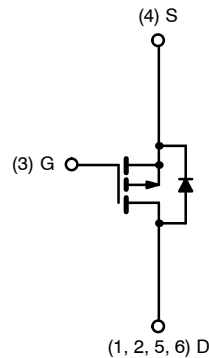
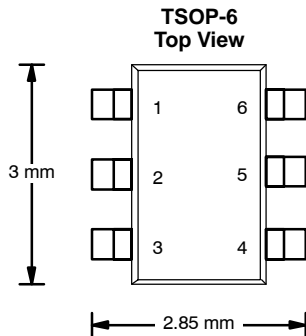




P-Channel 1.8-V (G-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-8	0.042 @ $V_{GS} = -4.5$ V	-5.8
	0.060 @ $V_{GS} = -2.5$ V	-4.9
	0.080 @ $V_{GS} = -1.8$ V	-4.2



Ordering Information: Si3445ADV-T1—E3
Marking Code: C5XXX

P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	5 secs	Steady State	Unit	
Drain-Source Voltage	V_{DS}	-8		V	
Gate-Source Voltage	V_{GS}	± 8			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	-5.8	-4.4	A
		$T_A = 70^\circ\text{C}$	-4.7	-3.5	
Pulsed Drain Current	I_{DM}	-20			
continuous Source Current (Diode Conduction) ^a	I_S	-1.7	-0.9		
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.0	1.1	W
		$T_A = 70^\circ\text{C}$	1.3	0.7	
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	R_{thJA}	$t \leq 5$ sec	50	62.5	$^\circ\text{C}/\text{W}$
		Steady State	90	110	
Maximum Junction-to-Foot (Drain)	R_{thJF}	22	30		

Notes

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

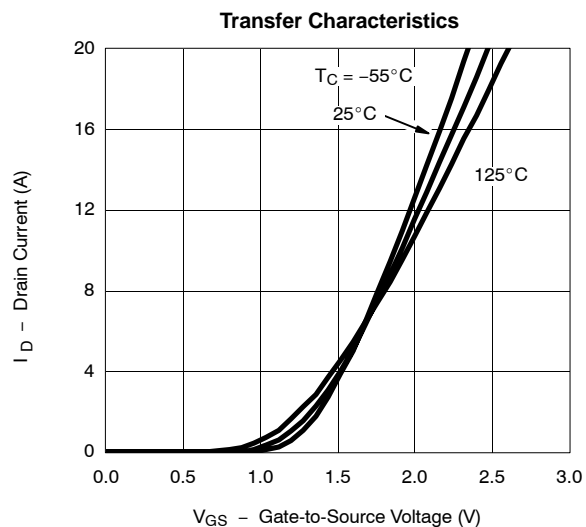
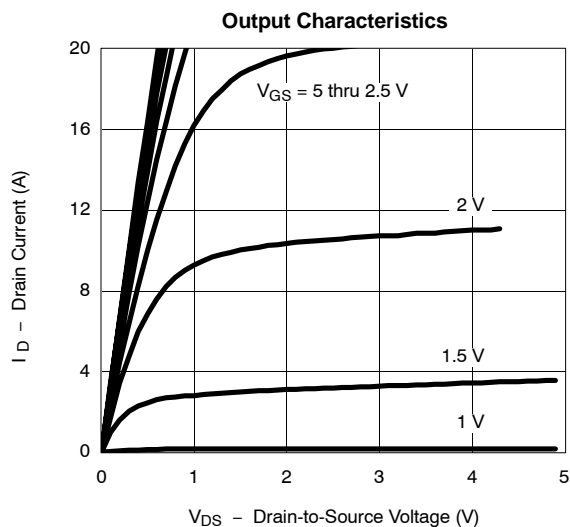
For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

