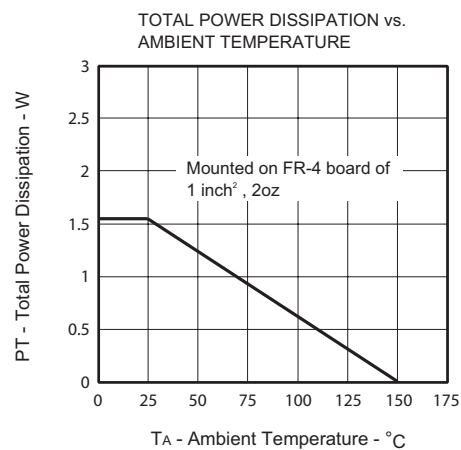
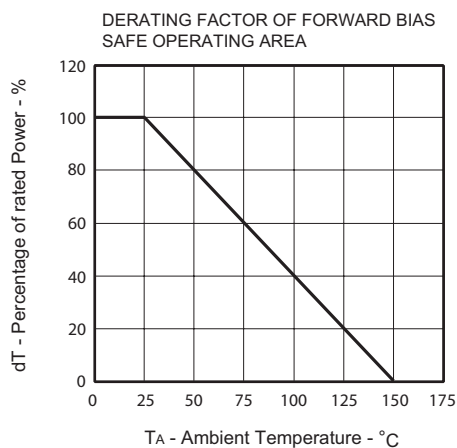
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

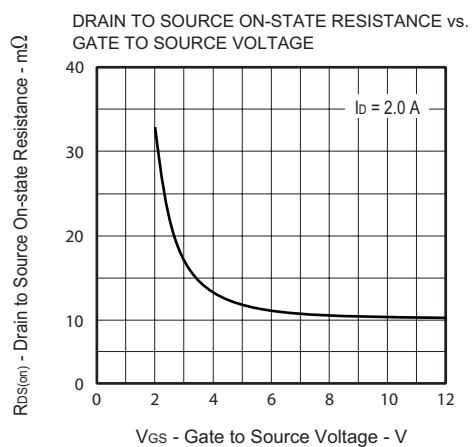
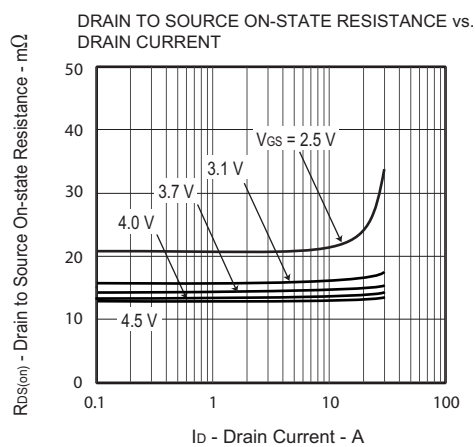
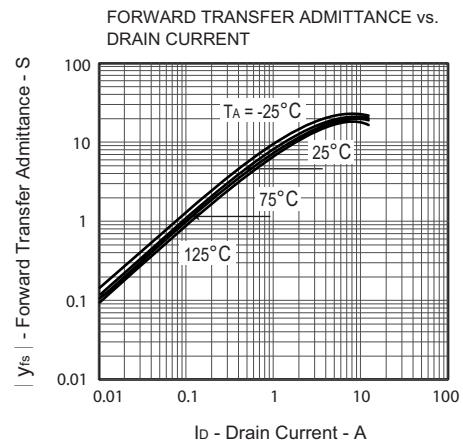
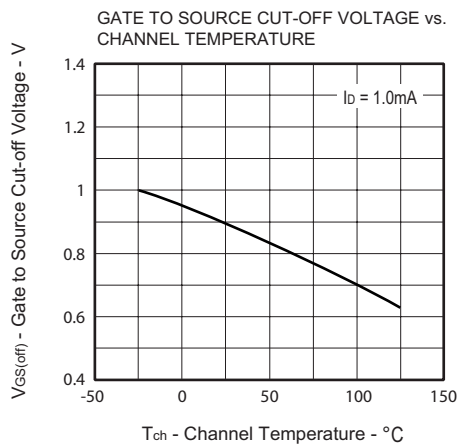
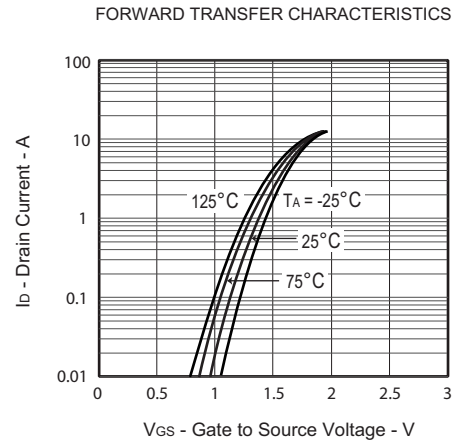
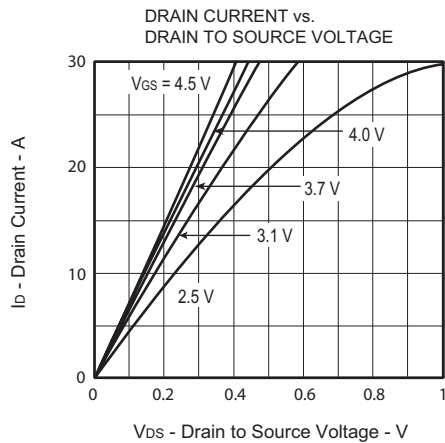
Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =16V , V _{GS} =0V			1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±8V , V _{DS} =0V			±1	uA
ON CHARACTERISTICS						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =1.0mA	0.5	0.9	1.5	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =4.5V , I _D =2.0A	10.0	13.0	16.0	m ohm
		V _{GS} =4.0V , I _D =2.0A	10.5	13.5	17.0	m ohm
		V _{GS} =3.7V , I _D =2.0A	11.0	14.0	18.0	m ohm
		V _{GS} =3.1V , I _D =2.0A	12.5	16.0	21.0	m ohm
		V _{GS} =2.5V , I _D =2.0A	16.5	20.5	27.5	m ohm
g _{FS}	Forward Transconductance	V _{DS} =10V , I _D =4.0A		16		S
DYNAMIC CHARACTERISTICS ^b						
C _{iss}	Input Capacitance	V _{DS} =10V,V _{GS} =0V f=1.0MHz		307		pF
C _{oss}	Output Capacitance			144		pF
C _{RSS}	Reverse Transfer Capacitance			69		pF
SWITCHING CHARACTERISTICS ^b						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =16V I _D =4.0A V _{GS} =4.0V R _{GEN} =6 ohm		68		ns
t _r	Rise Time			293		ns
t _{D(OFF)}	Turn-Off Delay Time			697		ns
t _f	Fall Time			567		ns
Q _g	Total Gate Charge	V _{DS} =16V,I _D =8.0A, V _{GS} =4.0V		9		nC
Q _{gs}	Gate-Source Charge			1.8		nC
Q _{gd}	Gate-Drain Charge			5.4		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{SD}	Diode Forward Voltage	V _{GS} =0V,I _S =8.0A		0.88	1.2	V

