

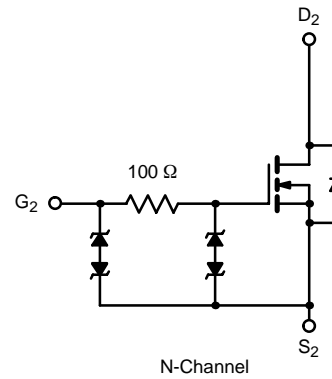
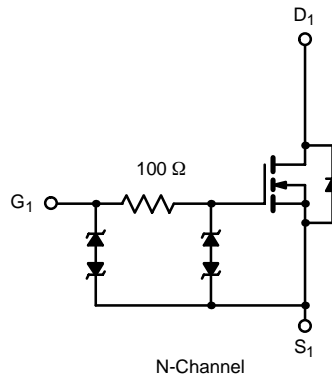
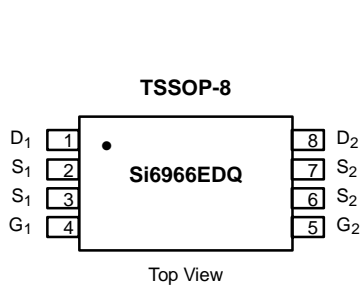


Dual N-Channel 2.5-V (G-S) MOSFET, ESD Protected

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
20	0.030 @ $V_{GS} = 4.5$ V	± 5.2
	0.040 @ $V_{GS} = 2.5$ V	± 4.5



**ESD Protected
4000 V**



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	$T_A = 25^\circ\text{C}$	± 5.2	A
	$T_A = 70^\circ\text{C}$	± 4.0	
Pulsed Drain Current	I_{DM}	± 30	W
Continuous Source Current (Diode Conduction) ^{a, b}	I_S	1.25	
Maximum Power Dissipation ^{a, b}	$T_A = 25^\circ\text{C}$	1.25	W
	$T_A = 70^\circ\text{C}$	0.72	
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	$t \leq 10$ sec	R_{thJA}		110	$^\circ\text{C/W}$
	Steady State	R_{thJA}	115		

Notes
a. Surface Mounted on FR4 Board.
b. $t = \leq 10$ sec.

SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	0.6			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\ \text{V}, V_{GS} = \pm 4.5\ \text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = +20\ \text{V}, V_{GS} = 0\ \text{V}$			1	μA
		$V_{DS} = 20\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			25	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \geq 5\ \text{V}, V_{GS} = 4.5\ \text{V}$	30			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = 4.5\ \text{V}, I_D = 5.2\ \text{A}$		0.021	0.030	Ω
		$V_{GS} = 2.5\ \text{V}, I_D = 4.5\ \text{A}$		0.028	0.040	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 10\ \text{V}, I_D = 5.2\ \text{A}$		20		S
Diode Forward Voltage ^a	V_{SD}	$I_S = 1.25\ \text{A}, V_{GS} = 0\ \text{V}$		0.65	1.2	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = 15\ \text{V}, V_{GS} = 4.5\ \text{V}, I_D = 5.2\ \text{A}$		15	25	nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			4.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10\ \text{V}, R_L = 10\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 4.5\ \text{V}, R_G = 6\ \Omega$		100	200	ns
Rise Time	t_r			130	250	
Turn-Off Delay Time	$t_{d(off)}$			420	800	
Fall Time	t_f			220	450	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.25\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		210	500	

