

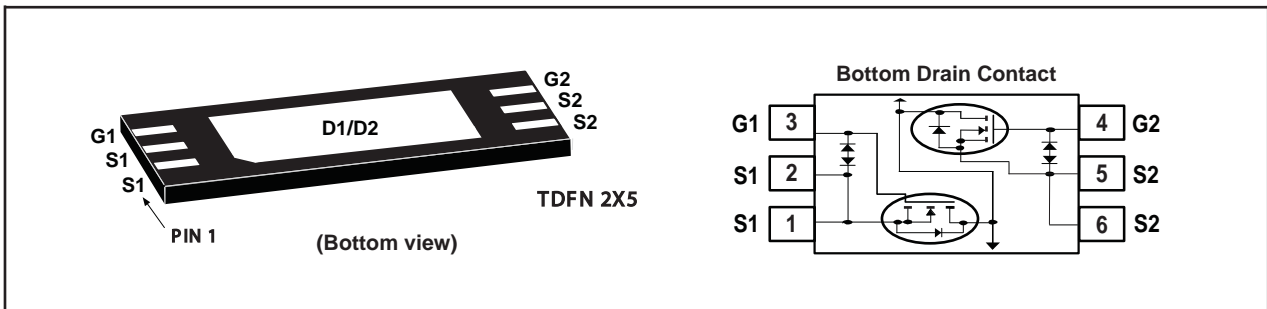


## Dual N-Channel Enhancement Mode Field Effect Transistor

PRODUCT SUMMARY		
V <sub>DSS</sub>	I <sub>D</sub>	R <sub>DS(ON)</sub> (mΩ) Max
20V	11A	6.9 @ V <sub>GS</sub> =4.5V
		7.0 @ V <sub>GS</sub> =4.0V
		7.2 @ V <sub>GS</sub> =3.7V
		7.6 @ V <sub>GS</sub> =3.1V
		8.5 @ V <sub>GS</sub> =2.5V

### FEATURES

- Super high dense cell design for low R<sub>DS(ON)</sub>.
- Rugged and reliable.
- Surface Mount Package.
- ESD Protected.



### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Limit	Units	
V <sub>DS</sub>	Drain-Source Voltage	20	V	
V <sub>GS</sub>	Gate-Source Voltage	±12	V	
I <sub>D</sub>	Drain Current-Continuous <sup>c</sup>	T <sub>A</sub> =25°C	11	A
		T <sub>A</sub> =70°C	8.8	A
I <sub>DM</sub>	-Pulsed <sup>a,c</sup>	53	A	
P <sub>D</sub>	Maximum Power Dissipation	T <sub>A</sub> =25°C	1.67	W
		T <sub>A</sub> =70°C	1.07	W
T <sub>J</sub> , T <sub>STG</sub>	Operating Junction and Storage Temperature Range	-55 to 150	°C	

