

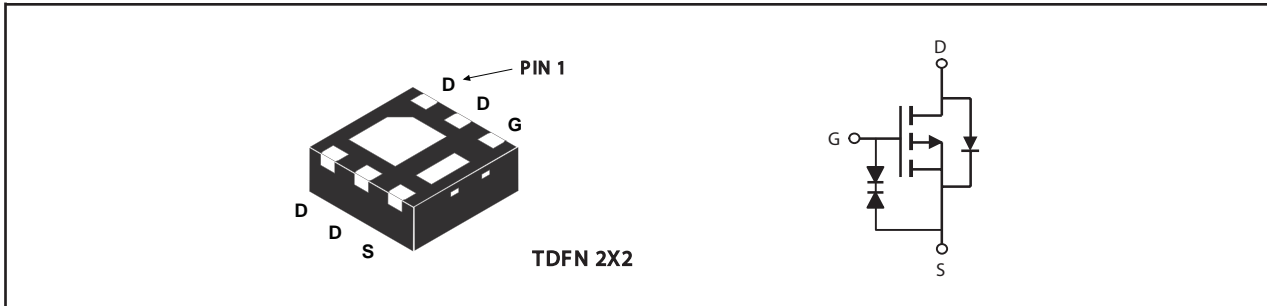


P-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
-20V	-4.5A	47 @ V _{GS} =-4.5V
		48 @ V _{GS} =-4.0V
		50 @ V _{GS} =-3.7V
		56 @ V _{GS} =-3.1V
		64 @ 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	±10	V	
I _D	Drain Current-Continuous ^{a d}	T _A =25°C	-4.5	A
		T _A =70°C	-3.6	A
I _{DM}	-Pulsed ^b	-23	A	
P _D	Maximum Power Dissipation ^a	T _A =25°C	1.67	W
		T _A =70°C	1.07	W
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C	

