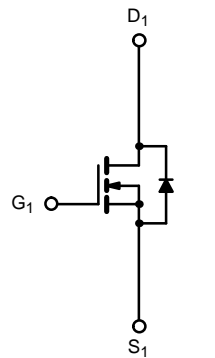
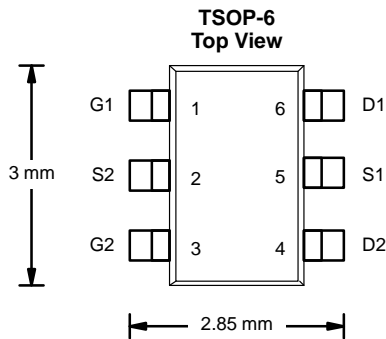




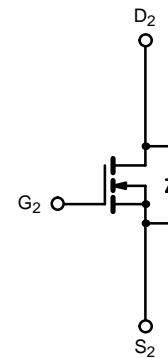
## Dual N-Channel 30-V (D-S) MOSFET

**TrenchFET<sup>®</sup>**  
Power MOSFETs

PRODUCT SUMMARY		
V <sub>DS</sub> (V)	r <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
30	0.105 @ V <sub>GS</sub> = 10 V	±2.5
	0.175 @ V <sub>GS</sub> = 4.5 V	±2.0



N-Channel MOSFET



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	
Continuous Drain Current (T <sub>J</sub> = 150 °C) <sup>a, b</sup>	I <sub>D</sub>	T <sub>A</sub> = 25 °C	±2.5
		T <sub>A</sub> = 70 °C	±2.0
Pulsed Drain Current (10 μs Pulse Width)	I <sub>DM</sub>	±8	A
Continuous Source Current (Diode Conduction) <sup>a, b</sup>	I <sub>S</sub>	1.05	
Maximum Power Dissipation <sup>a, b</sup>	P <sub>D</sub>	T <sub>A</sub> = 25 °C	1.15
		T <sub>A</sub> = 70 °C	0.73
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient <sup>a</sup>	R <sub>thJA</sub>	t ≤ 5 sec	93	110	°C/W
		Steady State	130	150	
Maximum Junction-to-Lead	R <sub>thJL</sub>	75	90		

Notes

- a. Surface Mounted on FR4 Board.
- b. t ≤ 5 sec.