### THERMAL CHARACTERISTICS

R <sub>θJA</sub>	Thermal Resistance, Junction-to-Ambient	75	°C/W
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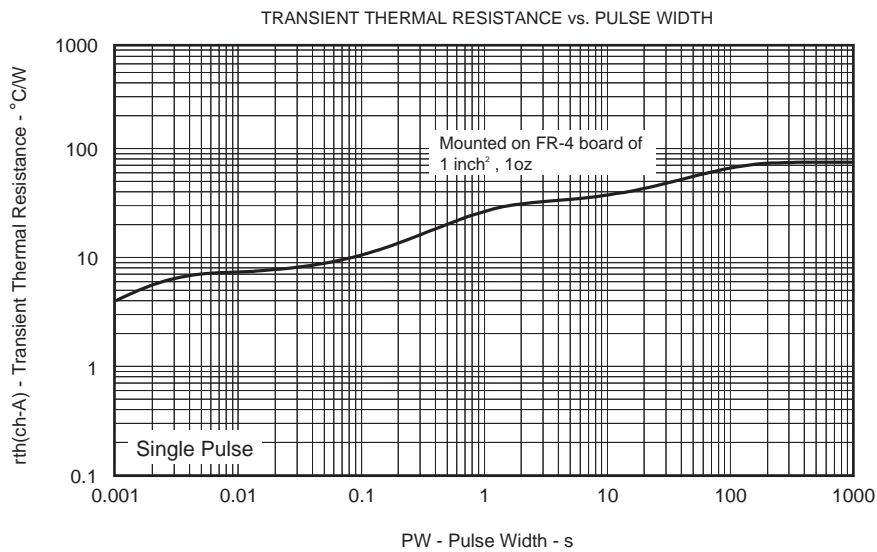
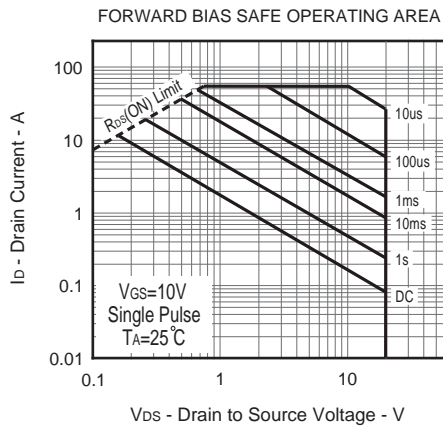
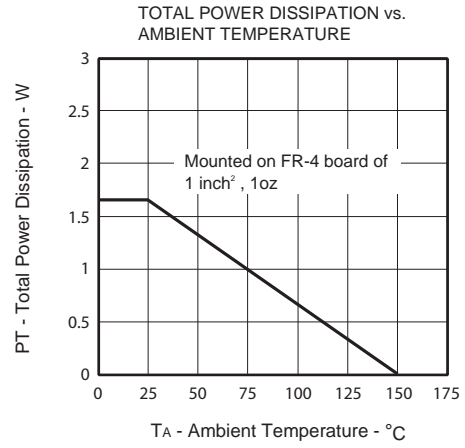
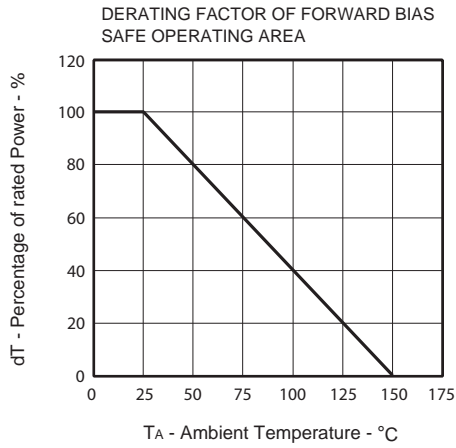
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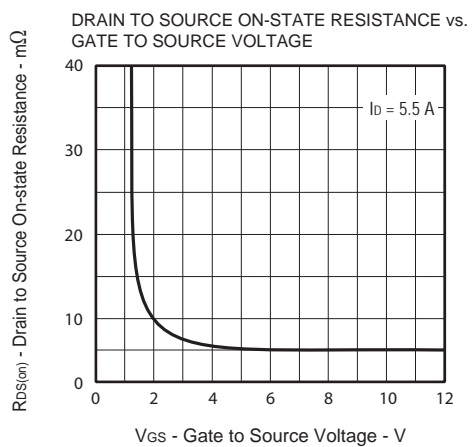
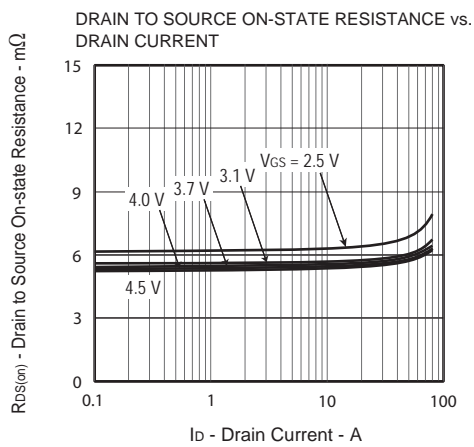
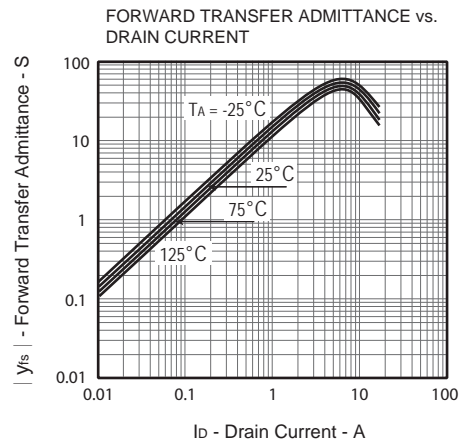
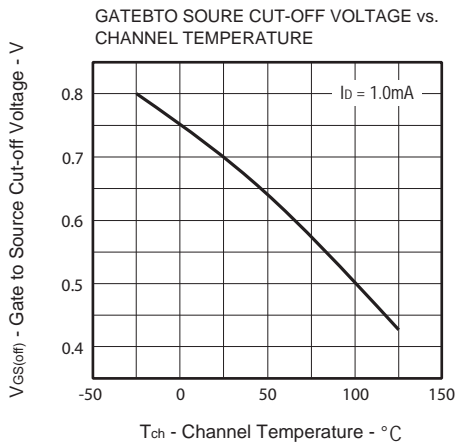
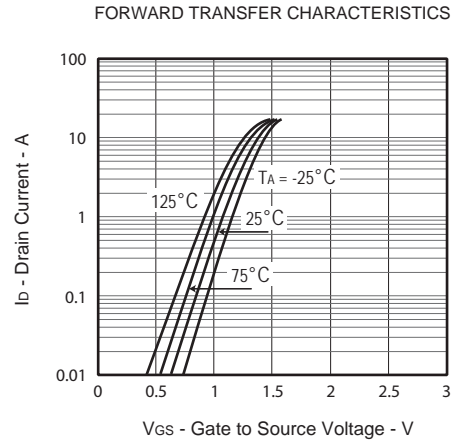
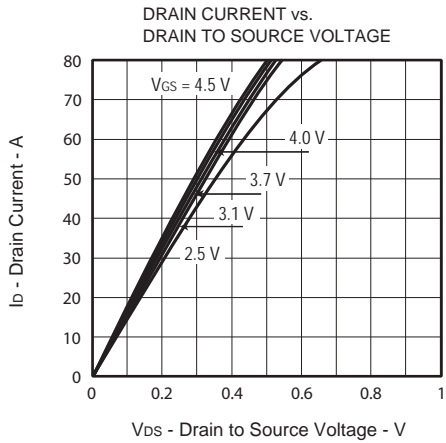
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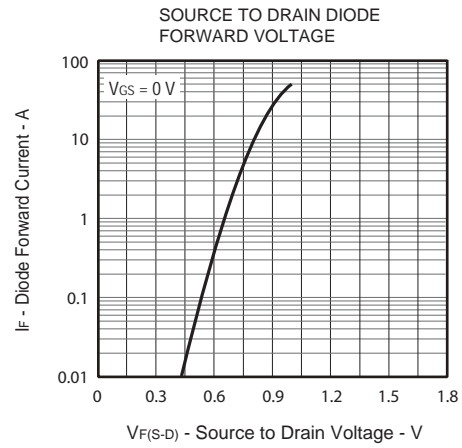
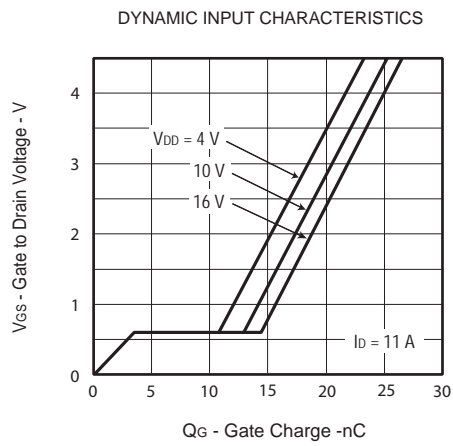
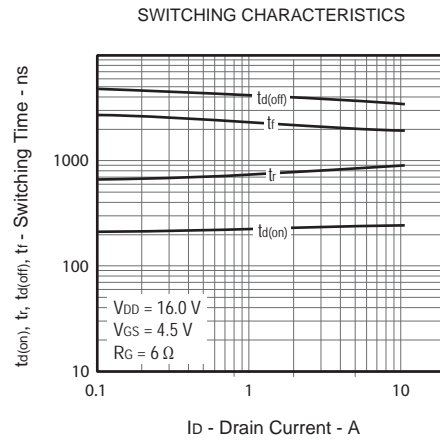
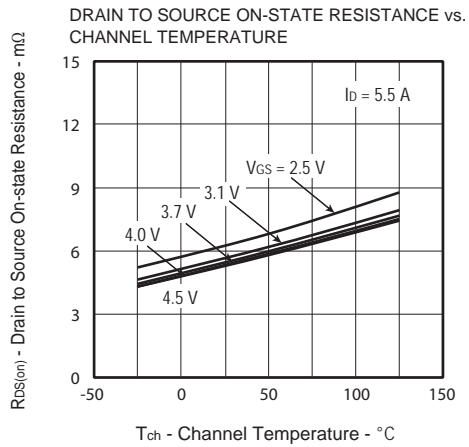
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
<b>OFF CHARACTERISTICS</b>						