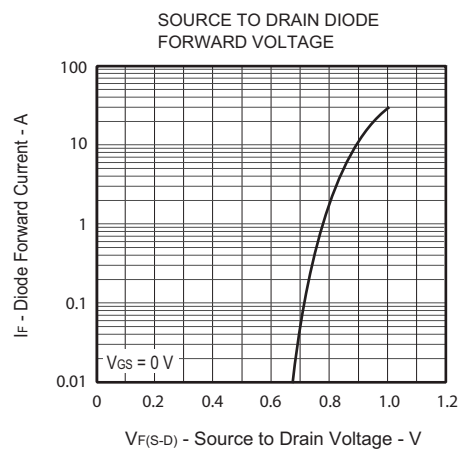
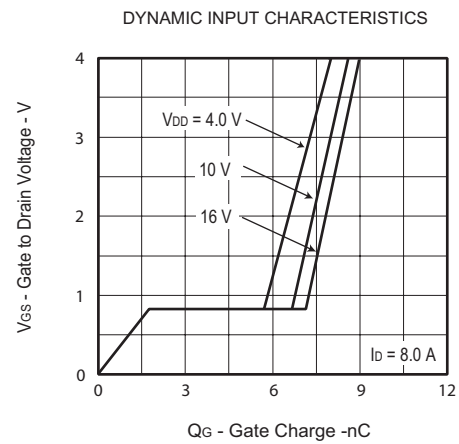
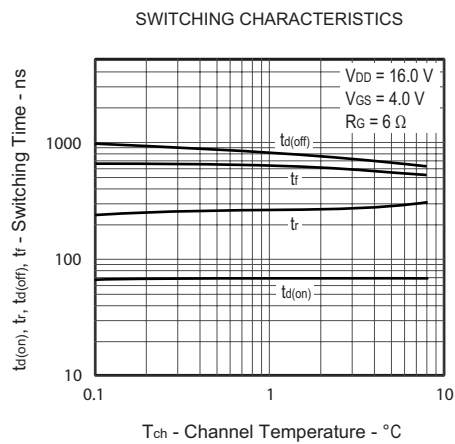
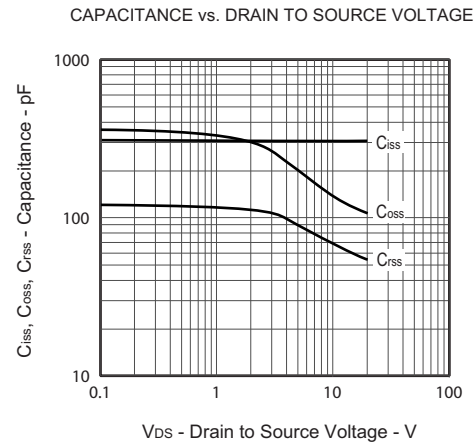
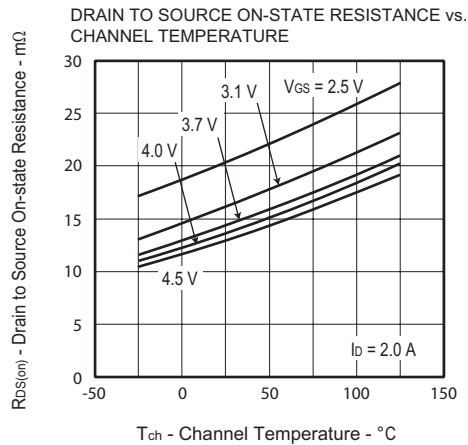
Notes