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		-1.0	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} = -8 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -8 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	-20			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -5.8 A		0.034	0.042	Ω
		V _{GS} = -2.5 V, I _D = -4.9 A		0.050	0.060	
		V _{GS} = -1.8 V, I _D = -0.2 A		0.065	0.080	
Forward Transconductance ^a	g _{fs}	V _{DS} = -4 V, I _D = -5.8 A		16		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.7 A, V _{GS} = 0 V		-0.8	-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -4 V, V _{GS} = -4.5 V, I _D = -5.8 A		12.5	19	nC
Gate-Source Charge	Q _{gs}			2.4		
Gate-Drain Charge	Q _{gd}			2.6		
Gate Resistance	R _g	f = 1 MHz		8		Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} = -4 V, R _L = 4 Ω I _D ≅ -1.0 A, V _{GEN} = -4.5 V, R _g = 6 Ω		20	30	ns
Rise Time	t _r			40	60	
Turn-Off Delay Time	t _{d(off)}			80	120	
Fall Time	t _f			60	90	
Source-Drain Reverse Recovery Time	t _{rr}		I _F = -1.7 A, di/dt = 100 A/μs		55	

Notes

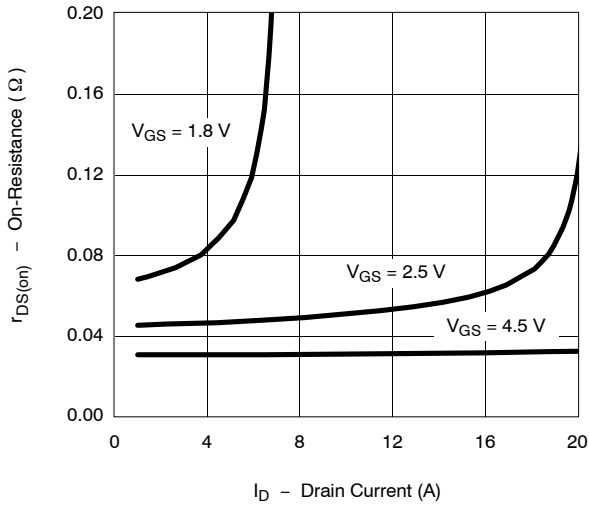
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