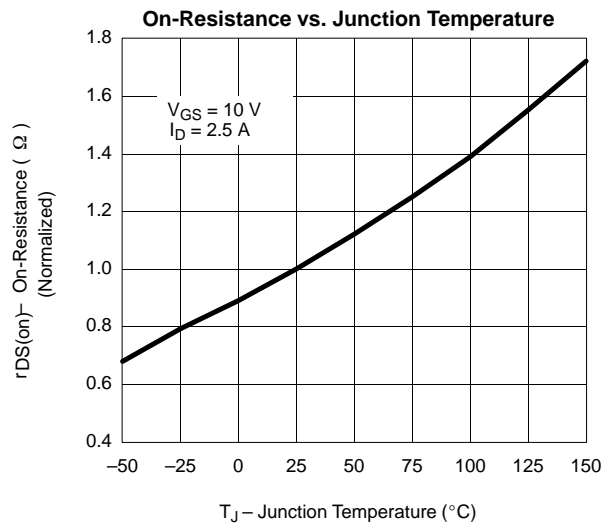
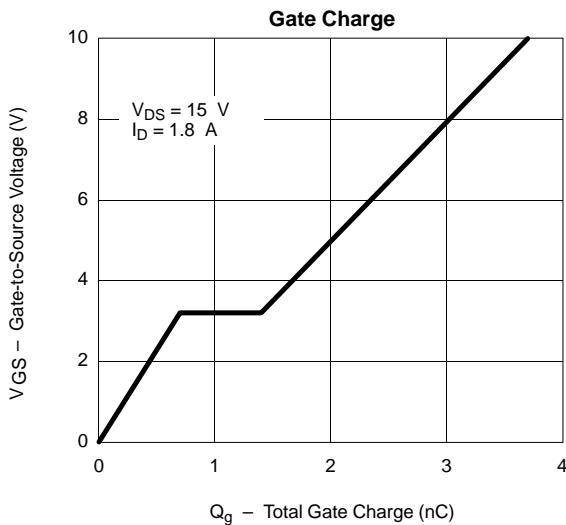
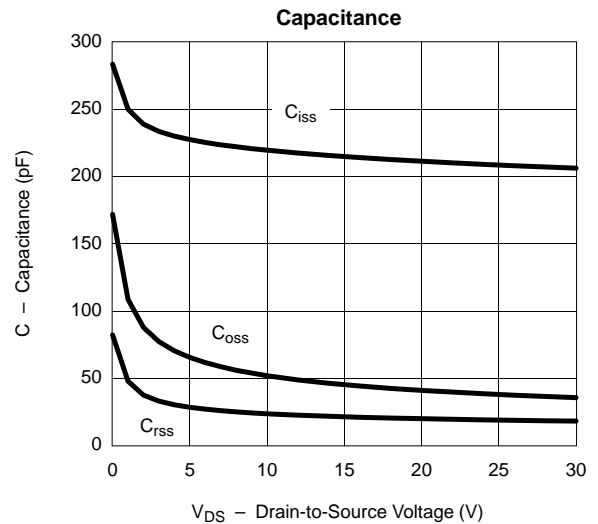
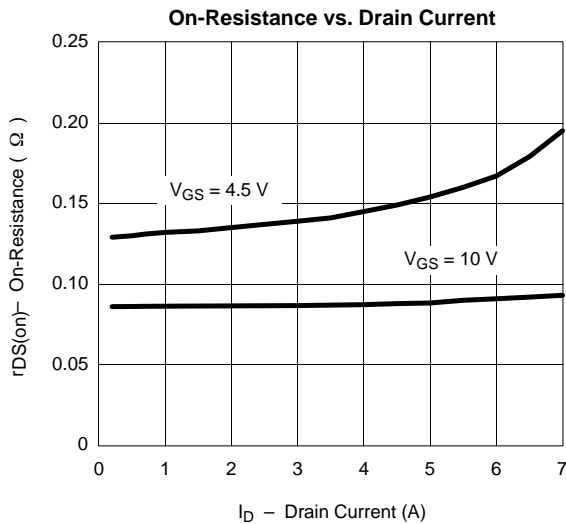
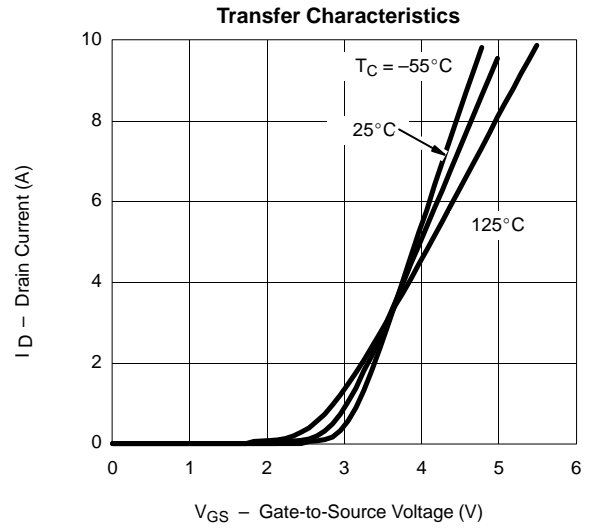
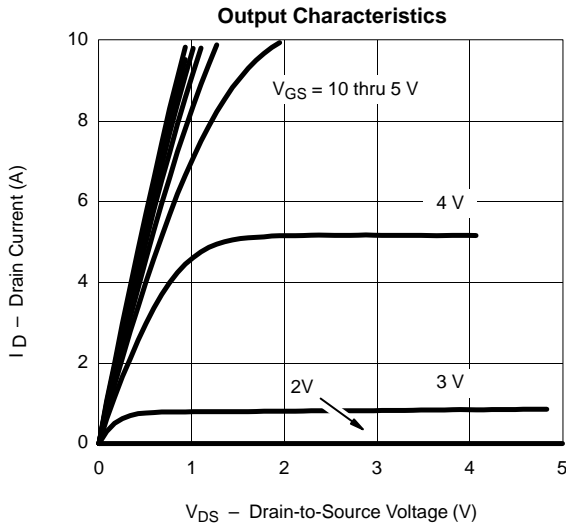
SPECIFICATIONS ( $T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	1.0			V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0\ \text{V}, V_{GS} = \pm 20\ \text{V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 24\ \text{V}, V_{GS} = 0\ \text{V}$			1	$\mu\text{A}$
		$V_{DS} = 24\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			5	
On-State Drain Current <sup>a</sup>	$I_{D(on)}$	$V_{DS} \geq 5\ \text{V}, V_{GS} = 10\ \text{V}$	5			A
Drain-Source On-State Resistance <sup>a</sup>	$r_{DS(on)}$	$V_{GS} = 10\ \text{V}, I_D = 2.5\ \text{A}$		0.0085	0.105	$\Omega$
		$V_{GS} = 4.5\ \text{V}, I_D = 2.0\ \text{A}$		0.140	0.175	
Forward Transconductance <sup>a</sup>	$g_{fs}$	$V_{DS} = 10\ \text{V}, I_D = 2.5\ \text{A}$		4.3		S
Diode Forward Voltage <sup>a</sup>	$V_{SD}$	$I_S = 1.05\ \text{A}, V_{GS} = 0\ \text{V}$		0.81	1.1	V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	$Q_g$	$V_{DS} = 15\ \text{V}, V_{GS} = 5.0\ \text{V}, I_D = 1.8\ \text{A}$		2.1	3.2	nC
Gate-Source Charge	$Q_{gs}$			0.7		
Gate-Drain Charge	$Q_{gd}$			0.7		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 15\ \text{V}, R_L = 15\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 10\ \text{V}, R_G = 6\ \Omega$		7	11	ns
Rise Time	$t_r$			9	14	
Turn-Off Delay Time	$t_{d(off)}$			13	20	
Fall Time	$t_f$			5	8	
Source-Drain Reverse Recovery Time	$t_{rr}$	$I_F = 1.05\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		35	60	

