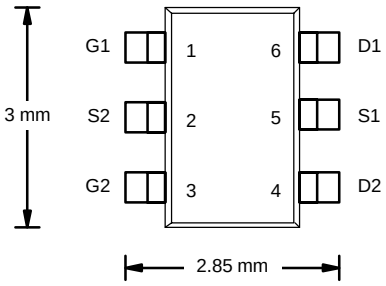
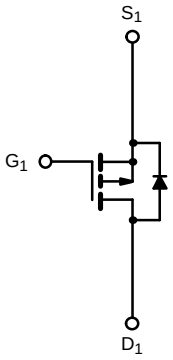
Dual P-Channel 20-V (D-S) MOSFET

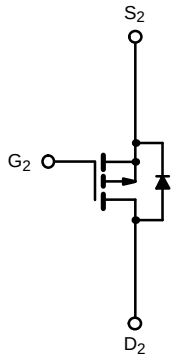
PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
–20	0.145 @ V_{GS} = –4.5 V	–2.2
	0.200 @ V_{GS} = –2.5 V	–1.8
	0.300 @ V_{GS} = –1.8 V	–1.5

TrenchFET® Power MOSFETs
1.8-V Rated





P-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	–20		V
Gate-Source Voltage		V_{GS}	±8		
Continuous Drain Current (T_J = 150°C)[a]	T_A = 25°C	I_D	–2.2	–1.8	A
	T_A = 70°C		–1.8	–1.5	
Pulsed Drain Current		I_{DM}	±8		
Continuous Diode Current (Diode Conduction)[a]		I_S	–1.05	–0.75	
Maximum Power Dissipation[a]	T_A = 25°C	P_D	1.15	0.83	W
	T_A = 70°C		0.73	0.53	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	–55 to 150		°C

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient[a]	t ≤ 5 sec	R_{thJA}	93	110	°C/W
	Steady State		130	150	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	90	90	

Notes
a. Surface Mounted on 1” x 1” FR4 Board.

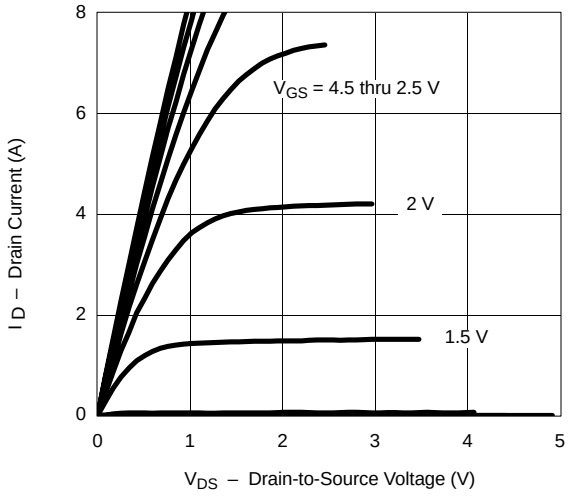
SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = –250 µA	–0.45			V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = –16 V, V_{GS} = 0 V			–1	µA
		V_{DS} = –16 V, V_{GS} = 0 V, T_J = 85°C			–10	
On-State Drain Current[a]	$I_{D(on)}$	V_{DS} = –5 V, V_{GS} = –4.5 V	–5			A
Drain-Source On-State Resistance[a]	$r_{DS(on)}$	V_{GS} = –4.5 V, I_D = –2.2 A		0.115	0.145	Ω
		V_{GS} = –2.5 V, I_D = –1.8 A		0.163	0.200	
		V_{GS} = –1.8 V, I_D = –1.0 A		0.240	0.300	
Forward Transconductance[a]	g_{fs}	V_{DS} = –5 V, I_D = –2.2 A		5		S
Diode Forward Voltage[a]	V_{SD}	I_S = –1.05 A, V_{GS} = 0 V		–0.8	–1.1	V
Dynamic[b]						
Total Gate Charge	Q_g	V_{DS} = –10 V, V_{GS} = –4.5 V, I_D = –2.2 A		5	7.5	nC
Gate-Source Charge	Q_{gs}			1		
Gate-Drain Charge	Q_{gd}			0.9		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = –4 V, R_L = 8 Ω I_D ≅ –1 A, V_{GEN} = –4.5 V, R_G = 6 Ω		12	20	ns
Rise Time	t_r			29	50	
Turn-Off Delay Time	$t_{d(off)}$			24	45	
Fall Time	t_f			30	50	
Source-Drain Reverse Recovery Time	t_{rr}	I_F = –1.05 A, di/dt = 100 A/µs		20	40	