THERMAL CHARACTERISTICS

R _{θJA}	Thermal Resistance, Junction-to-Ambient	75	°C/W
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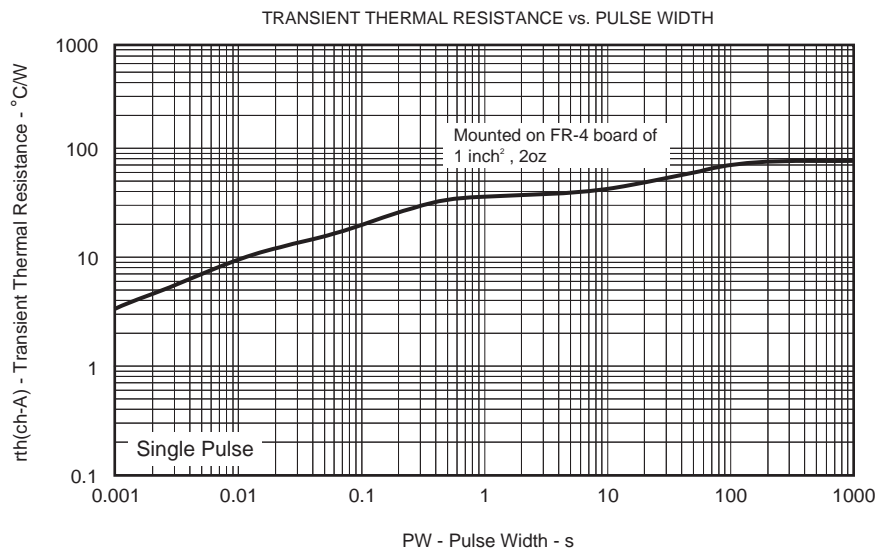
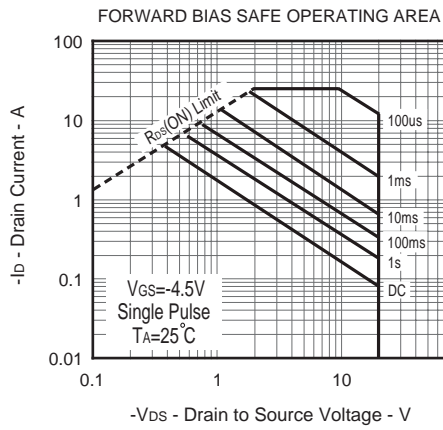
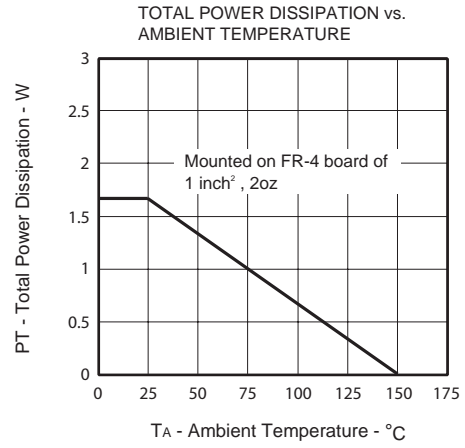
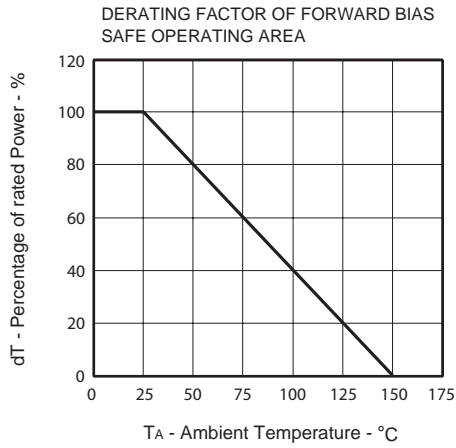
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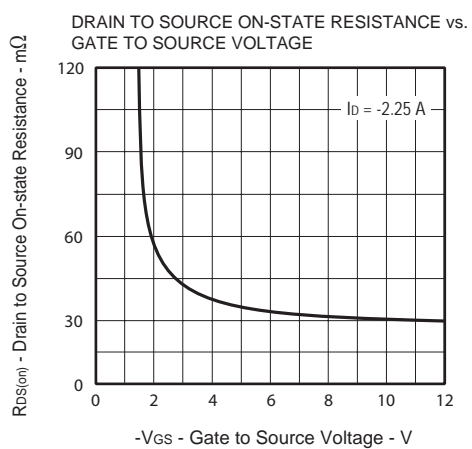
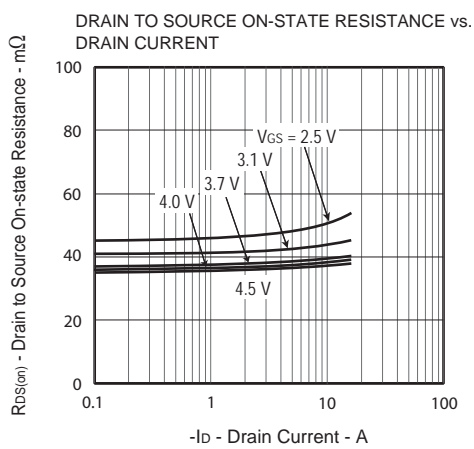
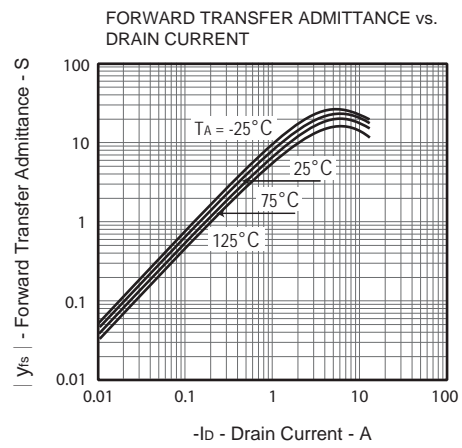
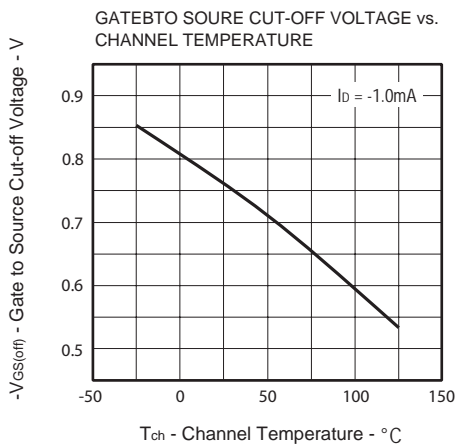
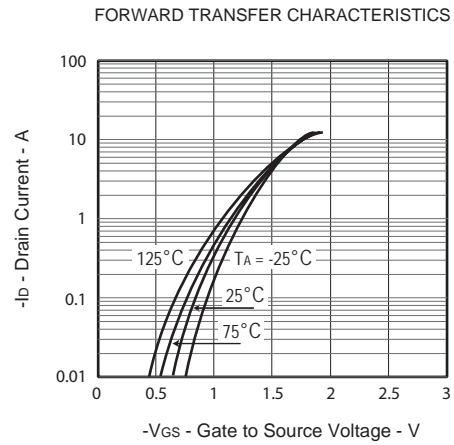
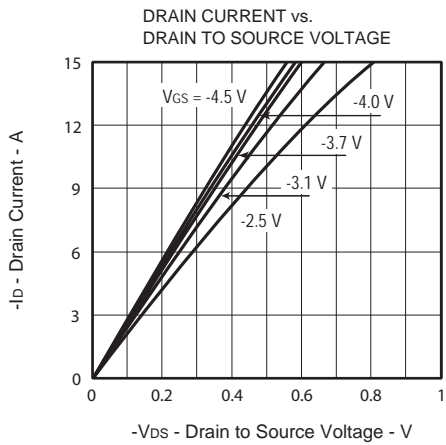
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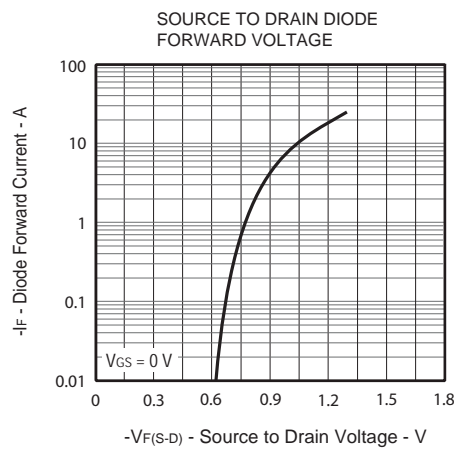
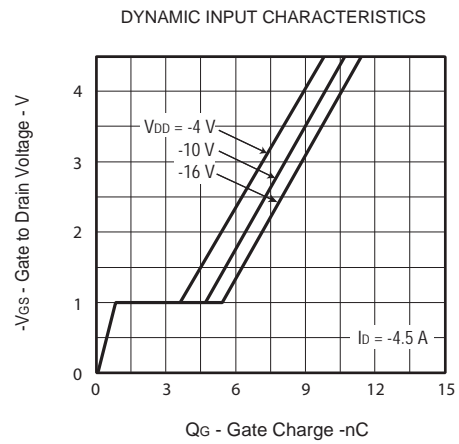
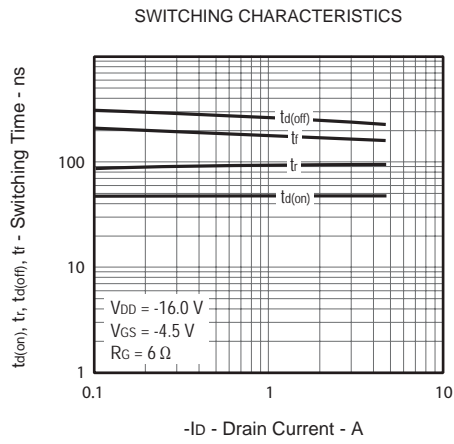
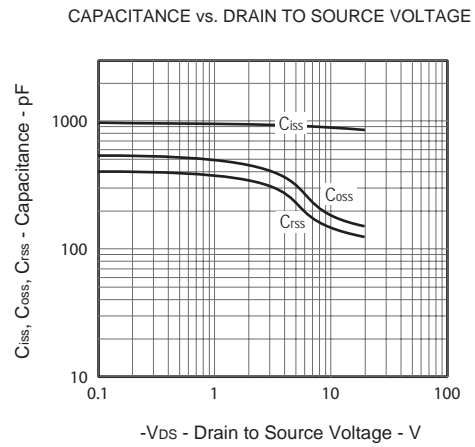
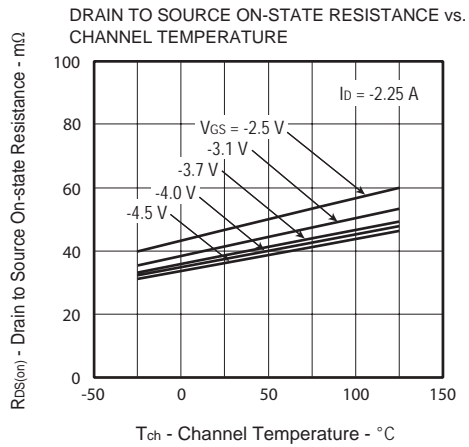
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV _{bss}	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} = ±10V , V _{DS} =0V			±10	uA
ON CHARACTERISTICS						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-1.0mA	-0.5	-0.75	-1.5	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =-4.5V , I _D =-2.25A	27	36	47	m ohm