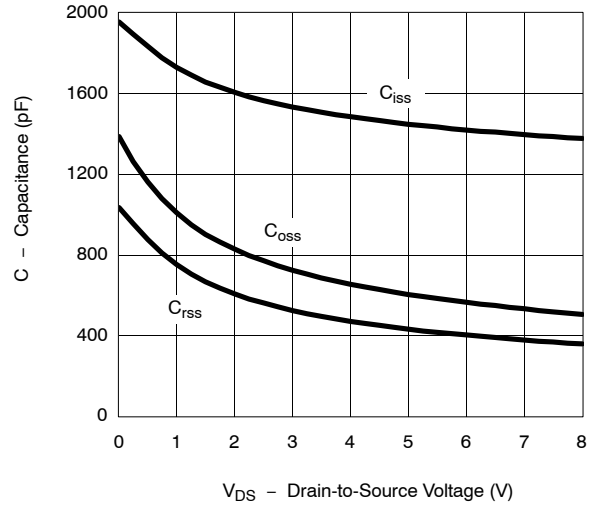


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

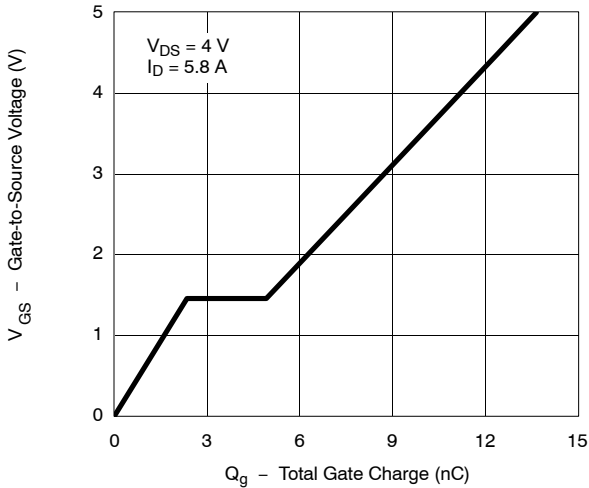
On-Resistance vs. Drain Current



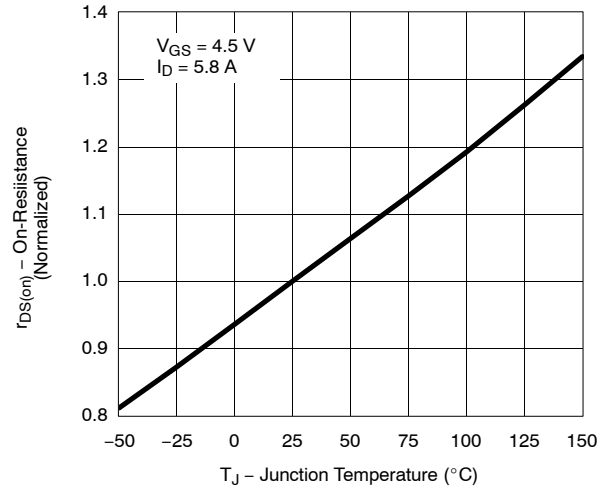
Capacitance



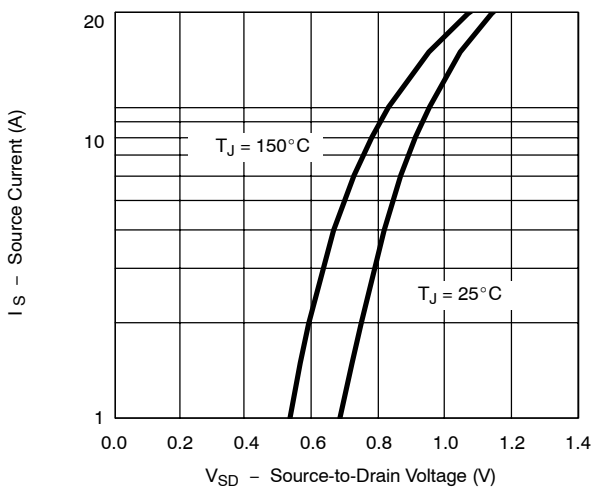
Gate Charge