BV <sub>bss</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V , I <sub>D</sub> =250uA	20			V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =16V , V <sub>GS</sub> =0V			1	uA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±12V , V <sub>DS</sub> =0V			±10	uA
<b>ON CHARACTERISTICS</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =1.0mA	0.5	0.7	1.5	V
R <sub>DS(ON)</sub>	Drain-Source On-State Resistance	V <sub>GS</sub> =4.5V , I <sub>D</sub> =5.5A	4.0	5.3	6.9	m ohm
		V <sub>GS</sub> =4.0V , I <sub>D</sub> =5.5A	4.1	5.4	7.0	m ohm
		V <sub>GS</sub> =3.7V , I <sub>D</sub> =5.5A	4.2	5.5	7.2	m ohm
		V <sub>GS</sub> =3.1V , I <sub>D</sub> =5.5A	4.3	5.7	7.6	m ohm
		V <sub>GS</sub> =2.5V , I <sub>D</sub> =5.5A	4.7	6.3	8.5	m ohm
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> =5V , I <sub>D</sub> =5.5A		34		S
<b>SWITCHING CHARACTERISTICS <sup>b</sup></b>						
t <sub>D(ON)</sub>	Turn-On Delay Time	V <sub>DD</sub> =20V I <sub>D</sub> =5.5A V <sub>GS</sub> =10V R <sub>GEN</sub> =6 ohm		230		ns
t <sub>r</sub>	Rise Time			861		ns
t <sub>D(OFF)</sub>	Turn-Off Delay Time			3536		ns
t <sub>f</sub>	Fall Time			2020		ns
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =20V, I <sub>D</sub> =11A, V <sub>GS</sub> =4.5V		26.5		nC
Q <sub>gs</sub>	Gate-Source Charge	V <sub>DS</sub> =20V, I <sub>D</sub> =11A, V <sub>GS</sub> =10V		3.5		nC
Q <sub>gd</sub>	Gate-Drain Charge			11		nC
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
V <sub>SD</sub>	Diode Forward Voltage	V <sub>GS</sub> =0V, I <sub>S</sub> =11A		0.81	1.2	V
<b>Notes</b>						
<p>a.Pulse Test:Pulse Width &lt; 10us, Duty Cycle &lt; 1%.</p> <p>b.Guaranteed by design, not subject to production testing.</p> <p>c.Drain current limited by maximum junction temperature.</p> <p>d.Mounted on FR4 Board of 1 inch<sup>2</sup> , 2oz.</p>						

