



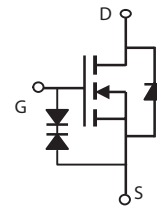
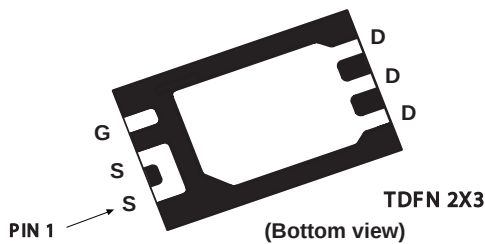
N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY

V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
24V	13A	6.2 @ V _{GS} =4.5V
		6.3 @ V _{GS} =4.0V
		6.5 @ V _{GS} =3.7V
		7.0 @ V _{GS} =3.1V
		8.5 @ 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	24	V
V _{GS}	Gate-Source Voltage	±12	V
I _D	Drain Current-Continuous ^a	T _A =25°C	13
		T _A =70°C	10.4
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
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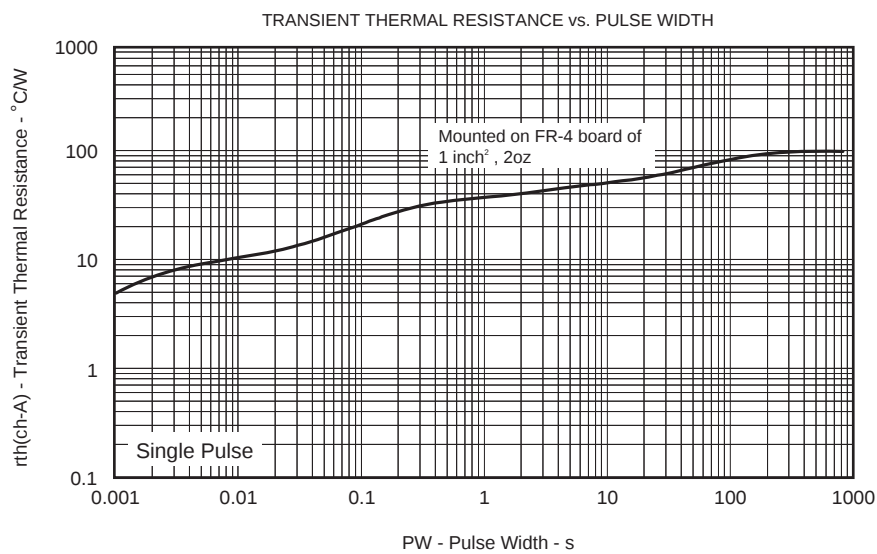
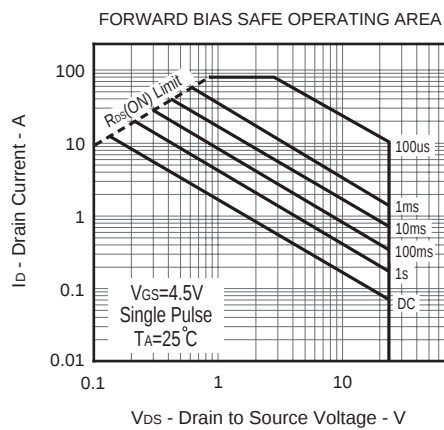
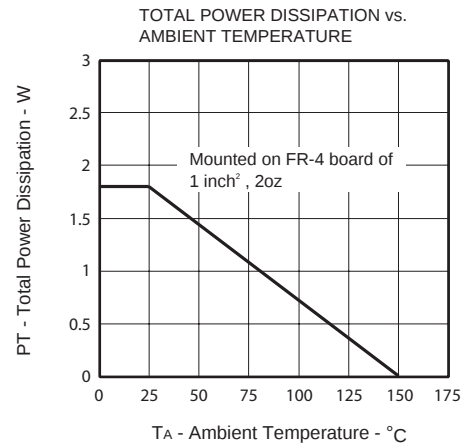
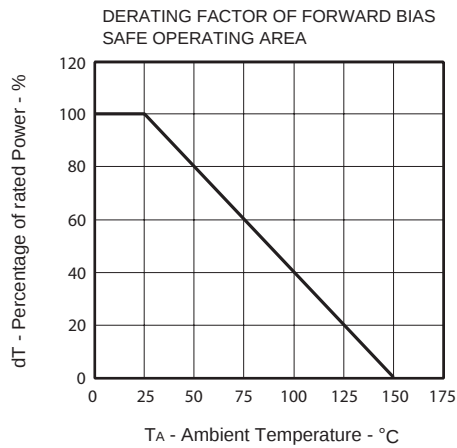
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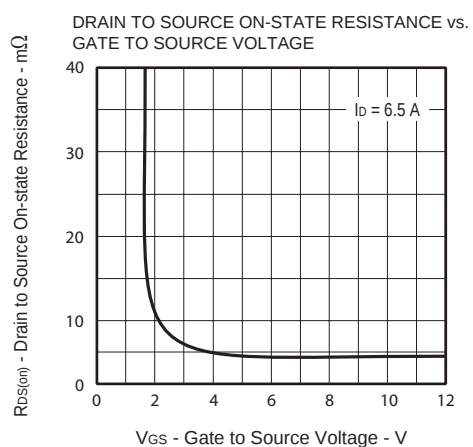
