

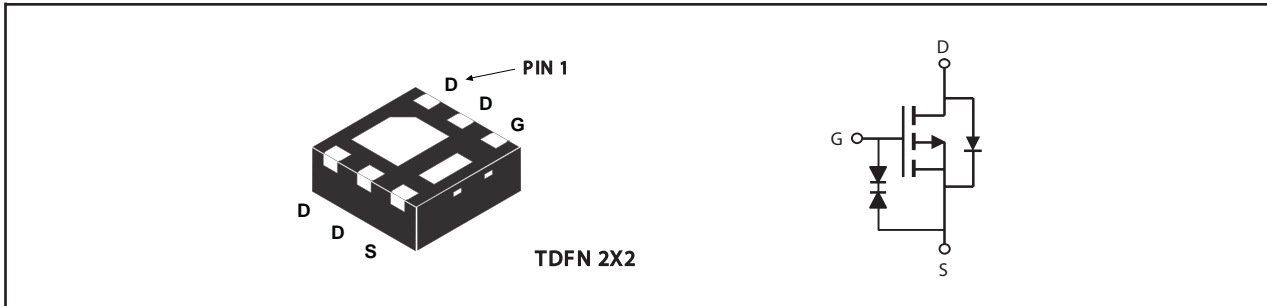


P-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
-20V	-5.6A	29 @ V _{GS} =-4.5V
		30 @ V _{GS} =-4.0V
		32 @ V _{GS} =-3.7V
		36 @ V _{GS} =-3.1V
		43 @ 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	-5.6	A
		T _A =70°C	-4.5	A
I _{DM}	-Pulsed ^b	-28	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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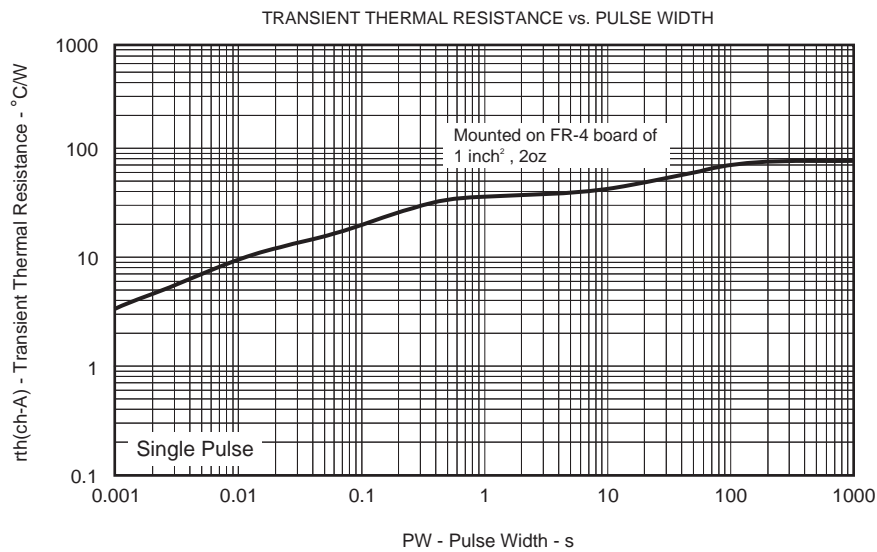
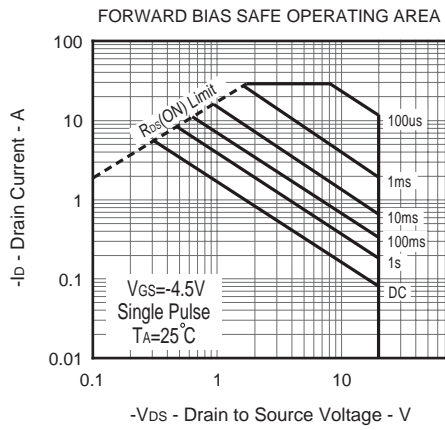
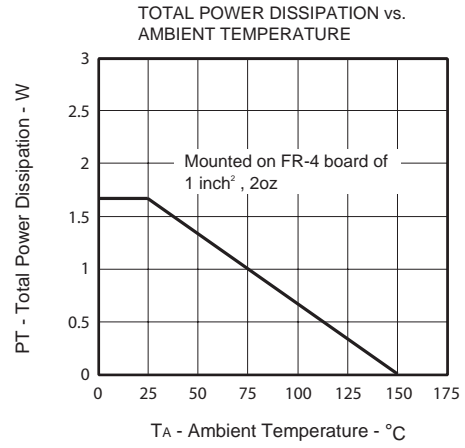
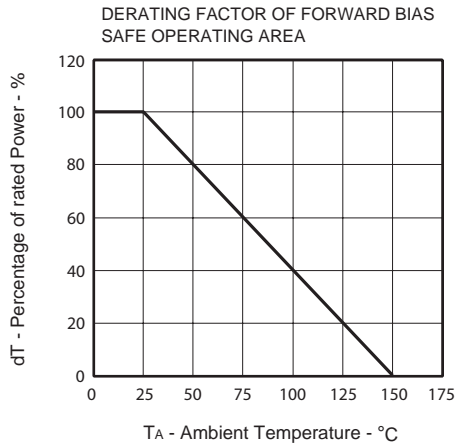
