



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

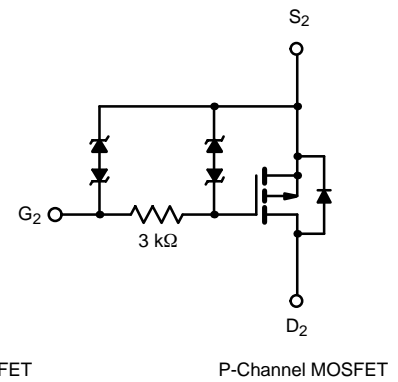
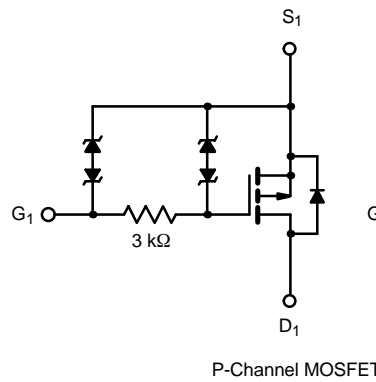
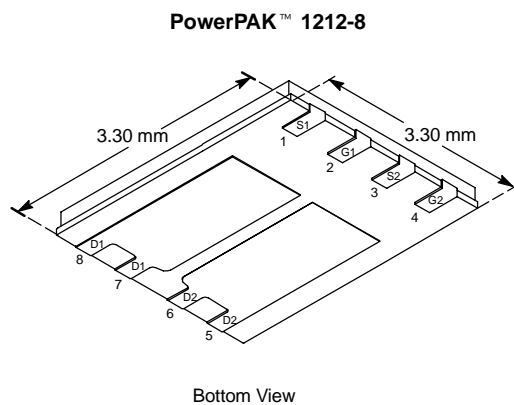
PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-20	0.048 @ V _{GS} = -4.5 V	-6.3
	0.068 @ V _{GS} = -2.5 V	-5.3
	0.090 @ V _{GS} = -1.8 V	-4.6

FEATURES

- TrenchFET® Power MOSFETS: 1.8-V Rated
- ESD Protected: 4500 V
- Ultra-Low Thermal Resistance, PowerPAK™ Package with Low 1.07-mm Profile

APPLICATIONS

- Bidirectional Switch



ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED)					
Parameter	Symbol	10 secs	Steady State	Unit	
Drain-Source Voltage	V _{DS}	-20		V	
Gate-Source Voltage	V _{GS}	± 12			
Continuous Drain Current (T _J = 150 °C) ^a	I _D	T _A = 25 °C	-6.3	-4.3	A
		T _A = 85 °C	-4.5	-3.1	
Pulsed Drain Current	I _{DM}	-20			
continuous Source Current (Diode Conduction) ^a	I _S	-2.3	-1.1		
Maximum Power Dissipation ^a	P _D	T _A = 25 °C	2.8	1.3	W
		T _A = 85 °C	1.5	0.7	
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	R _{thJA}	t ≤ 10 sec	35	44	°C/W
		Steady State	75	94	
Maximum Junction-to-Case (Drain)	R _{thJC}	4	5		

Notes

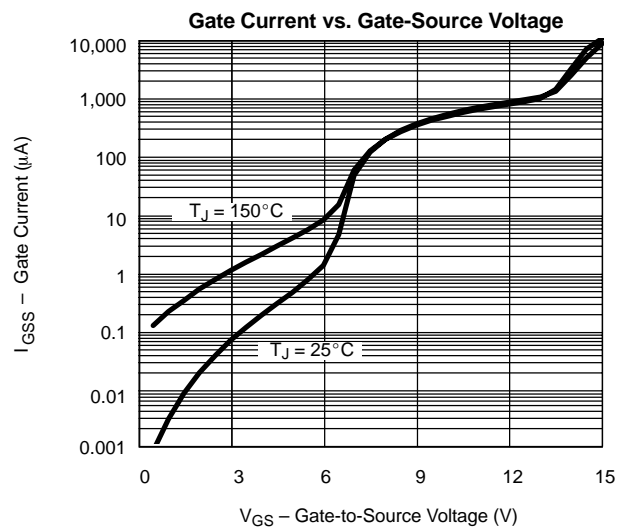
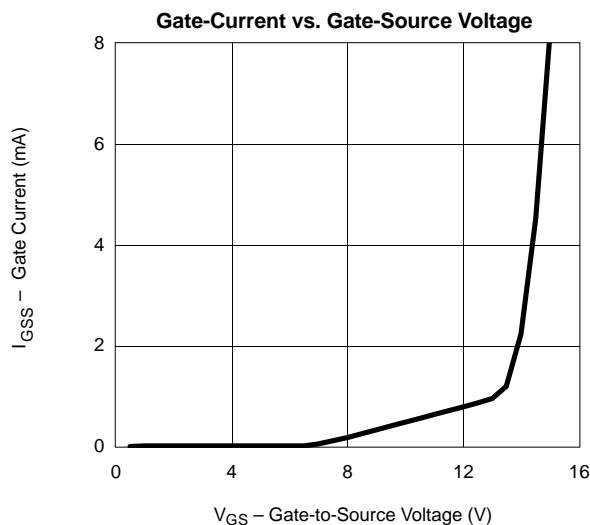
a. Surface Mounted on 1" x 1" FR4 Board.

