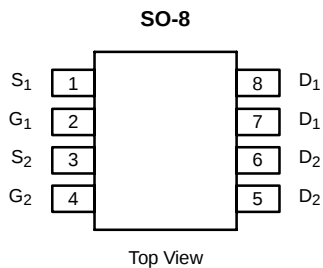




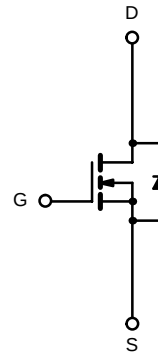
Dual N-Channel 100-V (D-S) MOSFET

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)



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	$T_A = 25^\circ\text{C}$	I_D	2.6	A
	$T_A = 70^\circ\text{C}$		2.1	
Pulsed Drain Current		I_{DM}	20	
Continuous Source Current (Diode Conduction) ^a		I_S	1.7	
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	2.0	W
	$T_A = 70^\circ\text{C}$		1.3	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}	62.5	$^\circ\text{C/W}$

Notes

a. Surface Mounted on FR4 Board, $t \leq 10$ sec.

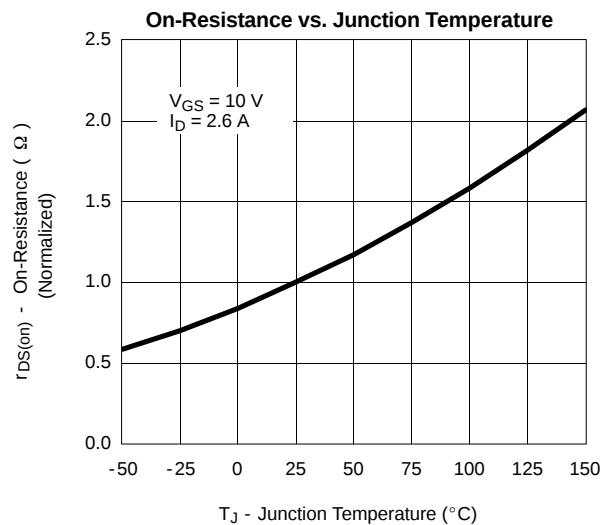
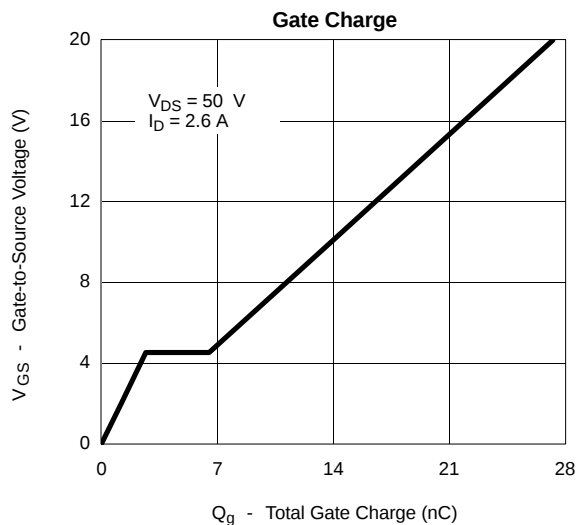
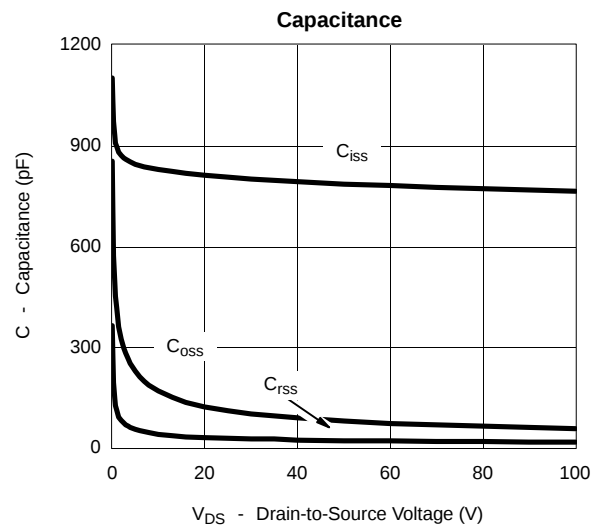
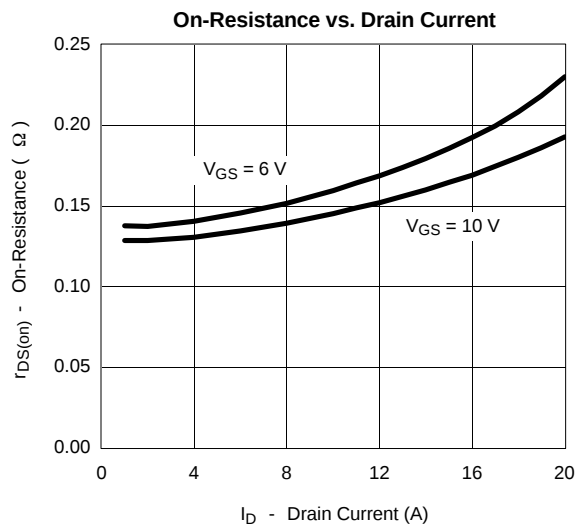
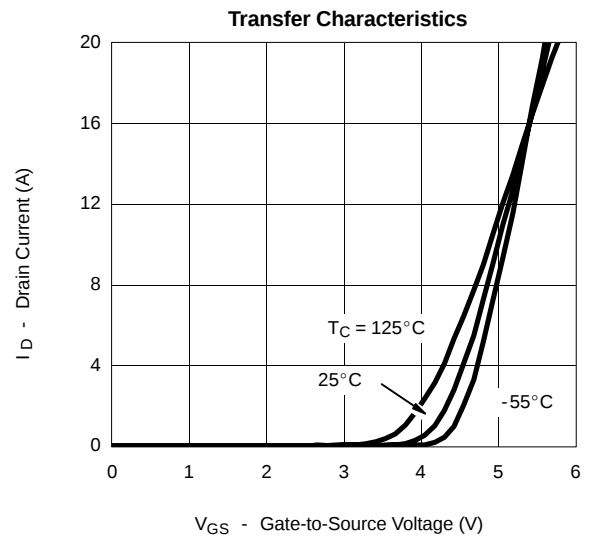
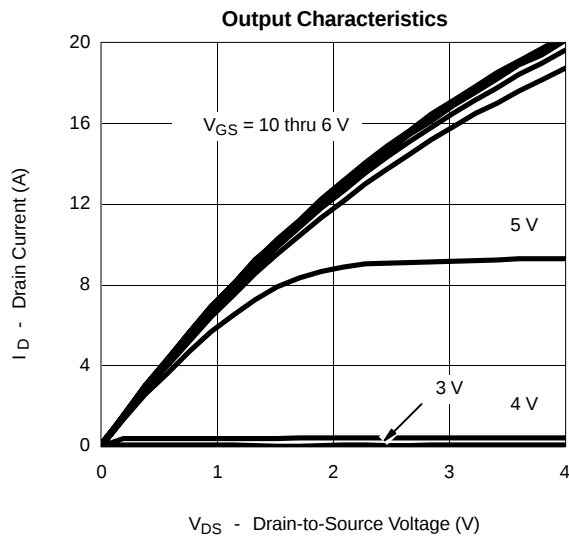
SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	2			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 100 V, V _{GS} = 0 V			1	μA
		V _{DS} = 100 V, V _{GS} = 0 V, T _J = 55 °C			20	
On-State Drain Current ^b	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	15			A
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 10 V, I _D = 2.6 A		0.130	0.150	Ω
		V _{GS} = 6 V, I _D = 2.4 A		0.140	0.180	
Forward Transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 2.6 A		11		S
Diode Forward Voltage ^b	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V			1.2	V
Dynamic^a						
Total Gate Charge	Q _g	V _{DS} = 50 V, V _{GS} = 10 V, I _D = 2.6 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 V, R _L = 50 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		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 A, di/dt = 100 A/μs		60	90	

Notes

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



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