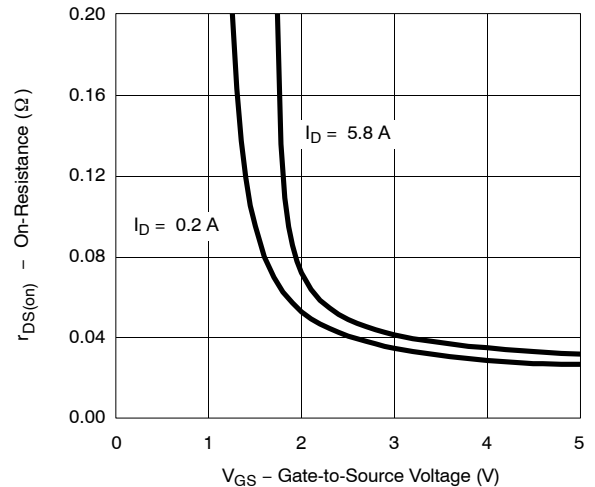
On-Resistance vs. Junction Temperature



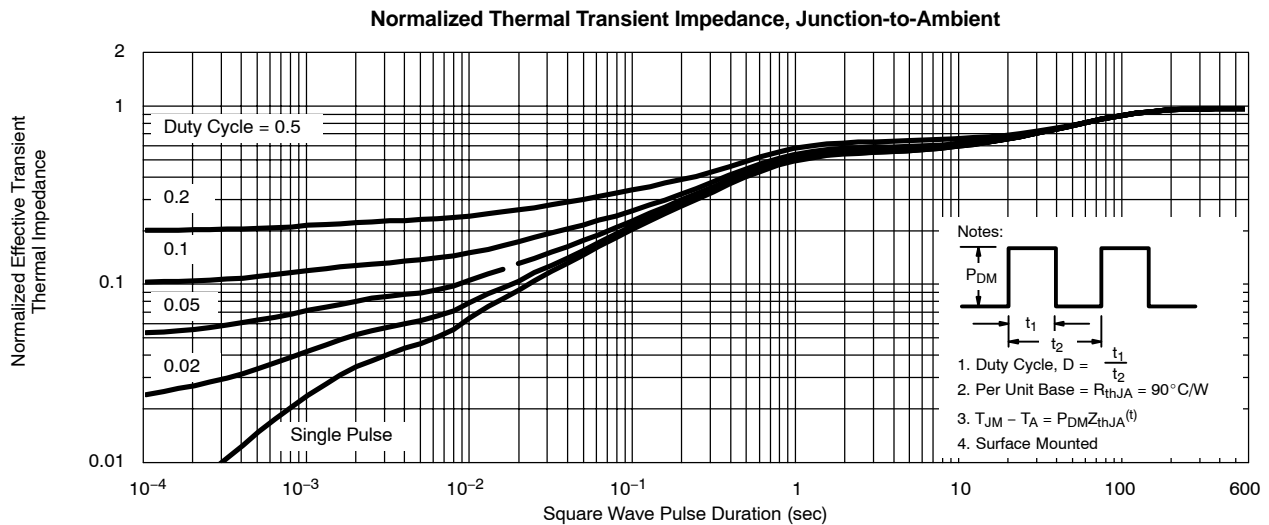
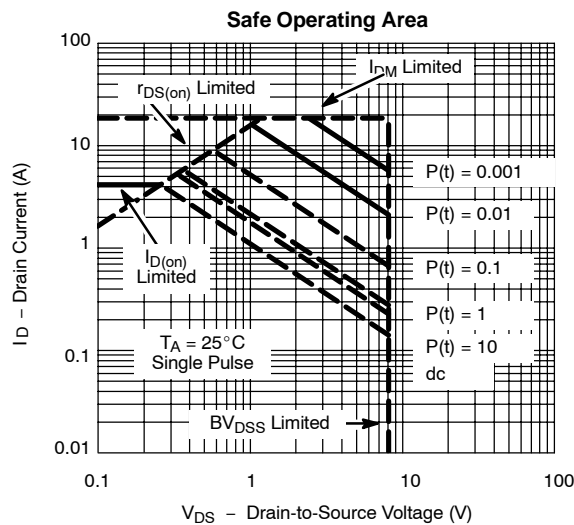
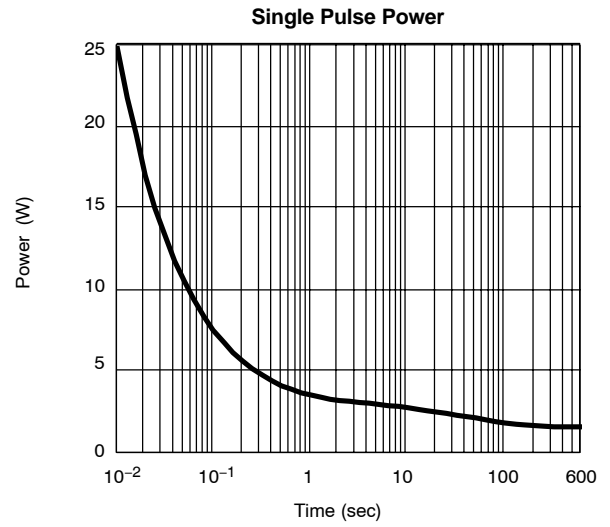
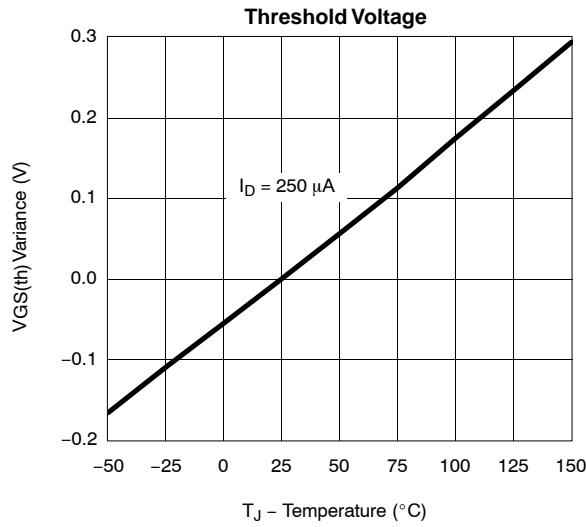
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

