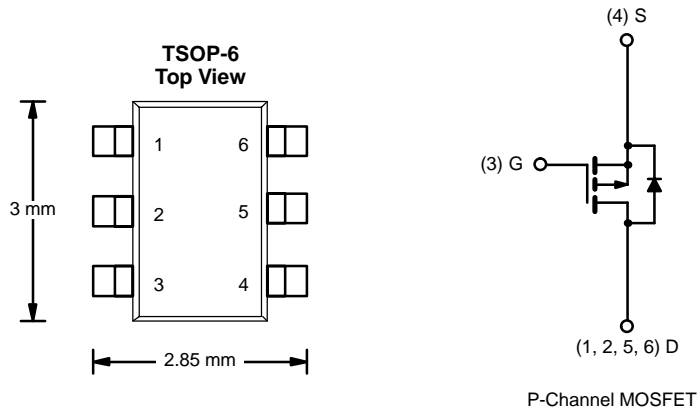




P-Channel 2.5-V (G-S) MOSFET

2.5-V Rated

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A) ^b
-20	0.10 @ $V_{GS} = -4.5$ V	-3.3
	0.135 @ $V_{GS} = -2.5$ V	-2.9



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	5 sec	Steady State	Unit
Drain-Source Voltage		V_{DS}	-20		V
Gate-Source Voltage		V_{GS}	± 8		
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	$T_A = 25^\circ\text{C}$	I_D	-3.3	-2.3	A
	$T_A = 70^\circ\text{C}$		-2.6	-1.8	
Pulsed Drain Current		I_{DM}	-16		
Continuous Source Current (Diode Conduction) ^{a, b}		I_S	-1.6	-0.8	
Maximum Power Dissipation ^{a, b}	$T_A = 25^\circ\text{C}$	P_D	2.0	0.96	W
	$T_A = 70^\circ\text{C}$		1.28	0.6	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$t \leq 5$ sec	R_{thJA}	50	62.5	$^\circ\text{C/W}$
	Steady State		106	130	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	40	50	

