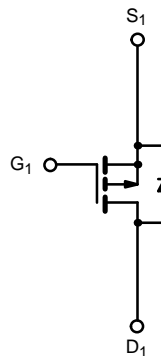
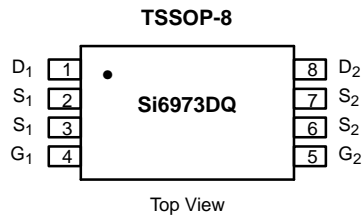




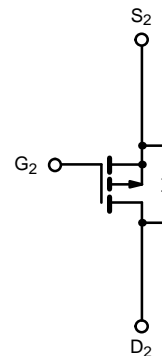
## Dual P-Channel 1.8-V (G-S) MOSFET

**TrenchFET<sup>®</sup>**  
Power MOSFETs  
1.8-V Rated

PRODUCT SUMMARY		
V <sub>DS</sub> (V)	r <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
-20	0.030 @ V <sub>GS</sub> = -4.5 V	-4.8
	0.039 @ V <sub>GS</sub> = -2.5 V	-4.2
	0.055 @ V <sub>GS</sub> = -1.8 V	-3.5



P-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)					
Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V <sub>DS</sub>	-20		V
Gate-Source Voltage		V <sub>GS</sub>	±8		
Continuous Drain Current (T <sub>J</sub> = 150°C) <sup>a</sup>	T <sub>A</sub> = 25°C	I <sub>D</sub>	-4.8	-4.1	A
	T <sub>A</sub> = 70°C		-3.9	-3.2	
Pulsed Drain Current (10 μs Pulse Width)		I <sub>DM</sub>	-30		
Continuous Source Current (Diode Conduction) <sup>a</sup>		I <sub>S</sub>	-1.0	-0.7	
Maximum Power Dissipation <sup>a</sup>	T <sub>A</sub> = 25°C	P <sub>D</sub>	1.14	0.83	W
	T <sub>A</sub> = 70°C		0.73	0.53	
Operating Junction and Storage Temperature Range		T <sub>J</sub> , T <sub>stg</sub>	-55 to 150		°C

THERMAL RESISTANCE RATINGS					
Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient <sup>a</sup>	t ≤ 10 sec	R <sub>thJA</sub>	86	110	°C/W
	Steady State		124	150	
Maximum Junction-to-Foot (Drain)	Steady State	R <sub>thJF</sub>	52	65	

Notes

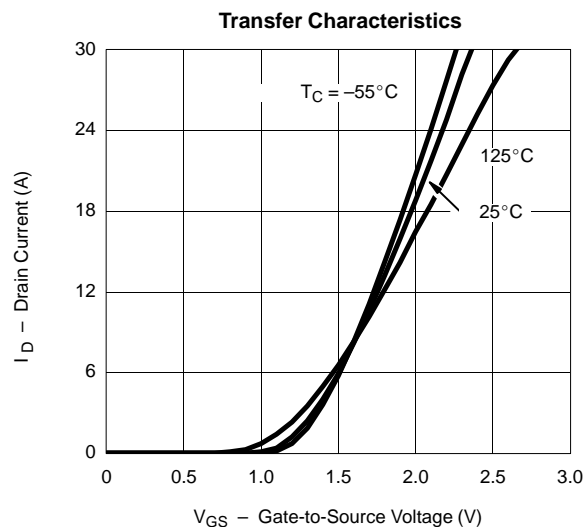
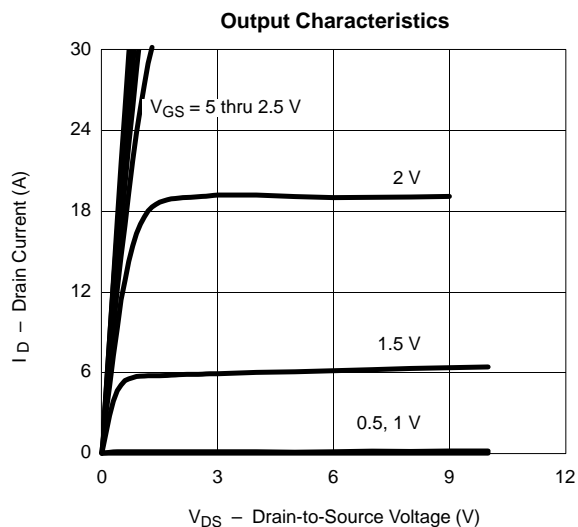
a. Surface Mounted on 1" x 1" FR4 Board.