		V _{GS} =-4.0V , I _D =-2.25A	28	37	48	m ohm
		V _{GS} =-3.7V , I _D =-2.25A	29	38	50	m ohm
		V _{GS} =-3.1V , I _D =-2.25A	32	42	56	m ohm
		V _{GS} =-2.5V , I _D =-2.25A	36	47	64	m ohm
g _{FS}	Forward Transconductance	V _{DS} =-5V , I _D =-2.25A		13		S
DYNAMIC CHARACTERISTICS ^c						
C _{ISS}	Input Capacitance	V _{DS} =-10V, V _{GS} =0V f=1.0MHz		880		pF
C _{OSS}	Output Capacitance			174		pF
C _{RSS}	Reverse Transfer Capacitance			134		pF
SWITCHING CHARACTERISTICS ^c						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =-16V I _D =-2.25A V _{GS} =-4.5V R _{GEN} = 6 ohm		45		ns
t _r	Rise Time			82		ns
t _{D(OFF)}	Turn-Off Delay Time			225		ns
t _f	Fall Time			148		ns
Q _g	Total Gate Charge				11.4	
Q _{gs}	Gate-Source Charge	V _{DS} =-16V, I _D =-4.5A, V _{GS} =4.5V		0.8		nC
Q _{gd}	Gate-Drain Charge			4.6		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =-4.5A		-0.92	-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.						
d.Drain current limited by maximum junction temperature.						