## Notes

- a. Pulse test; pulse width  $\leq 300\ \mu\text{s}$ , duty cycle  $\leq 2\%$ .  
 b. Guaranteed by design, not subject to production testing.

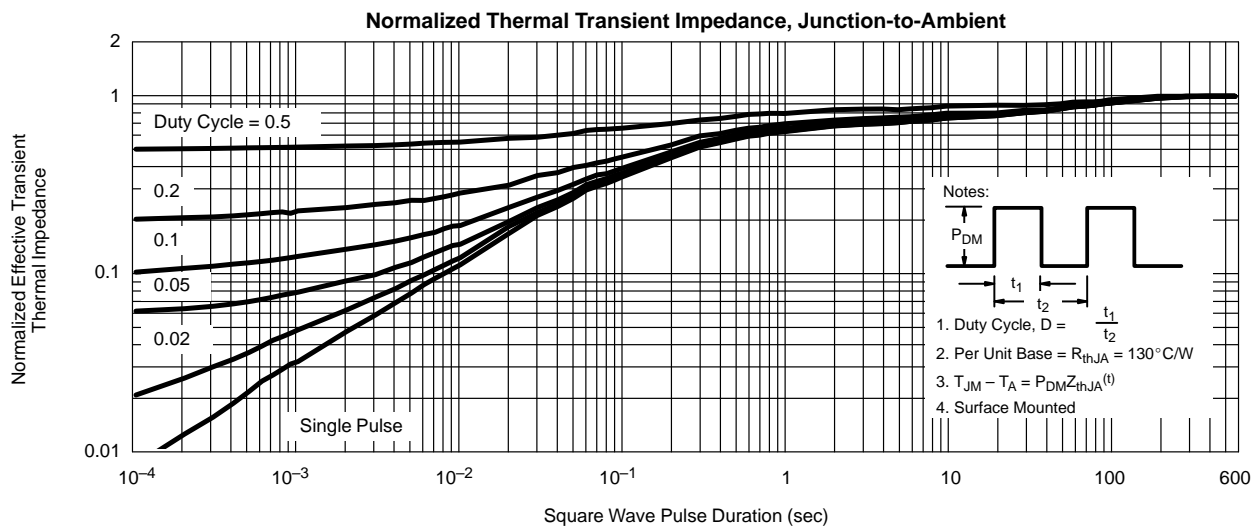
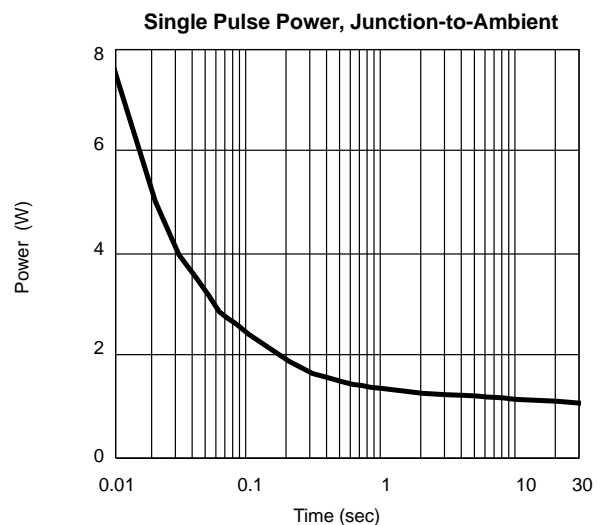
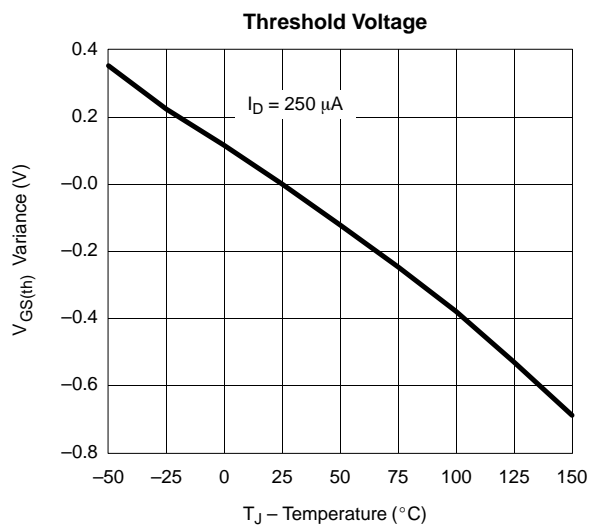
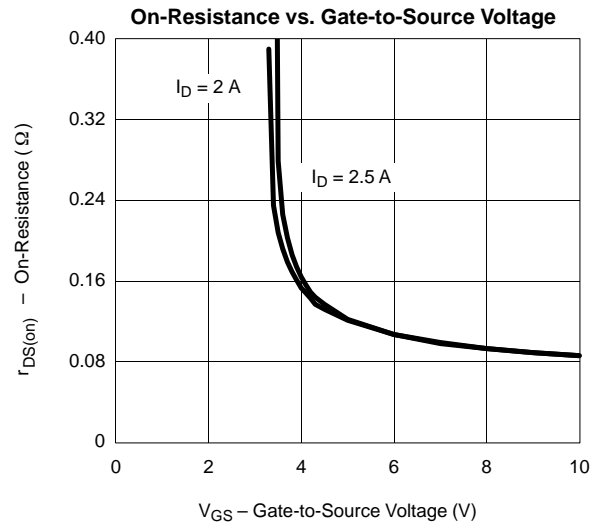
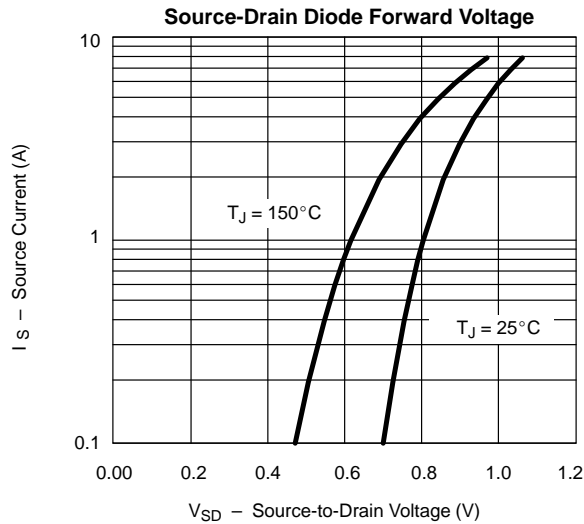