Notes

- a. Surface Mounted on FR4 Board.
- b. $t \leq 5$ sec

For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

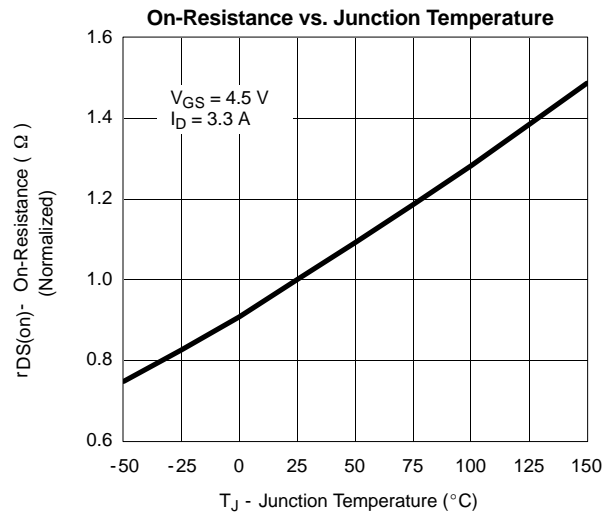
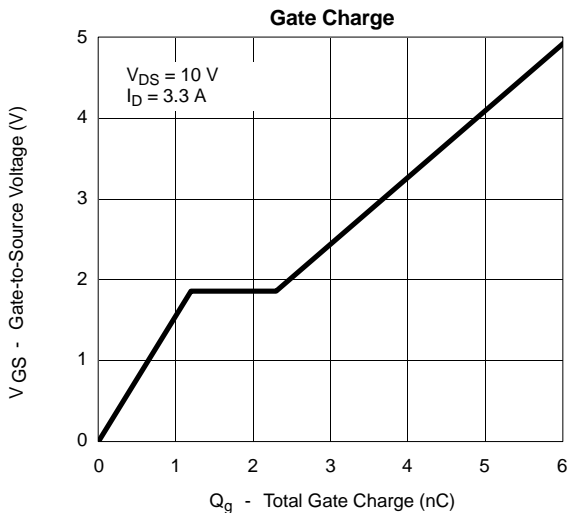
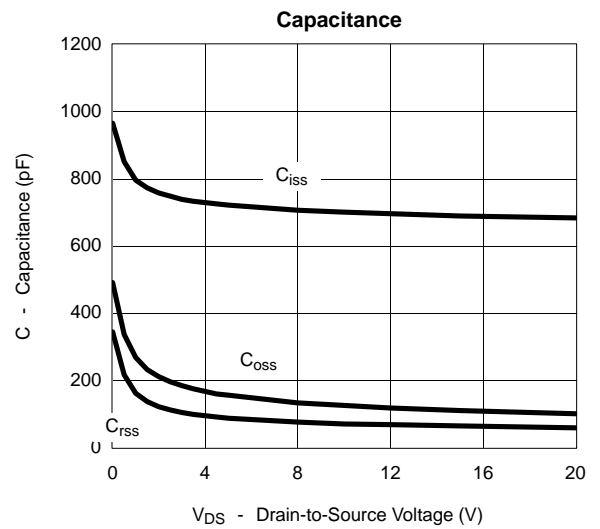
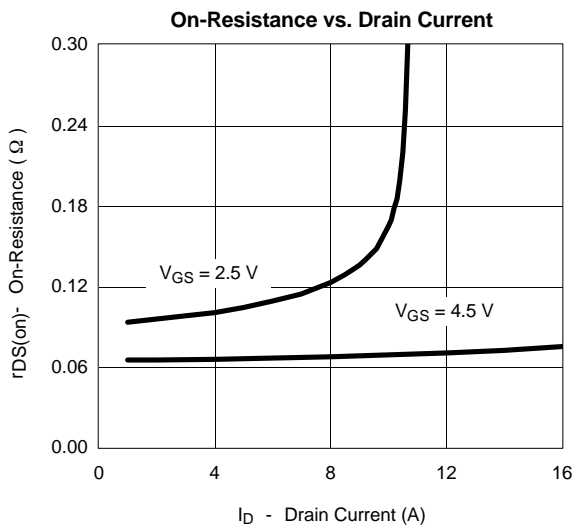
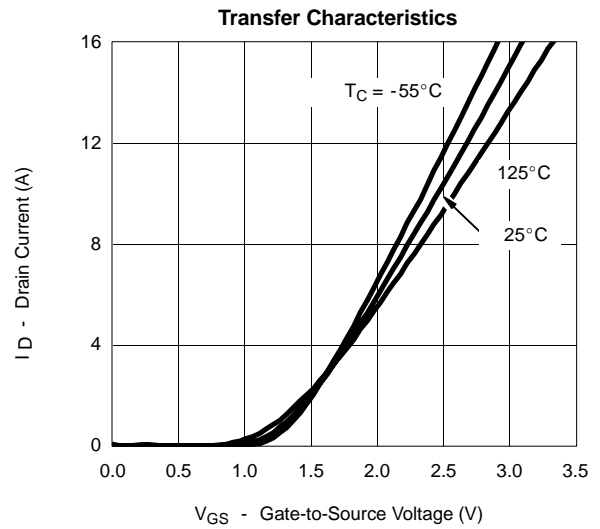
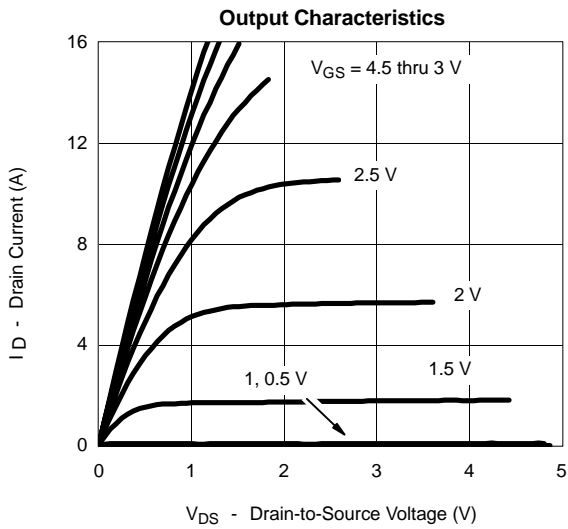
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.45		-0.95	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -20 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -20 V, V _{GS} = 0 V, T _J = 70 °C			-5	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = -5 V, V _{GS} = -4.5 V	-10			A
		V _{DS} = -5 V, V _{GS} = -2.5 V	-4			
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -3.3 A		0.067	0.10	Ω
		V _{GS} = -2.5 V, I _D = -2.9 A		0.100	0.135	
Forward Transconductance ^a	g _{fs}	V _{DS} = -10 V, I _D = -3.3 A		8		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.6 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 = -3.3 A		5.5	14	nC
Gate-Source Charge	Q _{gs}			1.2		
Gate-Drain Charge	Q _{gd}			1.1		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1.6 A, V _{GEN} = -4.5 V, R _G = 6 Ω		15	50	ns
Rise Time	t _r			40	60	
Turn-Off Delay Time	t _{d(off)}			40	80	
Fall Time	t _f			50	70	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.6 A, di/dt = 100 A/μs		50	80	

