

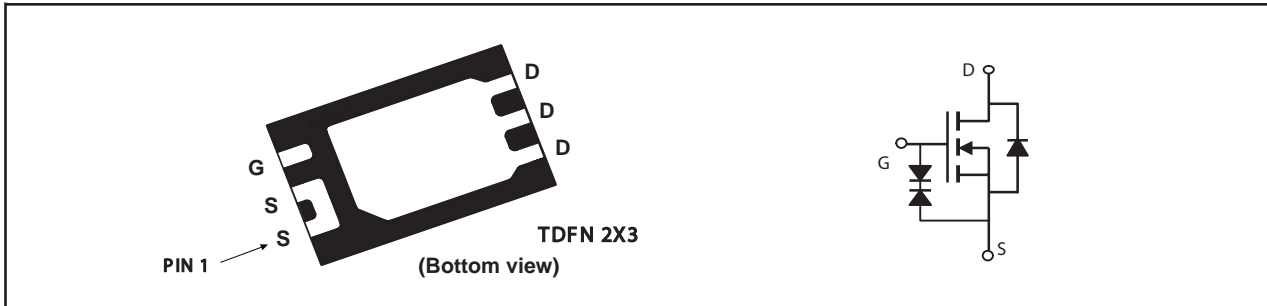


N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
20V	14A	5.2 @ V _{GS} =4.5V
		5.3 @ V _{GS} =4.0V
		5.4 @ V _{GS} =3.7V
		5.9 @ V _{GS} =3.1V
		6.8 @ 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 ^a	T _A =25°C	14
		T _A =70°C	11.2
I _{DM}	-Pulsed ^b	80	A
P _D	Maximum Power Dissipation ^a	T _A =25°C	1.8
		T _A =70°C	1.1
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C

THERMAL CHARACTERISTICS

R _{θJA}	Thermal Resistance, Junction-to-Ambient ^a	70	°C/W
------------------	--	----	------

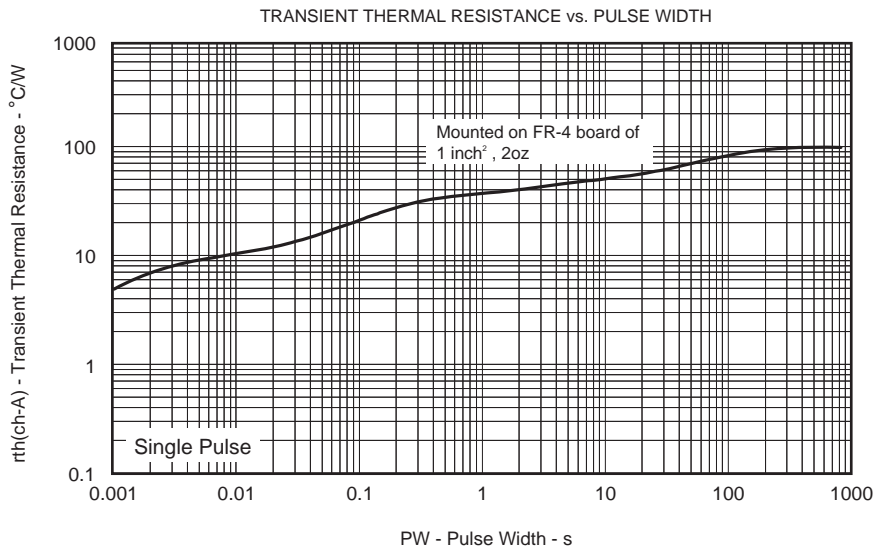
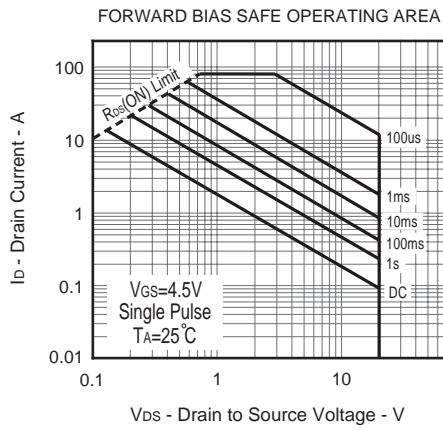
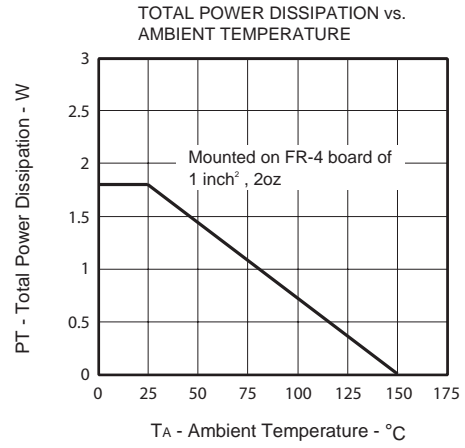
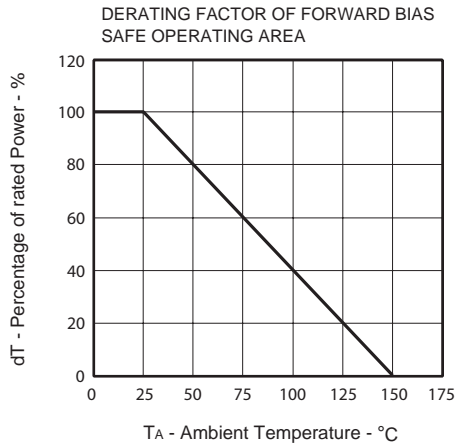
STF8234