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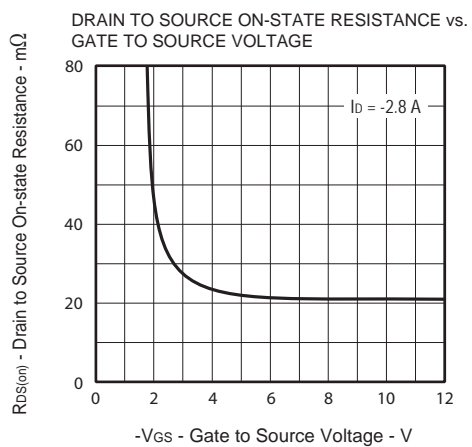
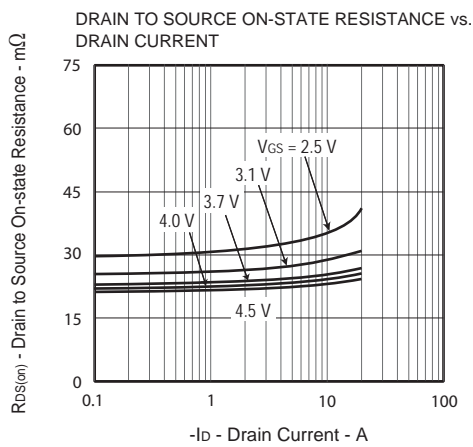
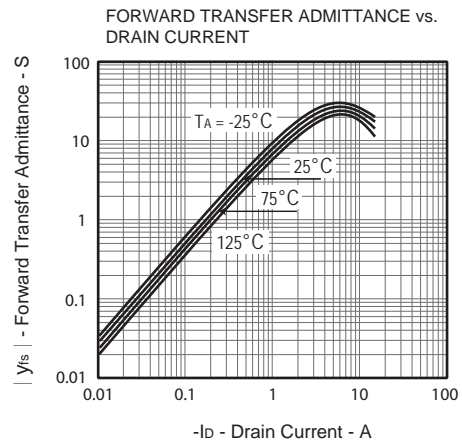
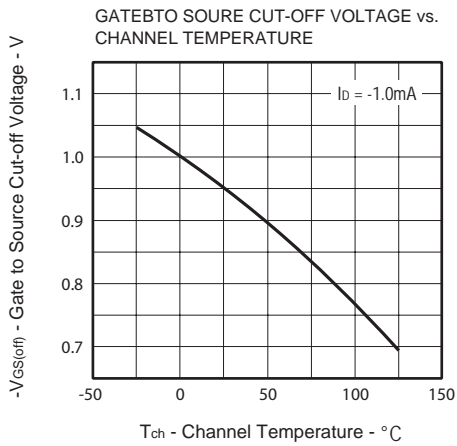
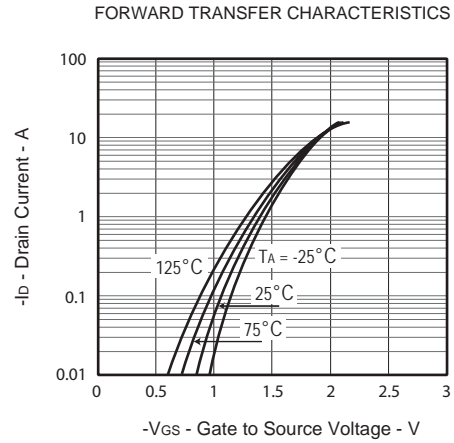
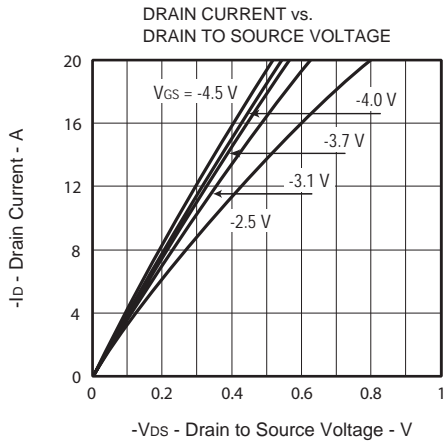
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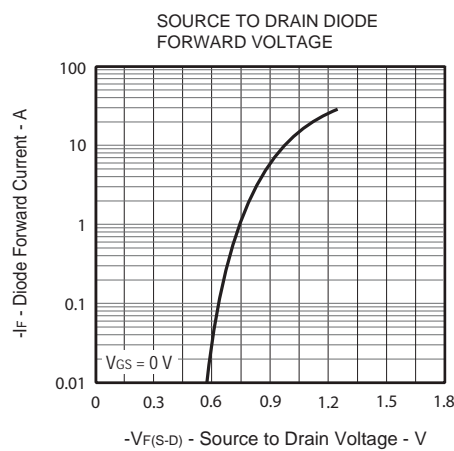
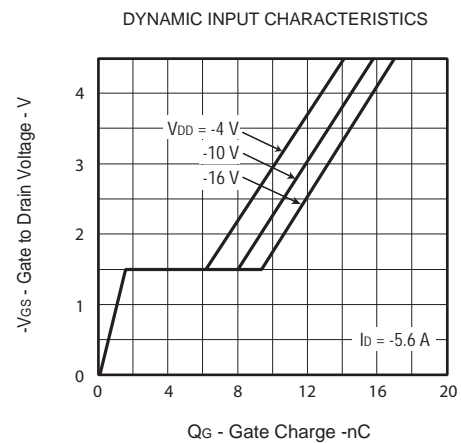
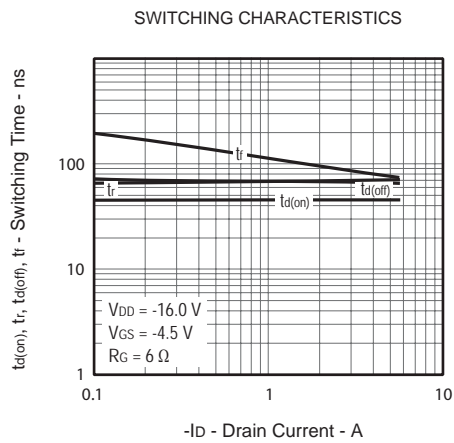
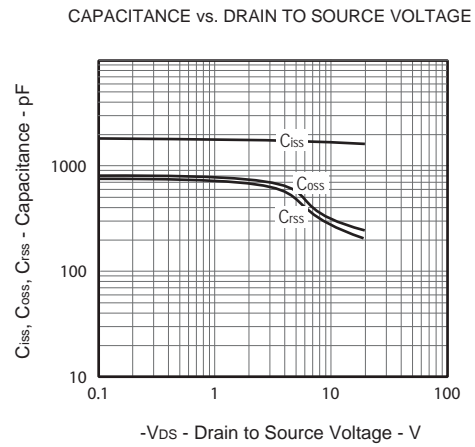
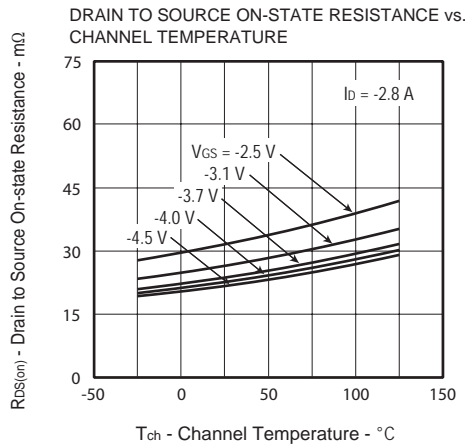
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

