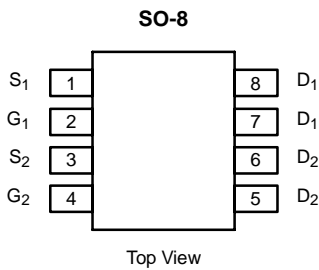




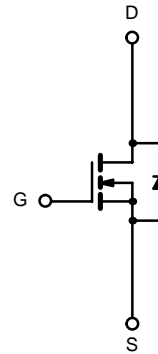
Dual N-Channel 100-V (D-S) MOSFET

TrenchFET®
Power MOSFETs

PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
100	0.150 @ V _{GS} = 10 V	2.6
	0.180 @ V _{GS} = 6 V	2.4



Ordering Information: Si4982DY
Si4982DY-T1 (with Tape and Reel)



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	100	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current (T _J = 150°C) ^a	I _D	T _A = 25°C	A
		T _A = 70°C	
Pulsed Drain Current	I _{DM}	20	
Continuous Source Current (Diode Conduction) ^a	I _S	1.7	
Maximum Power Dissipation ^a	P _D	T _A = 25°C	W
		T _A = 70°C	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	62.5	°C/W

Notes

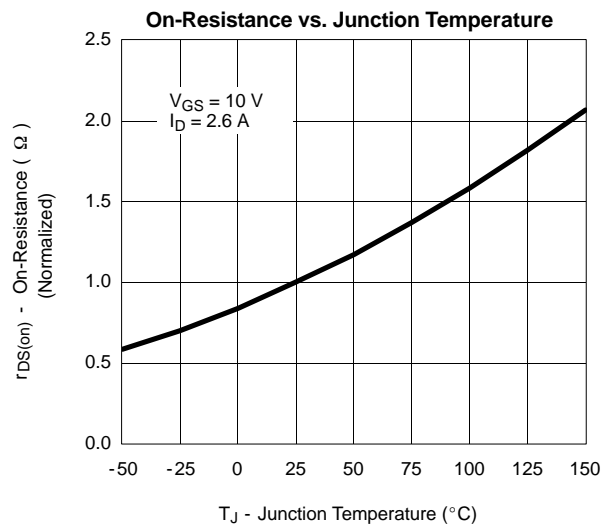
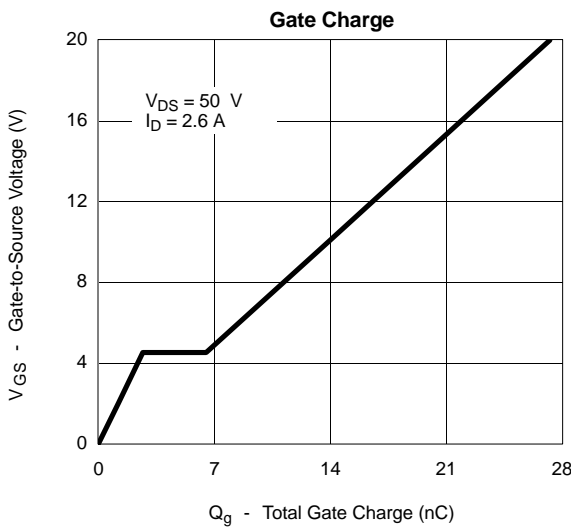
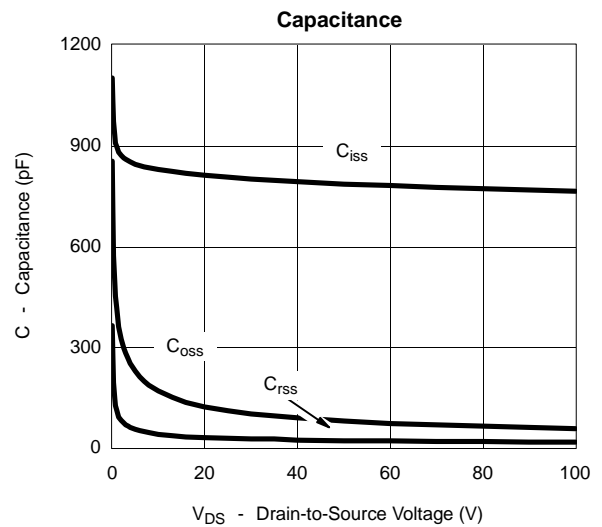
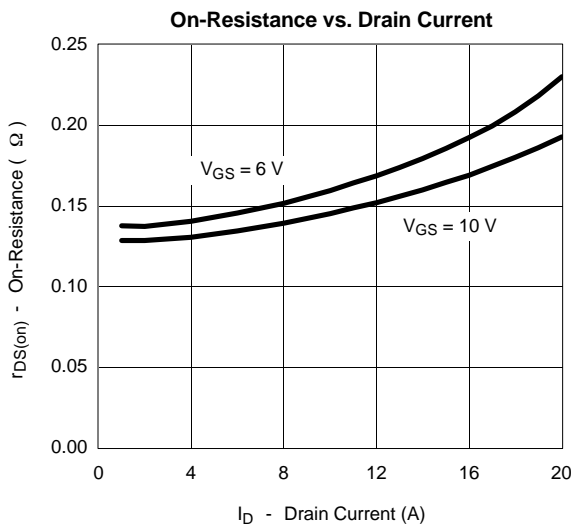
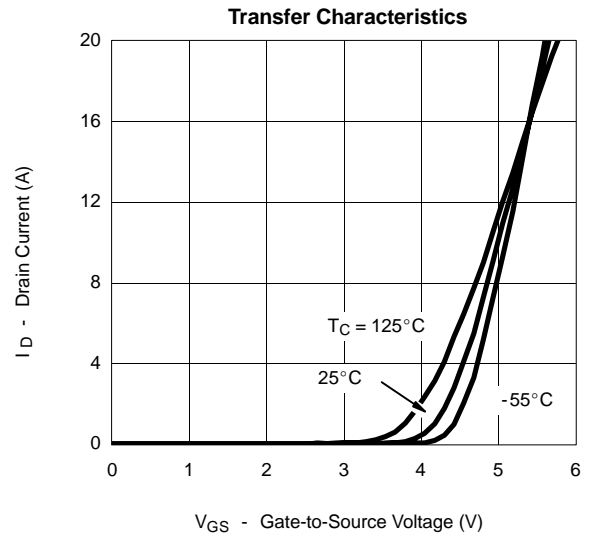
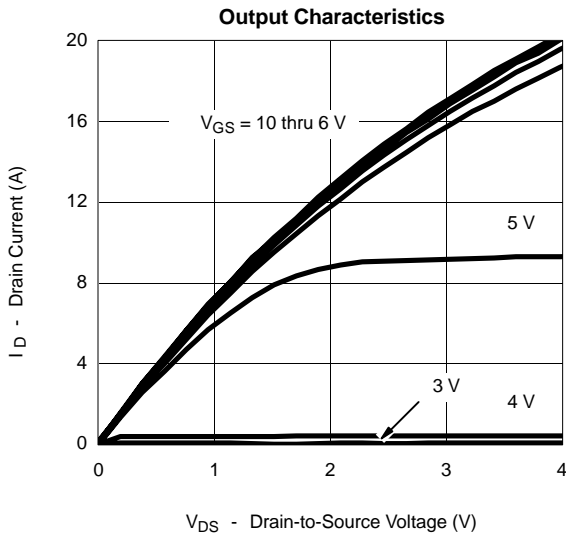
a. Surface Mounted on FR4 Board, t ≤ 10 sec.

SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	2			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}	$V_{DS} = 100\ \text{V}, V_{GS} = 0\ \text{V}$			1	μA
		$V_{DS} = 100\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			20	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} = 5\ \text{V}, V_{GS} = 10\ \text{V}$	15			A
Drain-Source On-State Resistance ^b	$r_{DS(on)}$	$V_{GS} = 10\ \text{V}, I_D = 2.6\ \text{A}$		0.130	0.150	Ω
		$V_{GS} = 6\ \text{V}, I_D = 2.4\ \text{A}$		0.140	0.180	
Forward Transconductance ^b	g_{fs}	$V_{DS} = 15\ \text{V}, I_D = 2.6\ \text{A}$		11		S
Diode Forward Voltage ^b	V_{SD}	$I_S = 1.7\ \text{A}, V_{GS} = 0\ \text{V}$			1.2	V
Dynamic^a						
Total Gate Charge	Q_g	$V_{DS} = 50\ \text{V}, V_{GS} = 10\ \text{V}, I_D = 2.6\ \text{A}$		15	30	nC
Gate-Source Charge	Q_{gs}			2.7		
Gate-Drain Charge	Q_{gd}			4.0		
Gate Resistance	R_g		1		4.4	Ω
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 50\ \text{V}, R_L = 50\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 10\ \text{V}, R_G = 6\ \Omega$		10	20	ns
Rise Time	t_r			10	20	
Turn-Off Delay Time	$t_{d(off)}$			30	60	
Fall Time	t_f			10	20	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.7\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		60	90	