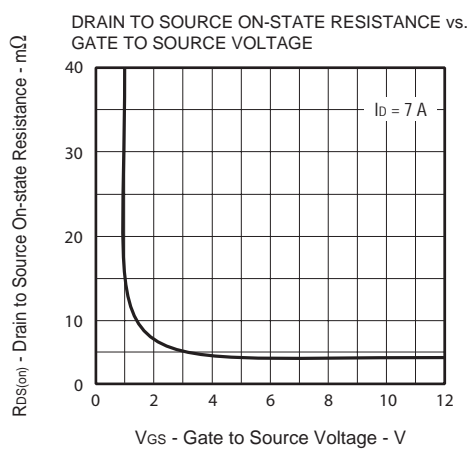
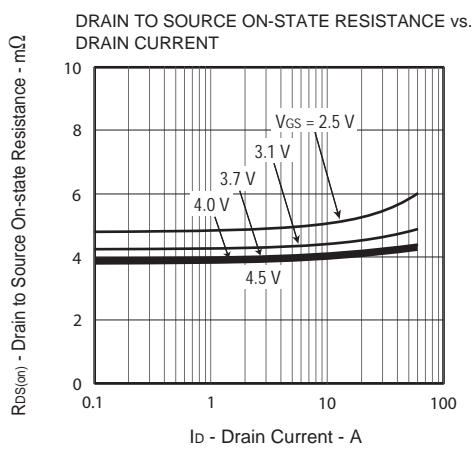
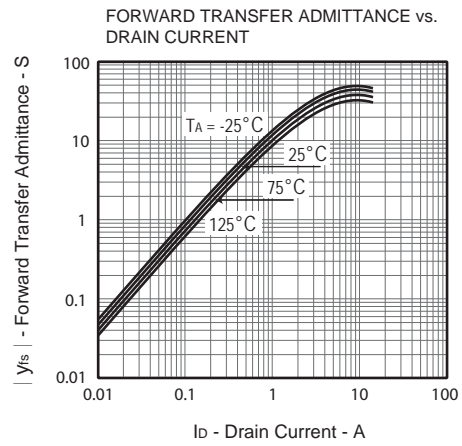
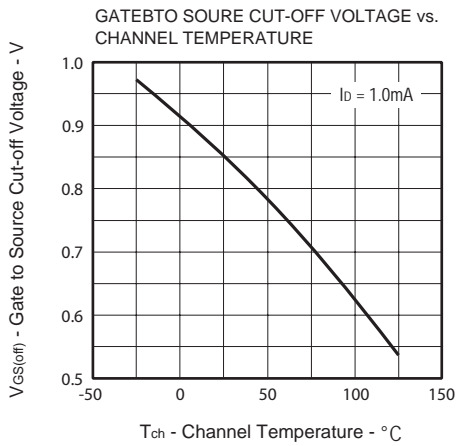
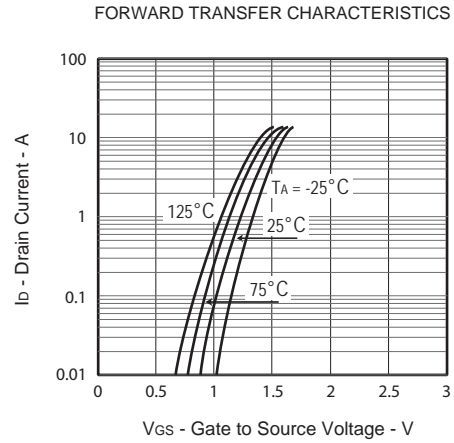
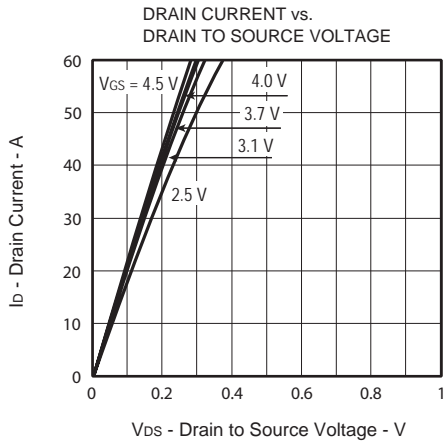
Ver 1.0