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	-0.95	-1.5	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =-4.5V , I _D =-2.8A	16	22	29	m ohm
		V _{GS} =-4.0V , I _D =-2.8A	17	23	30	m ohm
		V _{GS} =-3.7V , I _D =-2.8A	18	24	32	m ohm
		V _{GS} =-3.1V , I _D =-2.8A	20	27	36	m ohm
		V _{GS} =-2.5V , I _D =-2.8A	24	32	43	m ohm
g _{FS}	Forward Transconductance	V _{DS} =-5V , I _D =-2.8A		15		S
DYNAMIC CHARACTERISTICS ^c						
C _{ISS}	Input Capacitance	V _{DS} =-10V, V _{GS} =0V f=1.0MHz		1508		pF
C _{OSS}	Output Capacitance			304		pF
C _{RSS}	Reverse Transfer Capacitance			255		pF
SWITCHING CHARACTERISTICS ^c						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =-16V I _D =-2.8A		42		ns
t _r	Rise Time			69		ns
t _{D(OFF)}	Turn-Off Delay Time	V _{GS} =-4.5V R _{GEN} = 6 ohm		66		ns
t _f	Fall Time			82		ns
Q _g	Total Gate Charge	V _{DS} =-16V, I _D =-5.6A, V _{GS} =-4.5V		17		nC
Q _{gs}	Gate-Source Charge			1.5		nC
Q _{gd}	Gate-Drain Charge			7.8		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =-5.6A		-0.88	-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.						

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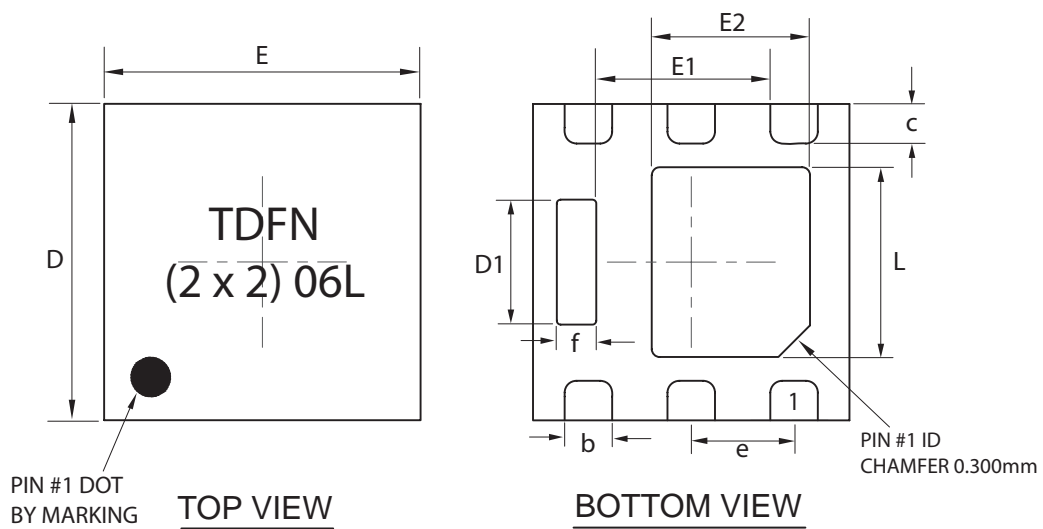






PACKAGE OUTLINE DIMENSIONS

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