Vishay Siliconix



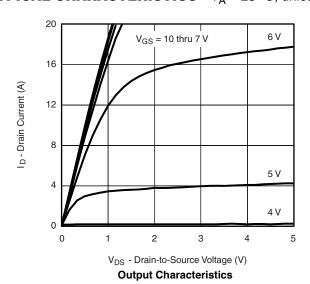
SPECIFICATIONS T _J = 25 °C, unless otherwise noted						
Parameter	Symbol	Test Conditions	Min.	Тур.	Max.	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_{D} = 250 \mu A$	2		4.5	V
Gate-Body Leakage	I _{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 100 V, V _{GS} = 0 V			1	μΑ
		$V_{DS} = 100 \text{ V}, V_{GS} = 0 \text{ V}, T_{J} = 55 ^{\circ}\text{C}$			5	
On-State Drain Current ^a	I _{D(on)}	$V_{DS} \ge 5 \text{ V}, V_{GS} = 10 \text{ V}$	20			Α
Drain-Source On-State Resistance ^a	R _{DS(on)}	$V_{GS} = 10 \text{ V}, I_D = 5.4 \text{ A}$		0.052	0.062	Ω
		$V_{GS} = 6 \text{ V}, I_D = 4.6 \text{ A}$		0.070	0.084	
Forward Transconductance ^a	9 _{fs}	V _{DS} = 15 V, I _D = 5.4 A		12		S
Diode Forward Voltage ^a	V_{SD}	I _S = 3.2 A, V _{GS} = 0 V		0.78	1.2	V
Dynamic ^b						
Total Gate Charge	Q_g	$V_{DS} = 50 \text{ V}, V_{GS} = 10 \text{ V}, I_D = 5.4 \text{ A}$		13.5	17	nC
Gate-Source Charge	Q_{gs}			3		
Gate-Drain Charge	Q_{gd}			4.6		
Turn-On Delay Time	t _{d(on)}	V_{DD} = 50 V, R_L = 50 Ω $I_D \cong$ 1 A, V_{GEN} = 10 V, R_G = 6 Ω		10	15	ns
Rise Time	t _r			15	25	
Turn-Off DelayTime	t _{d(off)}			20	30	
Fall Time	t _f			15	25	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 3.2 A, dI/dt = 100 A/μs		45	90	

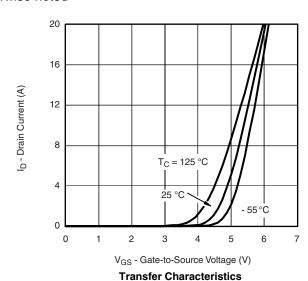
Notes:

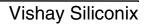
- a. Pulse test; pulse width \leq 300 μ s, duty cycle \leq 2 %.
- b. Guaranteed by design, not subject to production testing.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TYPICAL CHARACTERISTICS $T_A = 25 \, ^{\circ}C$, unless otherwise noted

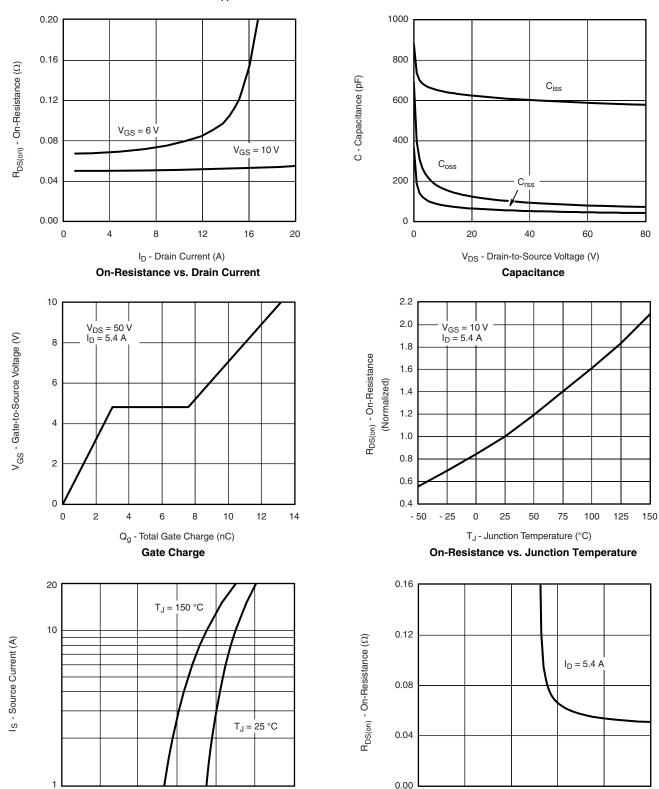








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0.0

0.2

0.4

0.6

V_{SD} - Source-to-Drain Voltage (V)

Source-Drain Diode Forward Voltage

0.8

1.0

1.2

8

2

0

4

V_{GS} - Gate-to-Source Voltage (V)

On-Resistance vs. Gate-to-Source Voltage

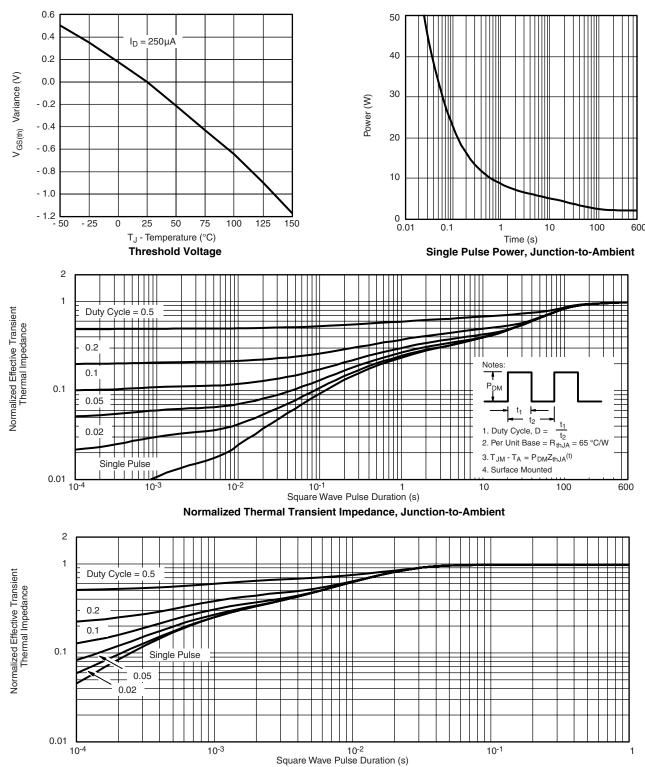
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TYPICAL CHARACTERISTICS $T_A = 25$ °C, unless otherwise noted



Normalized Thermal Transient Impedance, Junction-to-Case

Vishay Siliconix maintains worldwide manufacturing capability. Products may be manufactured at one of several qualified locations. Reliability data for Silicon Technology and Package Reliability represent a composite of all qualified locations. For related documents such as package/tape drawings, part marking, and reliability data, see http://www.vishay.com/ppg?70689.



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