**SPECIFICATIONS ( $T_J = 25^\circ\text{C}$  UNLESS OTHERWISE NOTED)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$	-0.45			V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 8 \text{ V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}$			-1	$\mu\text{A}$
		$V_{DS} = -16 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 70^\circ\text{C}$			-25	
On-State Drain Current <sup>a</sup>	$I_{D(on)}$	$V_{DS} = -5 \text{ V}, V_{GS} = -4.5 \text{ V}$	-20			A
Drain-Source On-State Resistance <sup>a</sup>	$r_{DS(on)}$	$V_{GS} = -4.5 \text{ V}, I_D = -4.8 \text{ A}$		0.025	0.030	$\Omega$
		$V_{GS} = -2.5 \text{ V}, I_D = -4.2 \text{ A}$		0.033	0.039	
		$V_{GS} = -1.8 \text{ V}, I_D = -3.5 \text{ A}$		0.046	0.055	
Forward Transconductance <sup>a</sup>	$g_{fs}$	$V_{DS} = -5 \text{ V}, I_D = -4.8 \text{ A}$		21		S
Diode Forward Voltage <sup>a</sup>	$V_{SD}$	$I_S = -1.0 \text{ A}, V_{GS} = 0 \text{ V}$		-0.65	-1.1	V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	$Q_g$	$V_{DS} = -10 \text{ V}, V_{GS} = -4.5 \text{ V}, I_D = -4.8 \text{ A}$		21	30	nC
Gate-Source Charge	$Q_{gs}$		4.4			
Gate-Drain Charge	$Q_{gd}$		3.3			
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10 \text{ V}, R_L = 10 \Omega$ $I_D \cong -1 \text{ A}, V_{GEN} = -4.5 \text{ V}, R_G = 6 \Omega$		27	40	ns
Rise Time	$t_r$			27	40	
Turn-Off Delay Time	$t_{d(off)}$			93	140	
Fall Time	$t_f$			43	65	
Source-Drain Reverse Recovery Time	$t_{rr}$	$I_F = -1.0 \text{ A}, di/dt = 100 \text{ A}/\mu\text{s}$		30	50	