**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**



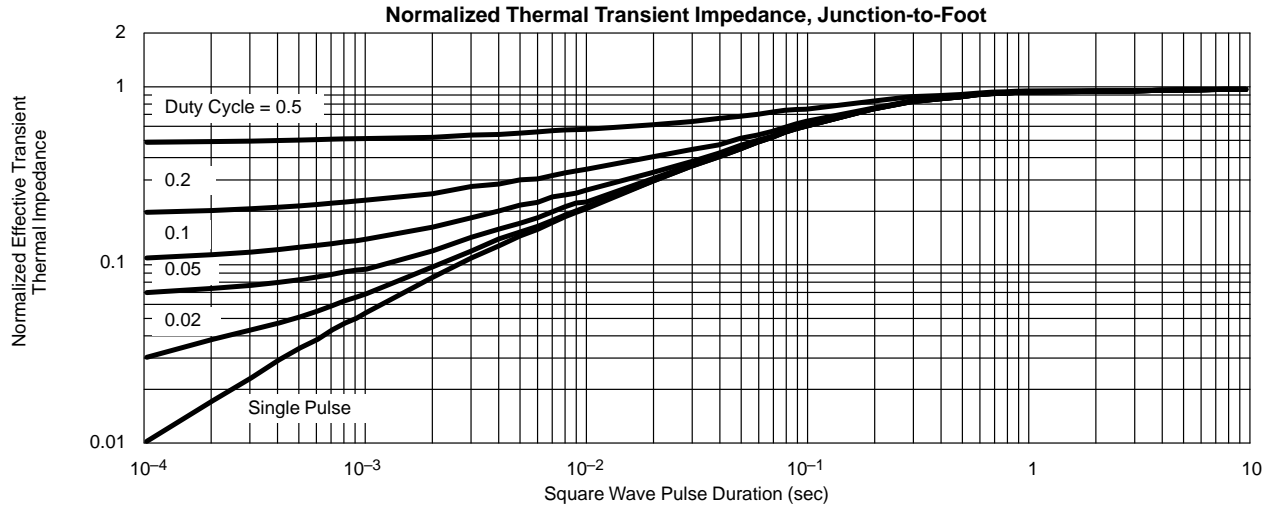


### TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**





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