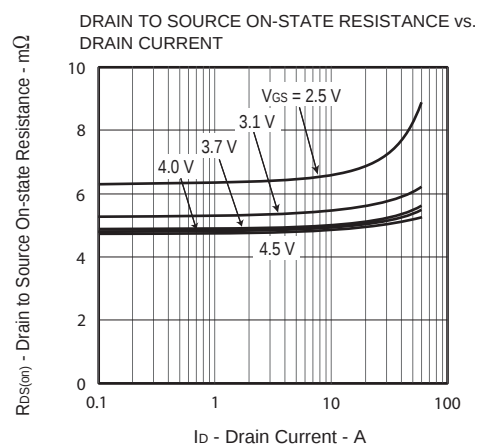
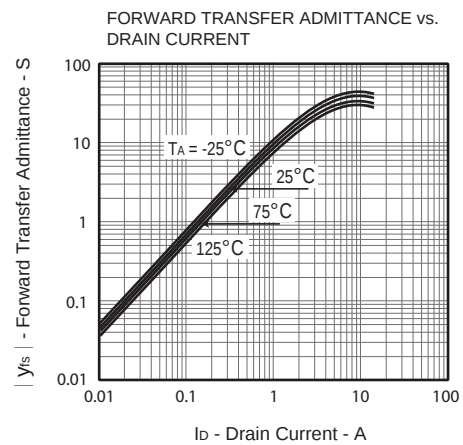
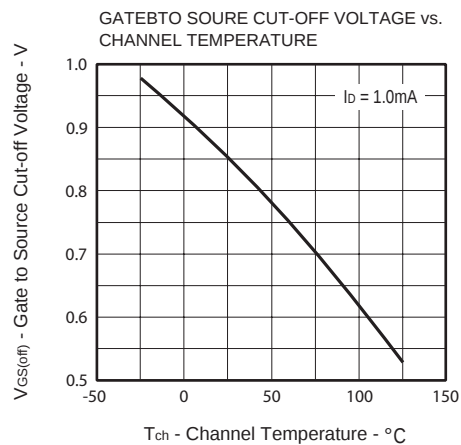
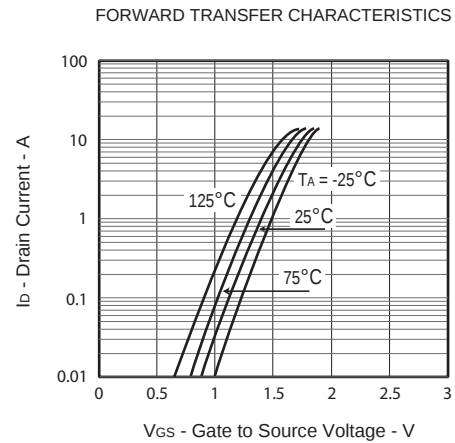
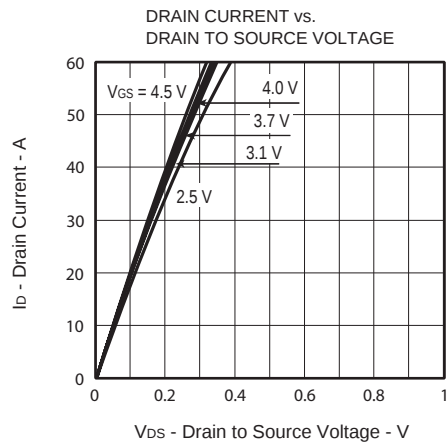
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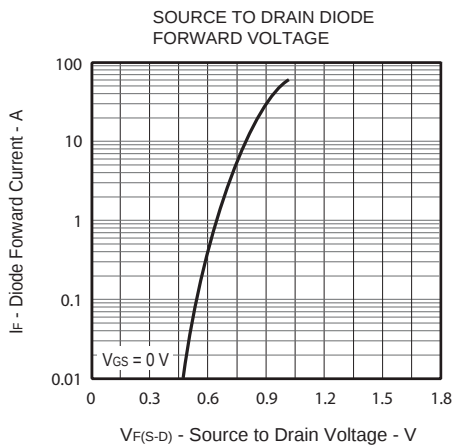
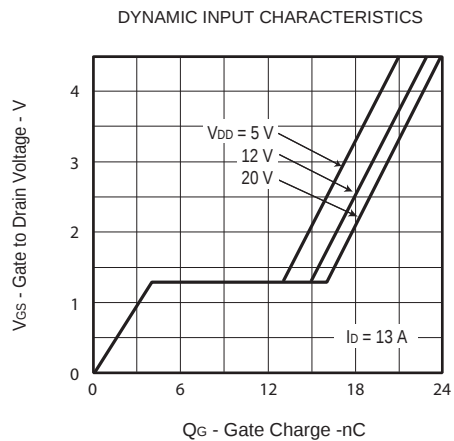
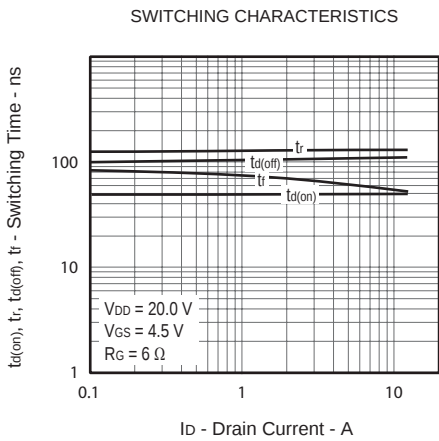
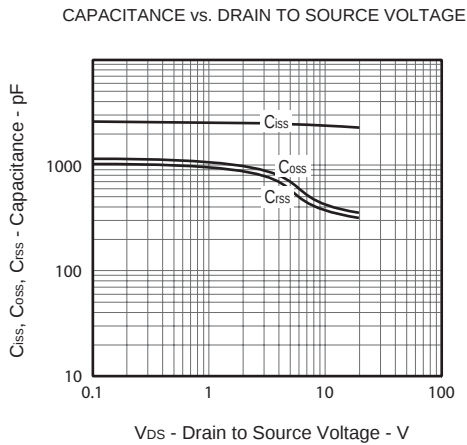
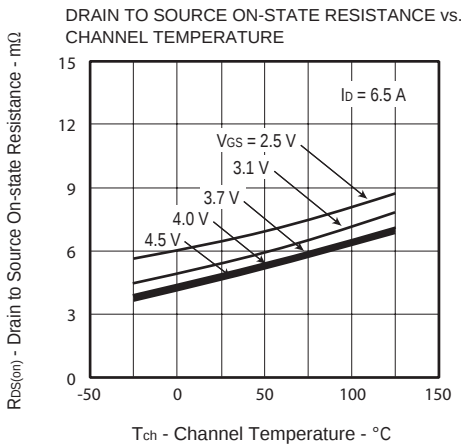
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	24			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V , 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 =6.5A	3.5	4.7	6.2	m ohm
		V _{GS} =4.0V , I _D =6.5A	3.6	4.8	6.3	m ohm
		V _{GS} =3.7V , I _D =6.5A	3.8	4.9	6.5	m ohm
		V _{GS} =3.1V , I _D =6.5A	4.1	5.4	7.0	m ohm
		V _{GS} =2.5V , I _D =6.5A	5.0	6.5	8.5	m ohm
g _{FS}	Forward Transconductance	V _{DS} =5V , I _D =6.5A		39		S
DYNAMIC CHARACTERISTICS ^c						
C _{ISS}	Input Capacitance	V _{DS} =10V,V _{GS} =0V f=1.0MHz		2400		pF
C _{OSS}	Output Capacitance			422		pF
C _{RSS}	Reverse Transfer Capacitance			376		pF
SWITCHING CHARACTERISTICS ^c						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =16V I _D =6.5A V _{GS} =4.5V R _{GEN} = 6 ohm		50		ns
t _r	Rise Time			139		ns
t _{D(OFF)}	Turn-Off Delay Time			110		ns
t _f	Fall Time			59		ns
Q _g	Total Gate Charge	V _{DS} =16V,I _D =13A, V _{GS} =4.5V		24		nC
Q _{gs}	Gate-Source Charge			4		nC
Q _{gd}	Gate-Drain Charge			12		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{SD}	Diode Forward Voltage	V _{GS} =0V,I _S =13A		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