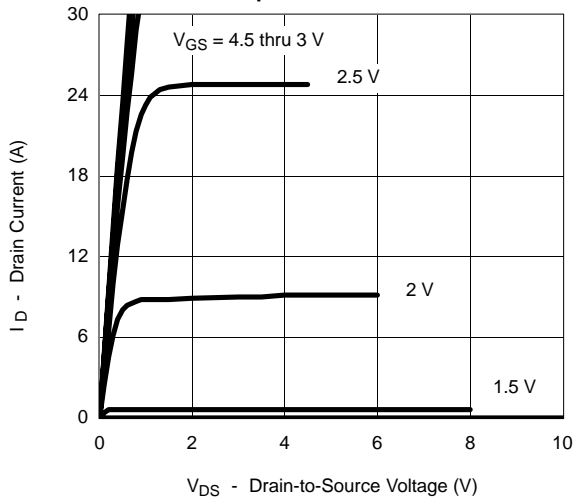
Notes

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

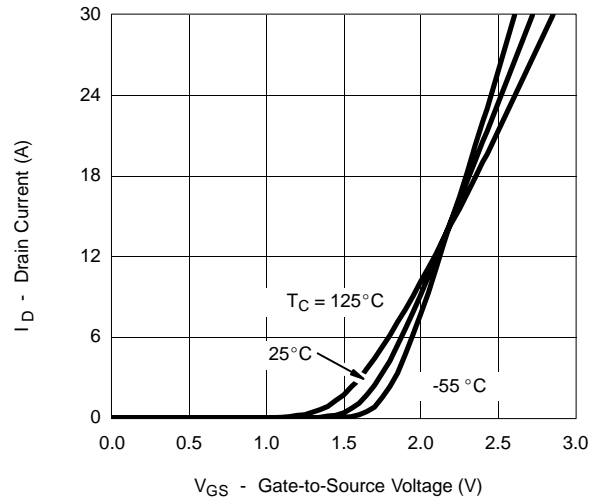


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

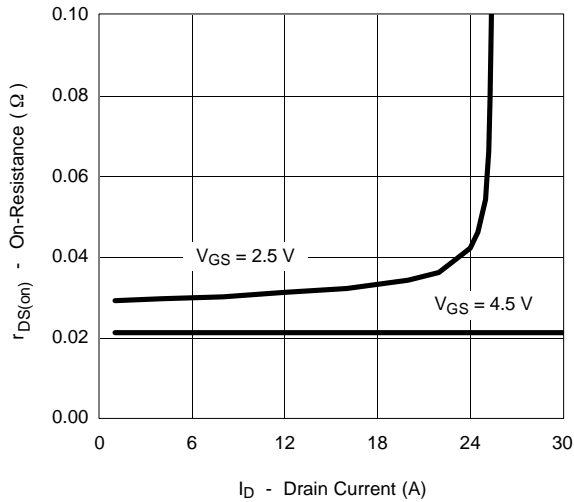
Output Characteristics



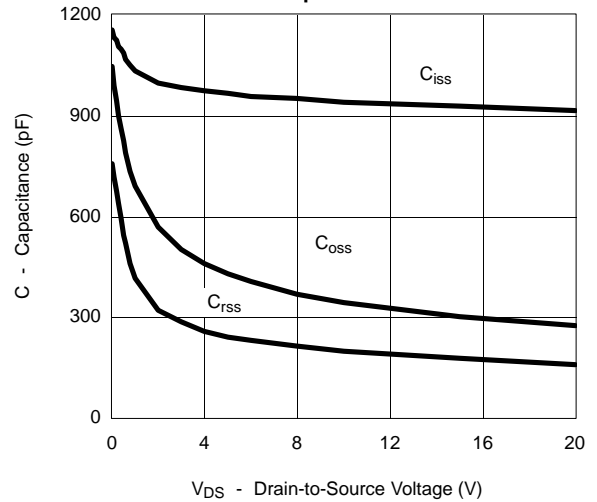
Transfer Characteristics



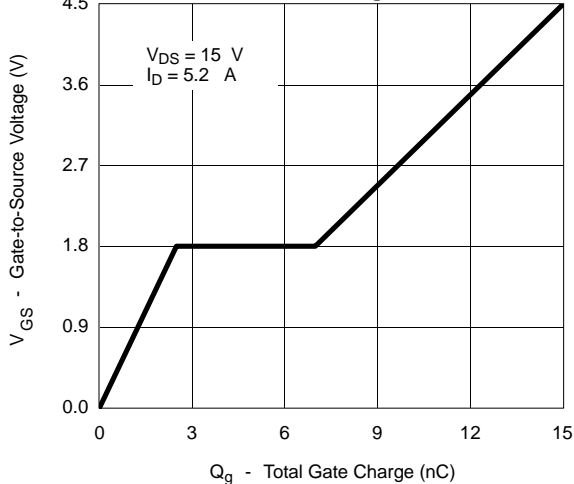
On-Resistance vs. Drain Current



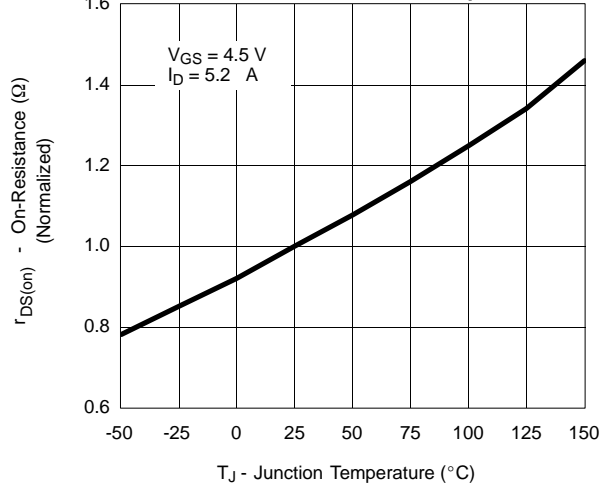
Capacitance



Gate Charge



On-Resistance vs. Junction Temperature





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