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 = -800 μA	-0.45			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±4.5 V			±1.5	vA
		V _{DS} = 0 V, V _{GS} = ±12 V			±10	mA
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			-5	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≤ -5 V, V _{GS} = -4.5 V	-20			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -6.3 A		0.041	0.048	Ω
		V _{GS} = -2.5 V, I _D = -5.3 A		0.057	0.068	
		V _{GS} = -1.8 V, I _D = -1 A		0.072	0.090	
Forward Transconductance ^a	g _{fs}	V _{DS} = -15 V, I _D = -6.3 A		14		S
Diode Forward Voltage ^a	V _{SD}	I _S = -2.3 A, V _{GS} = 0 V		-0.8	-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -10 V, V _{GS} = -4.5 V, I _D = -6.3 A		12	18	nC
Gate-Source Charge	Q _{gs}			2.5		
Gate-Drain Charge	Q _{gd}			2.9		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		2.5	4	μs
Rise Time	t _r			4	6	
Turn-Off Delay Time	t _{d(off)}			15	23	
Fall Time	t _f			12	18	

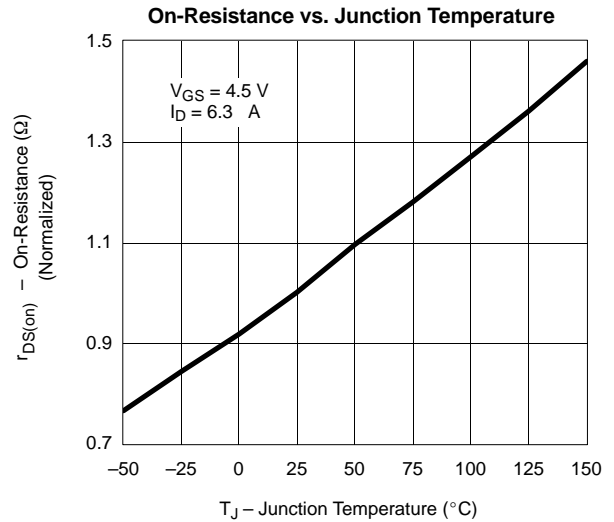
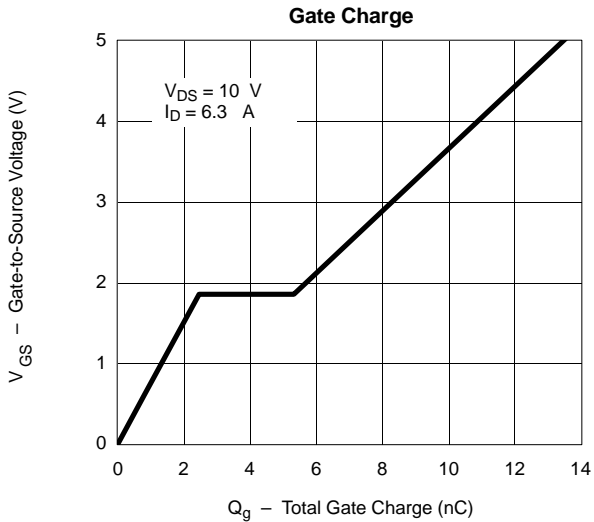
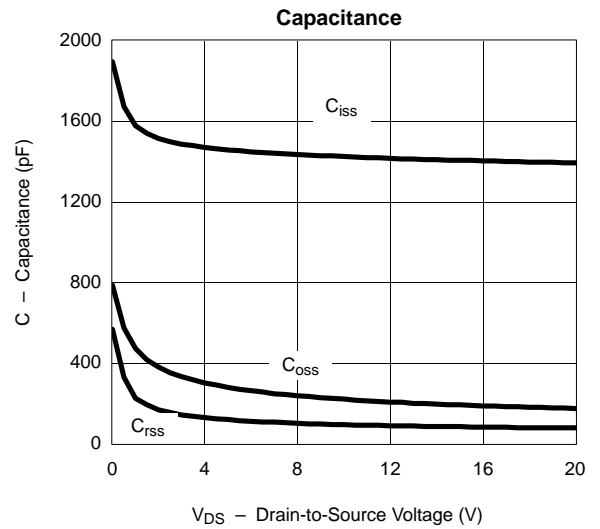
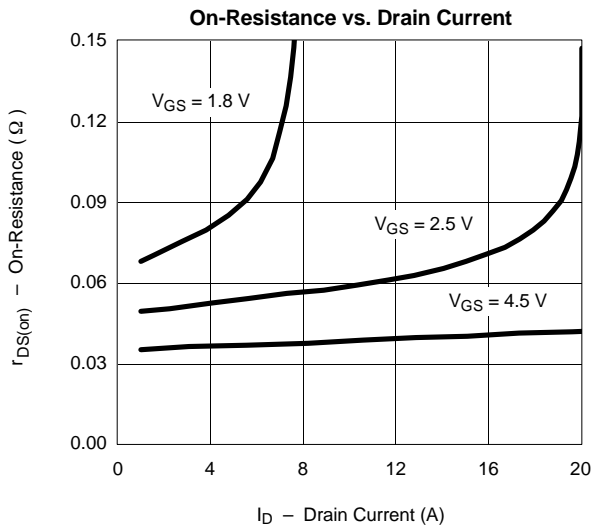
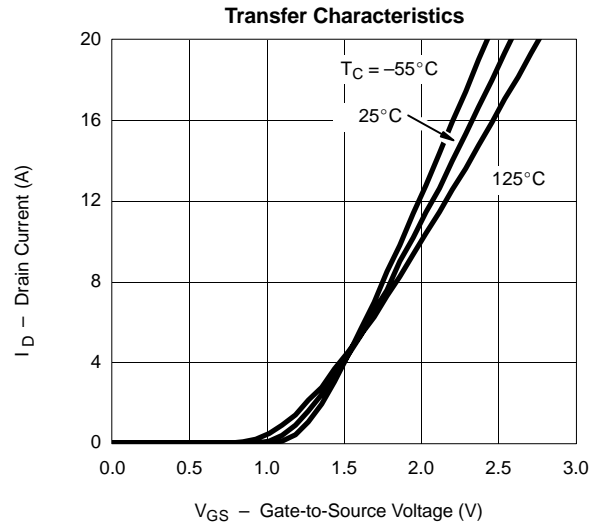
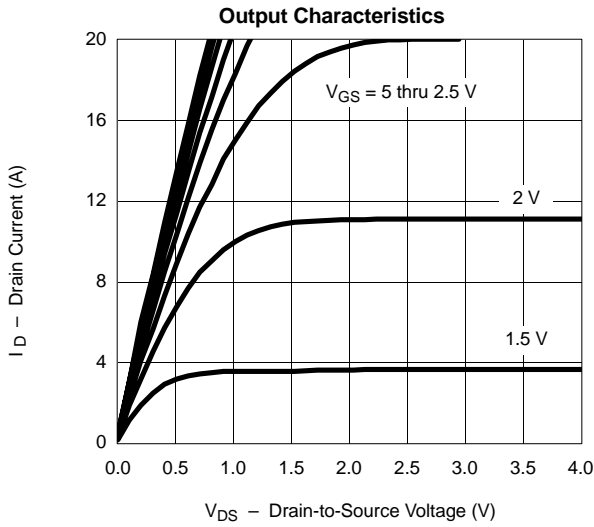
Notes