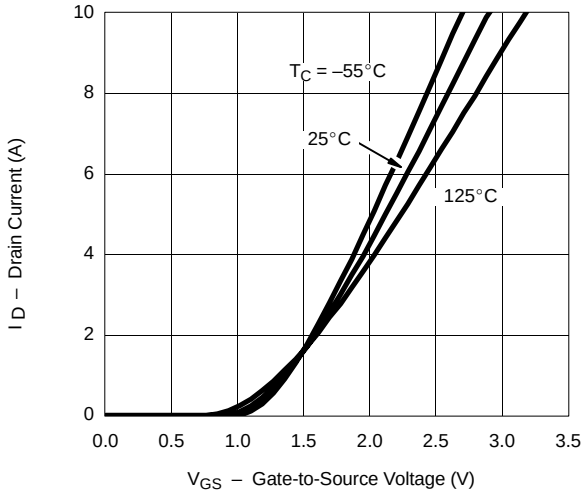
Notes
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

Output Characteristics

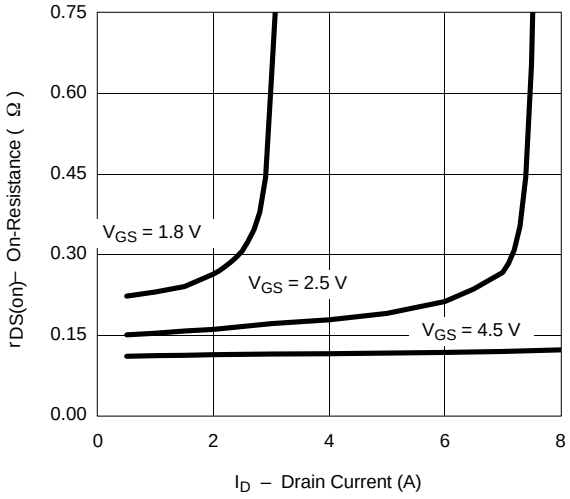


Transfer Characteristics

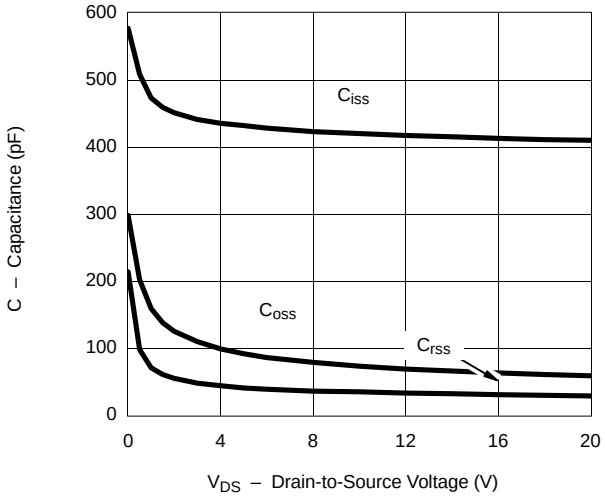


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