- a. Pulse Test: Pulse Width ≤ 10us, Duty Cycle ≤ 1%.
- b. Guaranteed by design, not subject to production testing.
- c. Drain current limited by maximum junction temperature.
- d. Mounted on FR4 Board of 1 inch², 2oz.

Jul, 18, 2014

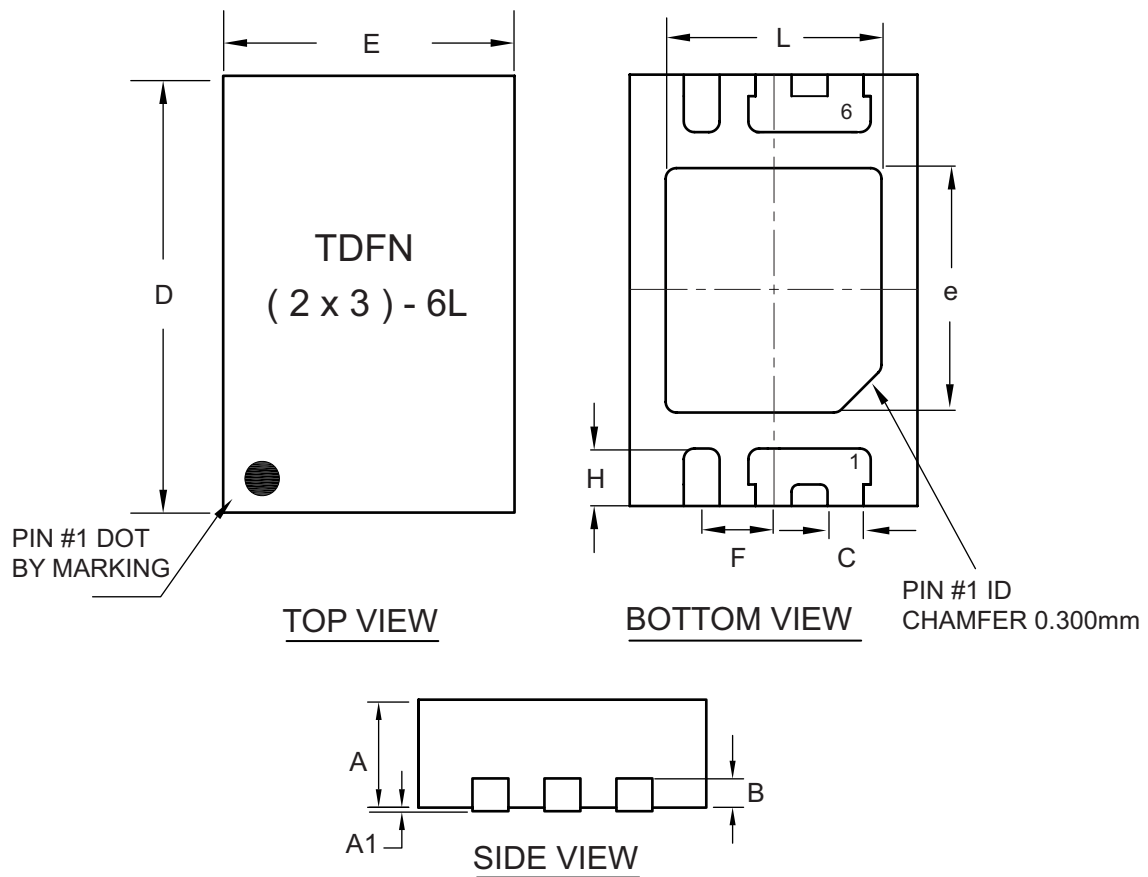






PACKAGE OUTLINE DIMENSIONS

TDFN



SYMBOLS	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
D	2.950	3.050	0.116	0.120
E	1.950	2.050	0.077	0.081
H	0.350	0.450	0.014	0.018
L	1.450	1.550	0.057	0.061
e	1.650	1.750	0.065	0.069
B	0.195	0.211	0.0076	0.008
C	0.200	0.300	0.008	0.012
F	0.500 BSC		0.020 BSC	

TOP MARKING DEFINITION