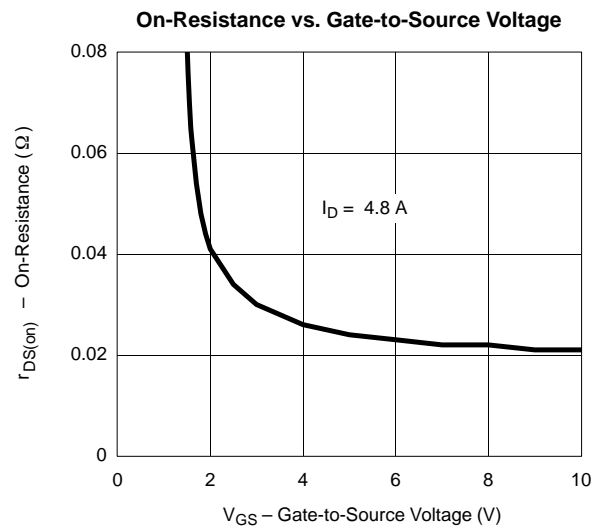
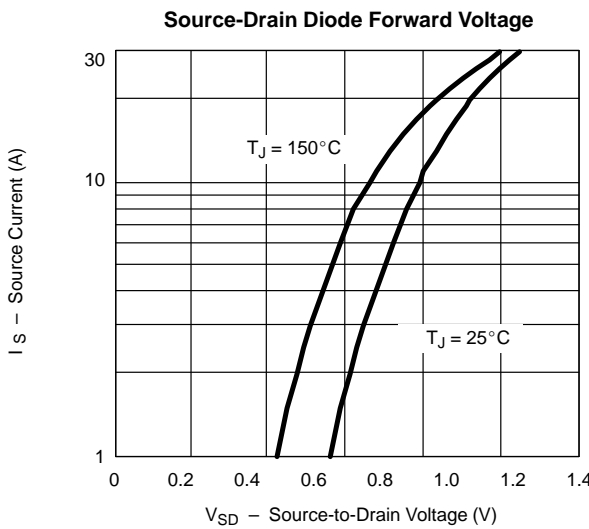
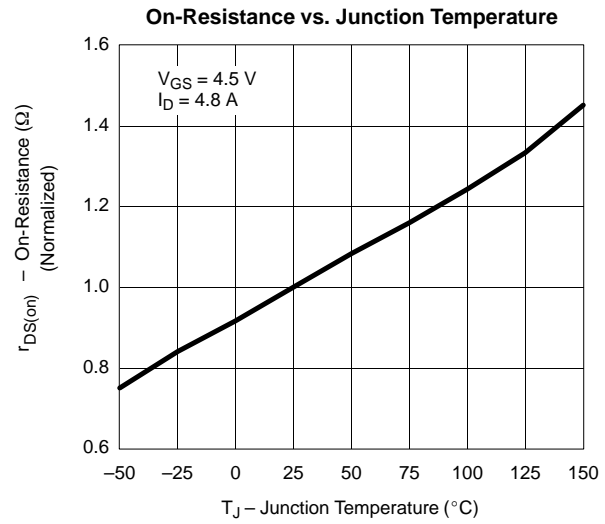
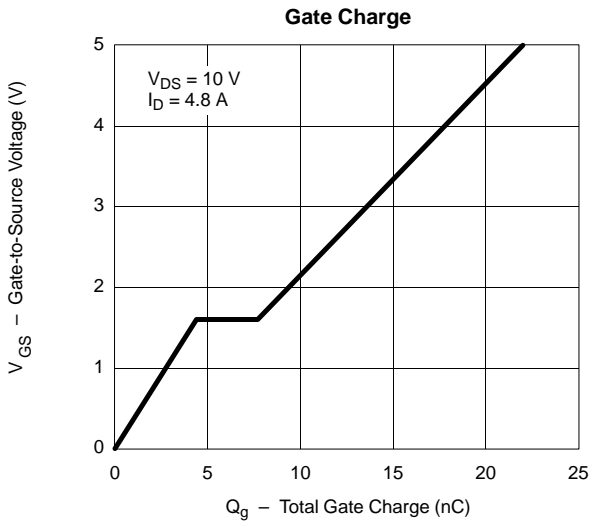
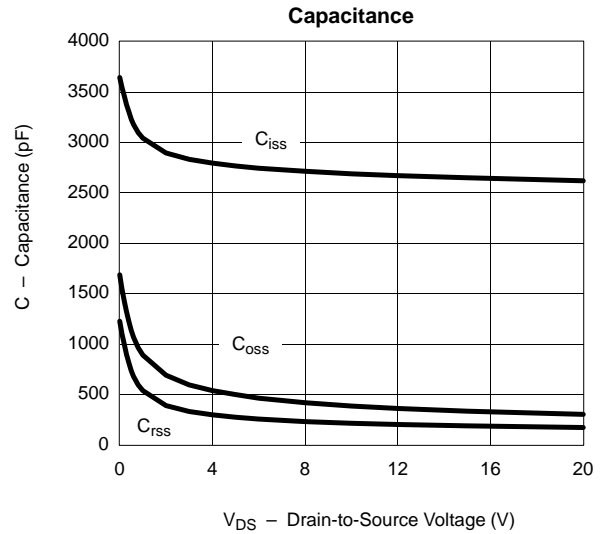
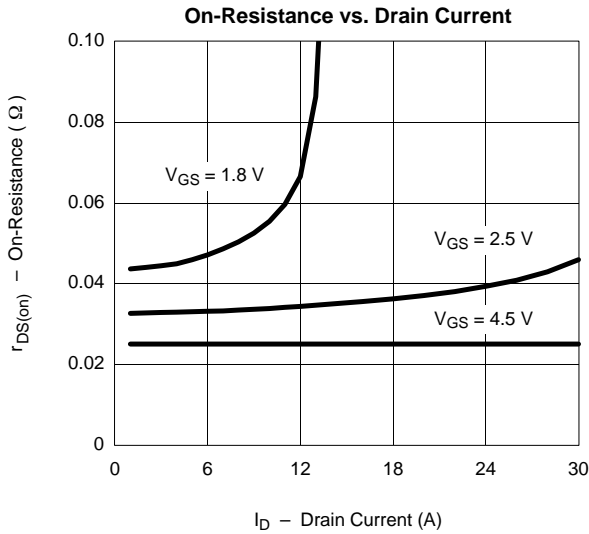
## Notes

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

**TYPICAL CHARACTERISTICS ( $25^\circ\text{C}$  UNLESS NOTED)**




**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**





**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**