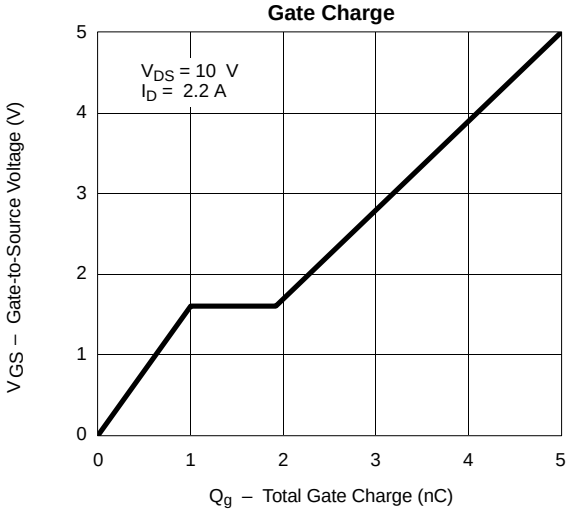
On-Resistance vs. Drain Current



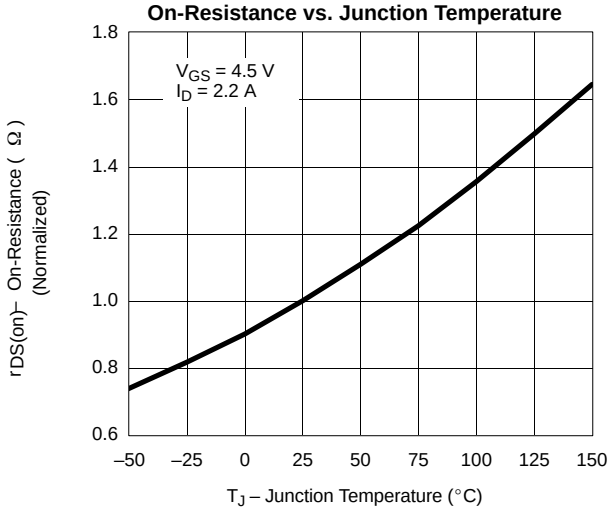
Capacitance



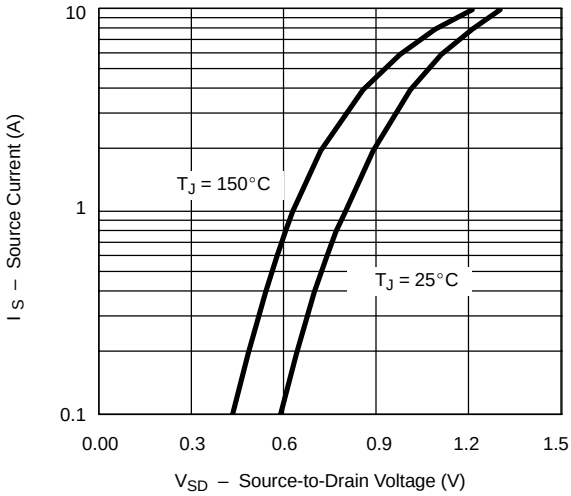
Gate Charge



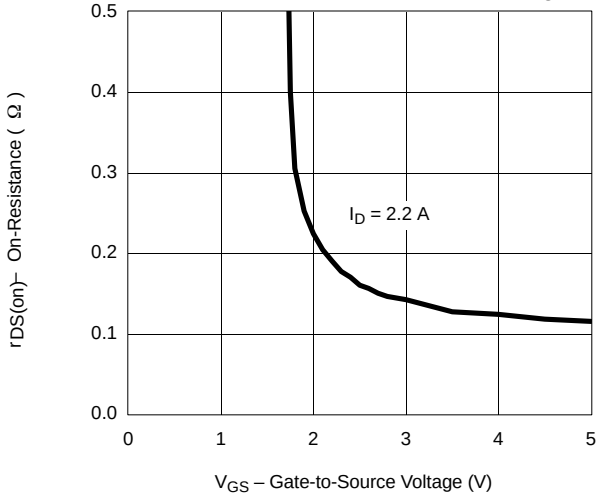
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage