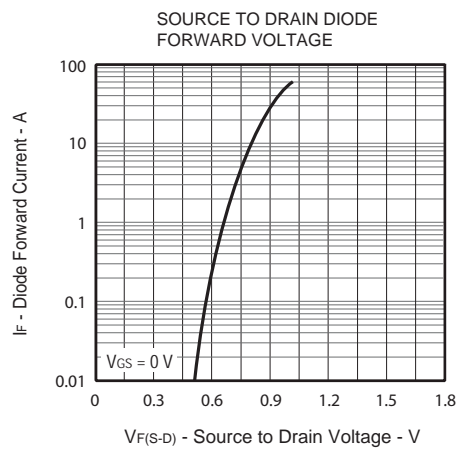
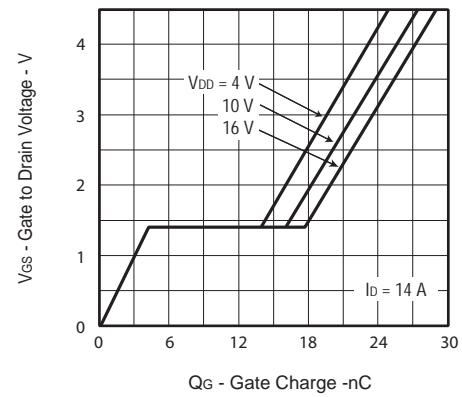
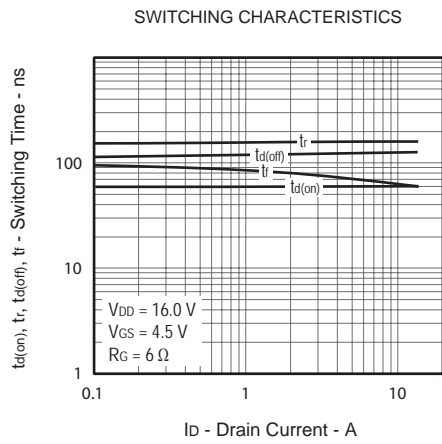
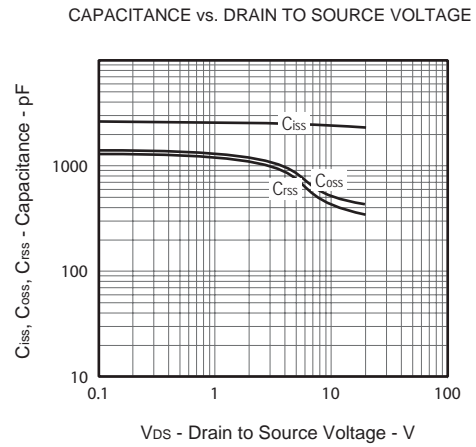
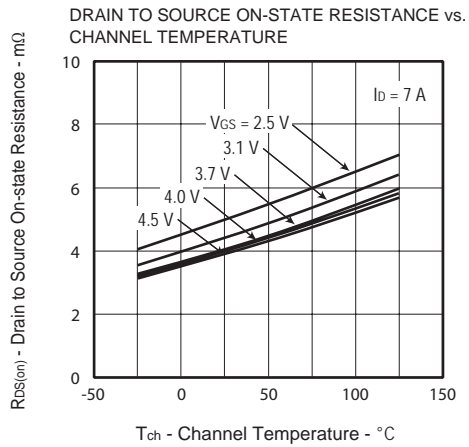
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV _{bss}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =18V, V _{GS} =0V			1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±12V, V _{DS} =0V			±10	uA
ON CHARACTERISTICS						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =1.0mA	0.5	0.85	1.5	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =4.5V, I _D =7A	3.0	3.9	5.2	m ohm
		V _{GS} =4.0V, I _D =7A	3.1	4.0	5.3	m ohm
		V _{GS} =3.7V, I _D =7A	3.3	4.1	5.4	m ohm
		V _{GS} =3.1V, I _D =7A	3.5	4.4	5.9	m ohm
		V _{GS} =2.5V, I _D =7A	4.0	5.0	6.8	m ohm
g _{FS}	Forward Transconductance	V _{DS} =5V, I _D =7A		56		S
DYNAMIC CHARACTERISTICS ^c						
C _{ISS}	Input Capacitance	V _{DS} =10V, V _{GS} =0V f=1.0MHz		2460		pF
C _{OSS}	Output Capacitance			510		pF
C _{RSS}	Reverse Transfer Capacitance			454		pF
SWITCHING CHARACTERISTICS ^c						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =16V I _D =7A		60		ns
t _r	Rise Time			168		ns
t _{D(OFF)}	Turn-Off Delay Time	V _{GS} =4.5V R _{GEN} = 6 ohm		133		ns
t _f	Fall Time			71		ns
Q _g	Total Gate Charge	V _{DS} =16V, I _D =14A, V _{GS} =4.5V		29		nC
Q _{gs}	Gate-Source Charge			4.2		nC
Q _{gd}	Gate-Drain Charge			13.5		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =14A		0.82	1.2	V
Notes						
a.Surface Mounted on FR4 Board, t ≤ 10sec.						
b.Pulse Test:Pulse Width < 10us, Duty Cycle < 1%.						
c.Guaranteed by design, not subject to production testing.						

Nov,09,2012







PACKAGE OUTLINE DIMENSIONS