Notes

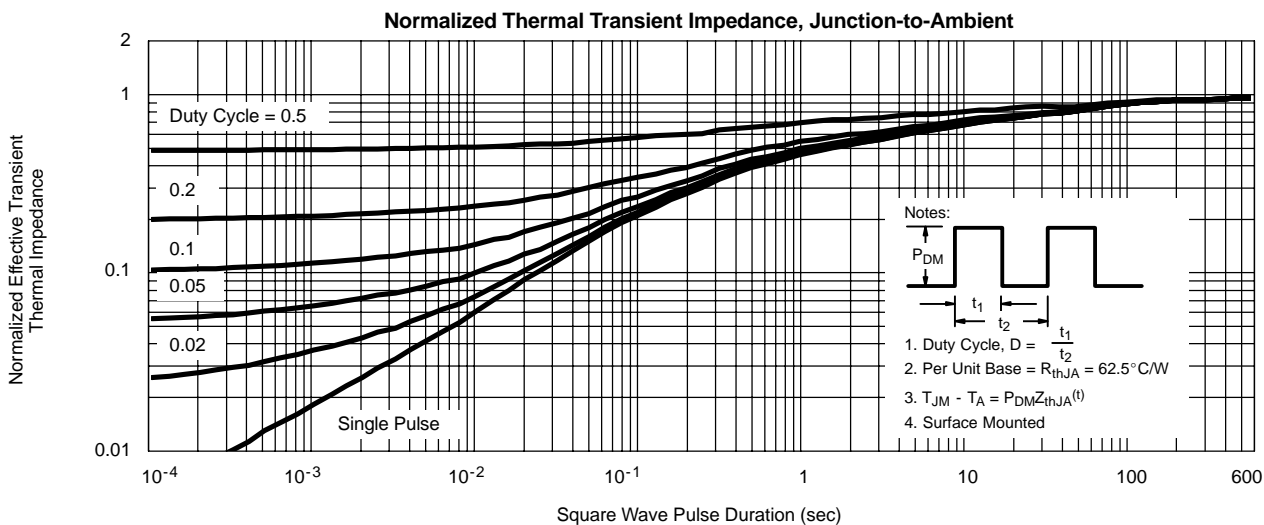
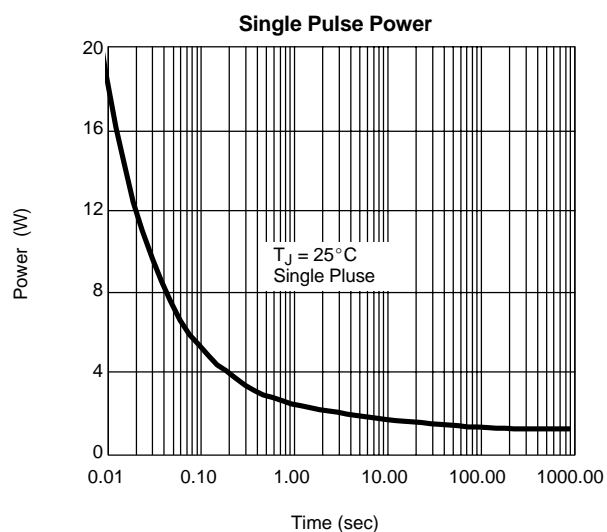
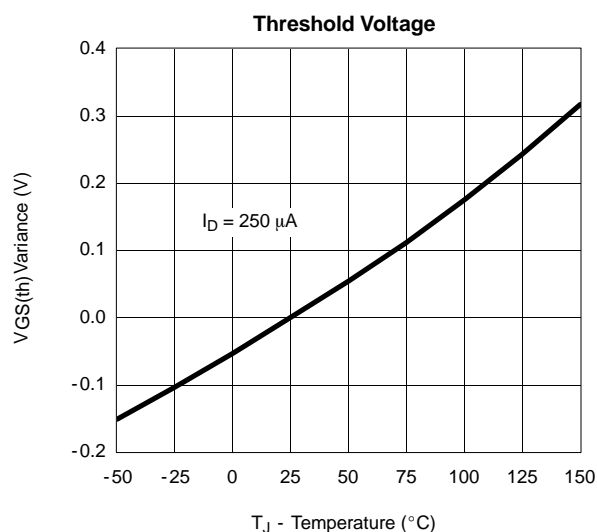
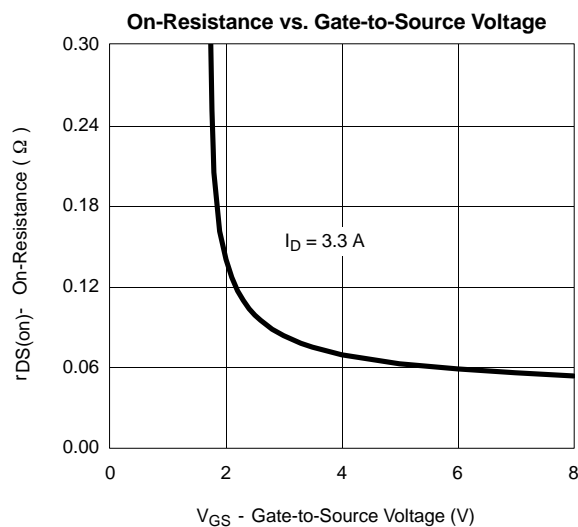
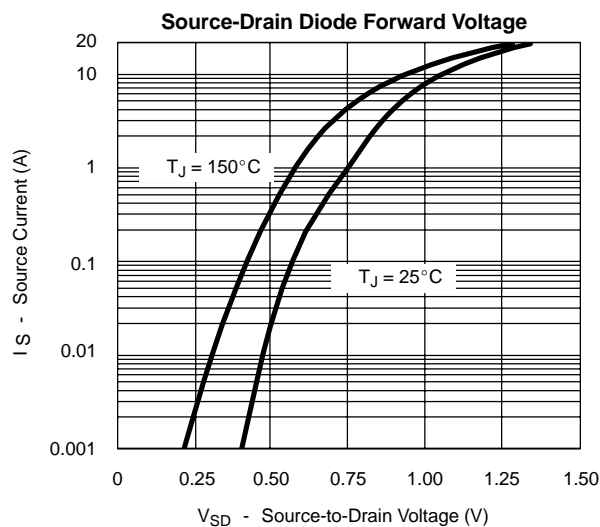
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)





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