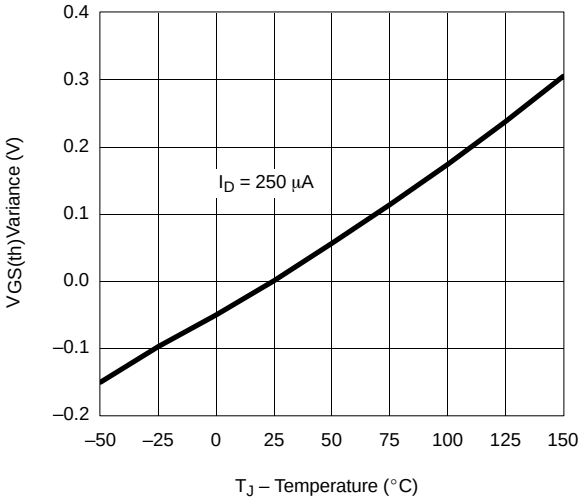


On-Resistance vs. Gate-to-Source Voltage

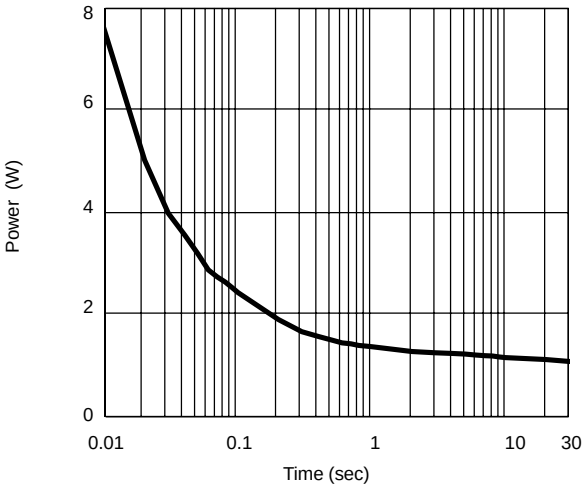


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

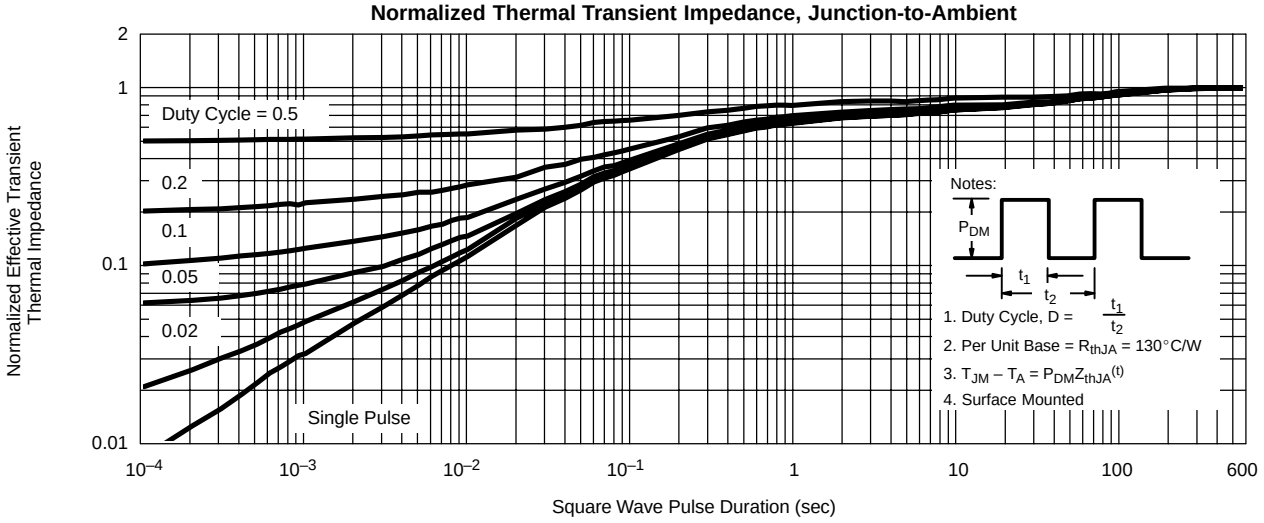
Threshold Voltage



Single Pulse Power (Junction-to-Ambient)



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