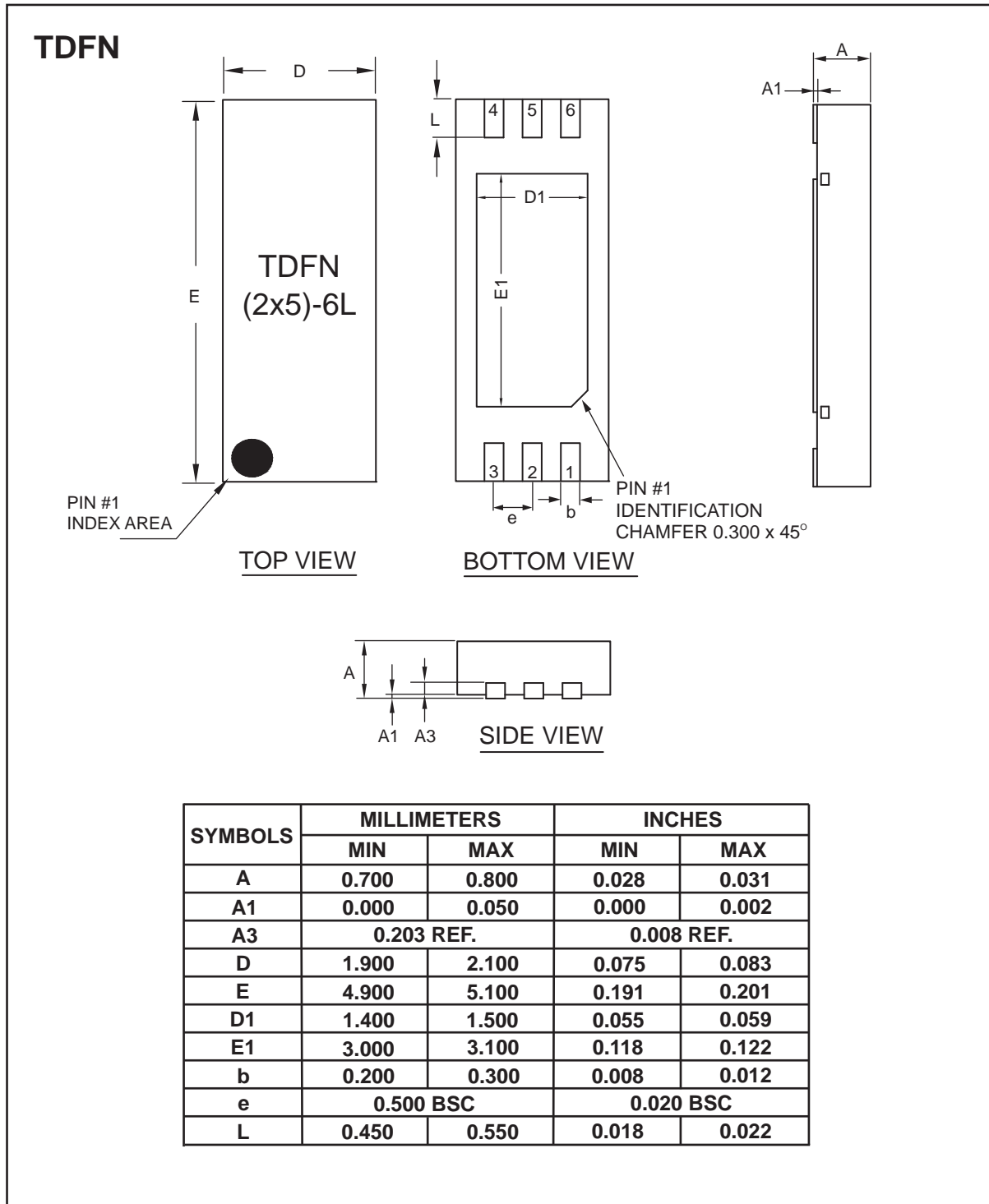
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## PACKAGE OUTLINE DIMENSIONS



TOP MARKING DEFINITION