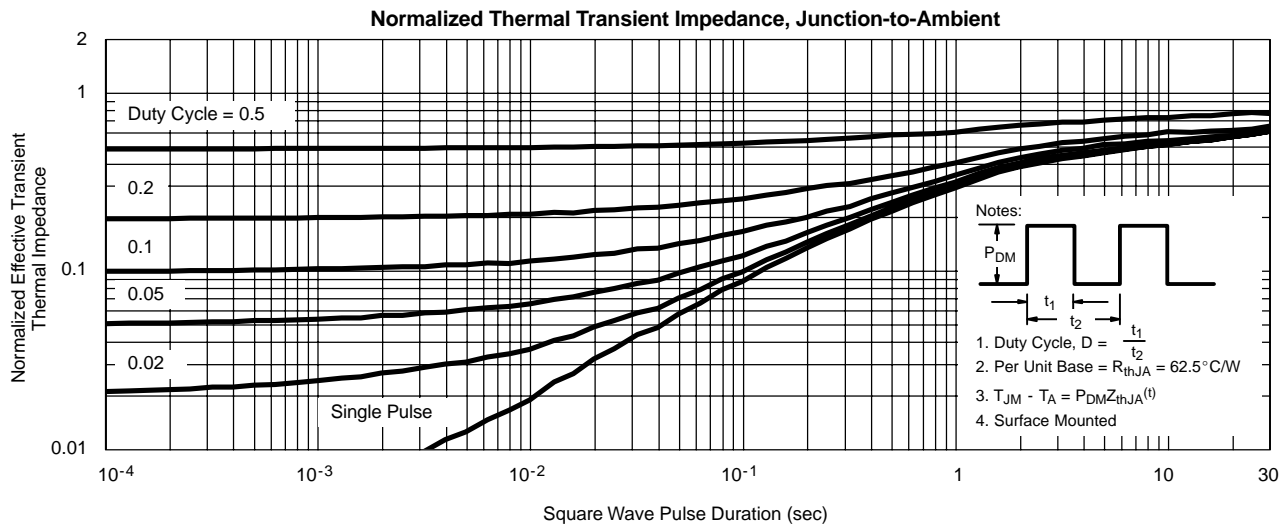
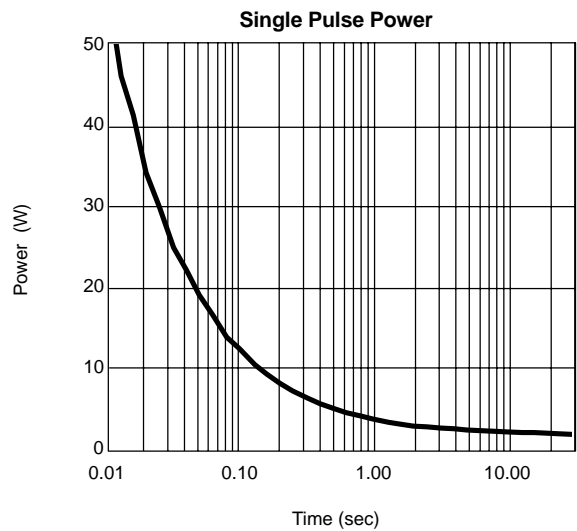
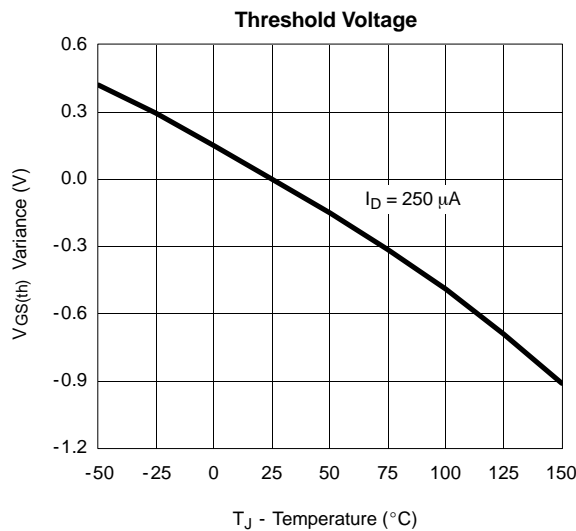
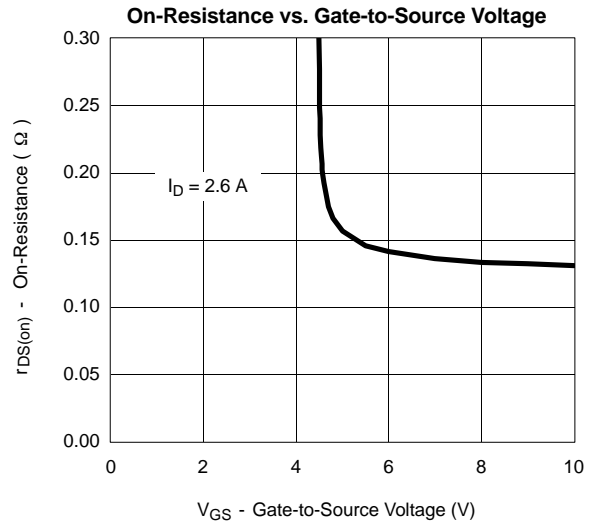
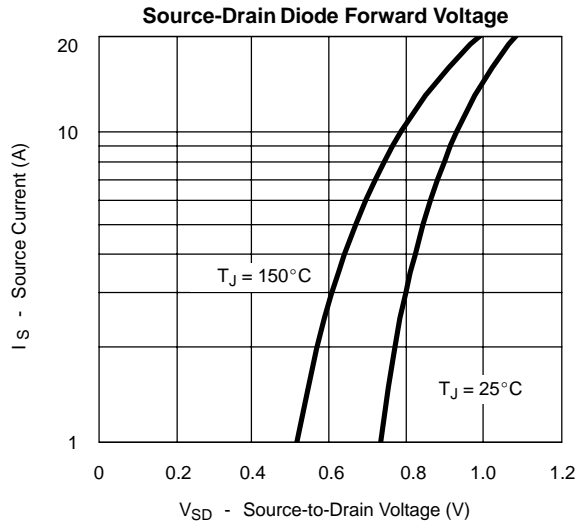
Notes

- a. For design aid only; not subject to production testing.
 b. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)





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