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

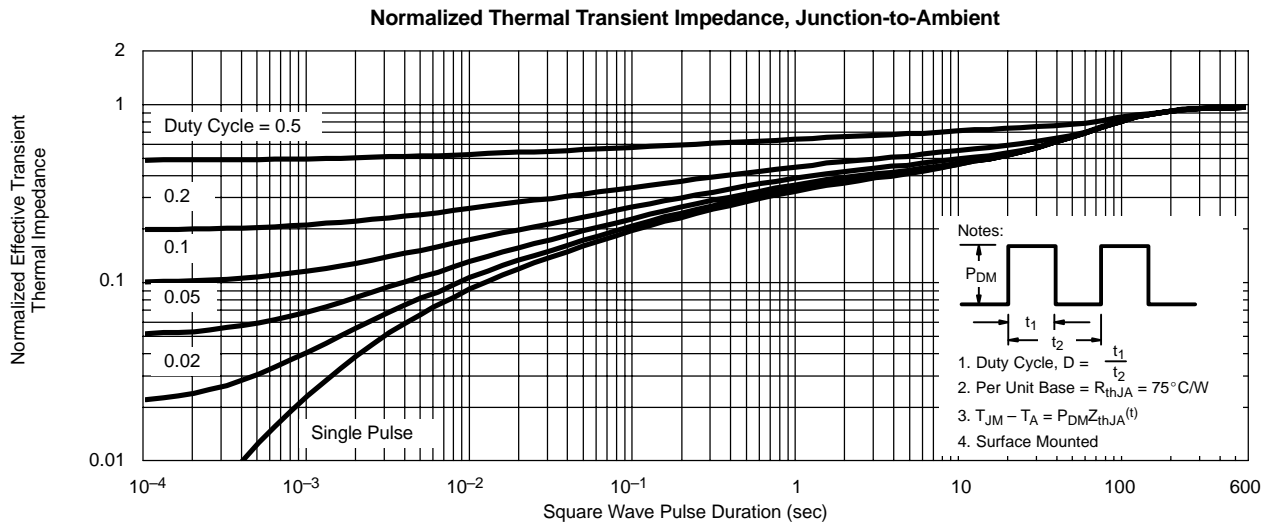
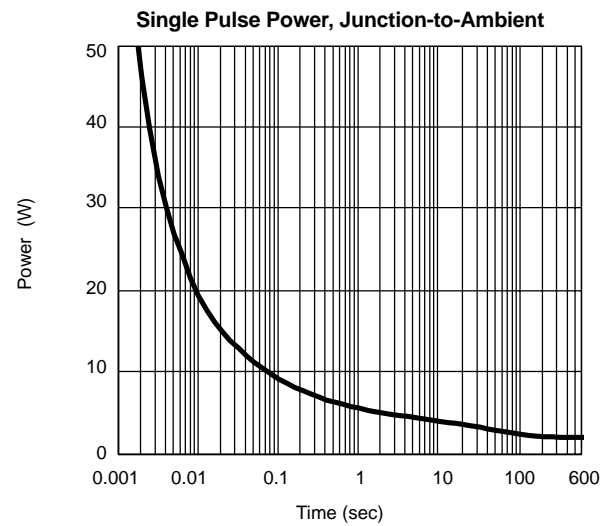
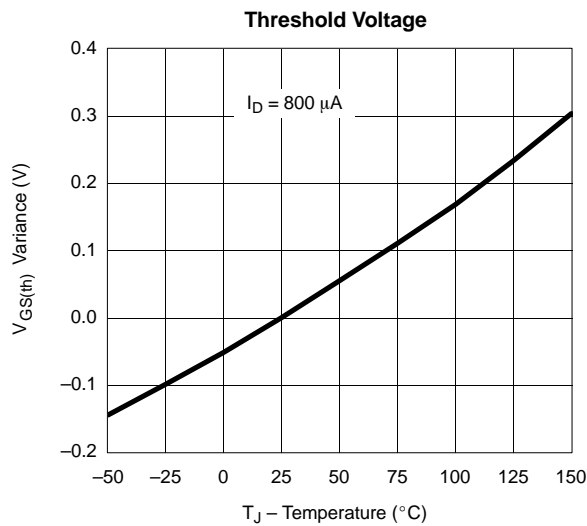
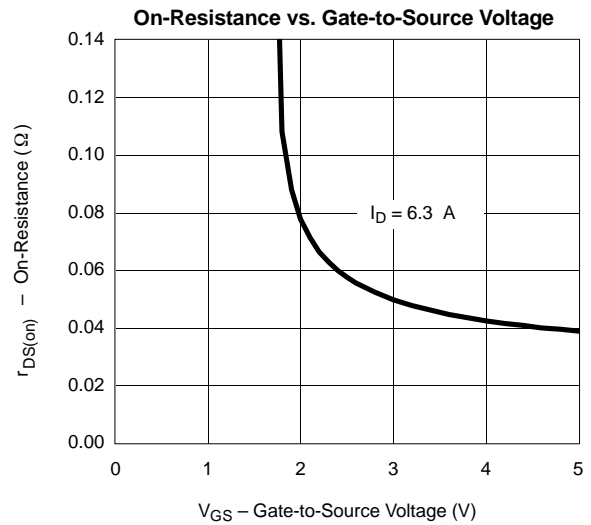
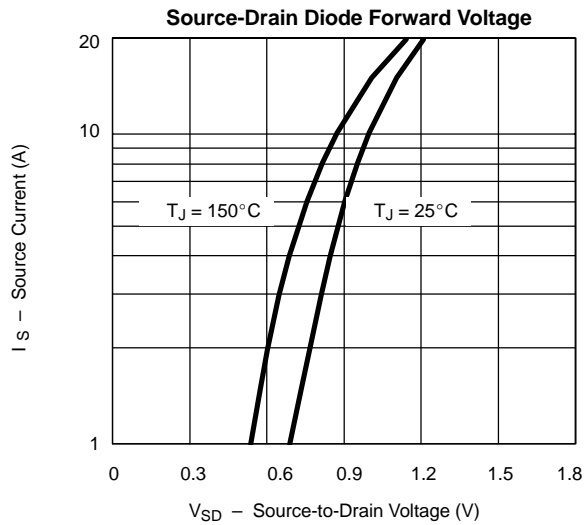
TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



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