Apr,26,2013

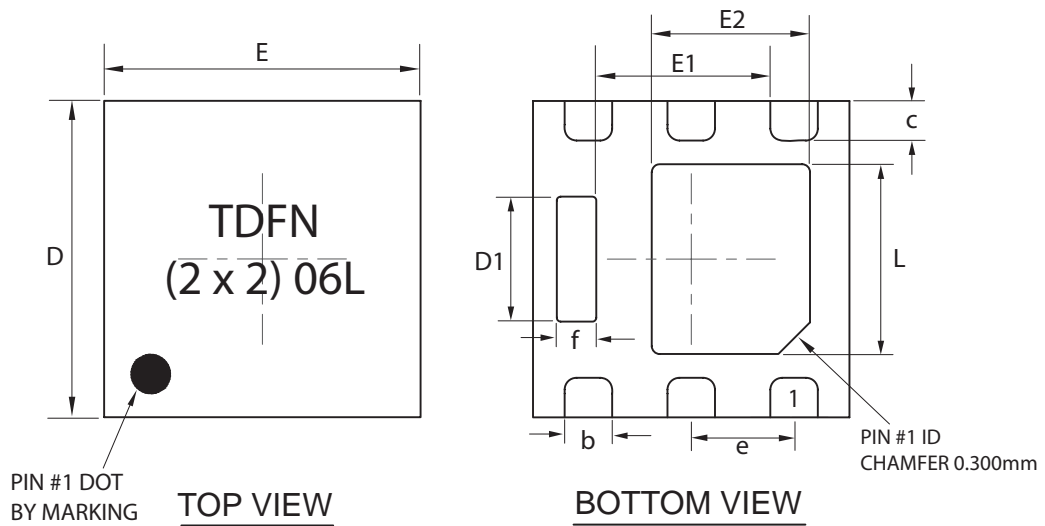






PACKAGE OUTLINE DIMENSIONS

TDFN 2x2-6L



SYMBOLS	MILLIMETERS		
	MIN	NOM	MAX
A	0.550	0.600	0.650
A1	0.000	—	0.050
b	0.250	0.300	0.350
c	0.200	0.250	0.300
D	1.950	2.000	2.050
D1	0.740	0.790	0.840
E	1.950	2.000	2.050
E1	1.100 REF.		
E2	0.950	1.000	1.050
e	0.650 BSC.		
f	0.200	0.250	0.300
L	1.150	1.200	1.250
L1	0.144	0.152	0.160