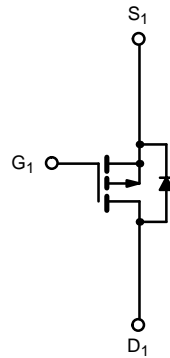
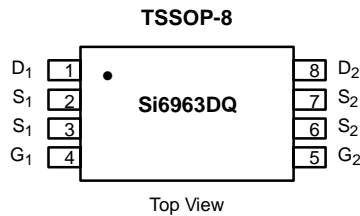




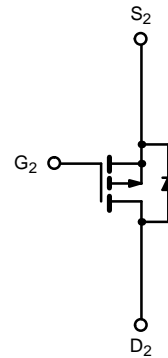
## Dual P-Channel 2.5-V (G-S) MOSFET

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

PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
-20	0.050 @ $V_{GS} = -4.5$ V	-3.5
	0.085 @ $V_{GS} = -2.5$ V	-2.7



P-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	10 sec	Steady State	Unit	
Drain-Source Voltage	$V_{DS}$	-20		V	
Gate-Source Voltage	$V_{GS}$	$\pm 12$			
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) <sup>a</sup>	$I_D$	$T_A = 25^\circ\text{C}$	-3.5	-3.0	A
		$T_A = 70^\circ\text{C}$	-2.8	-2.5	
Pulsed Drain Current	$I_{DM}$	-30			
Continuous Source Current (Diode Conduction) <sup>a</sup>	$I_S$	-1.25	-0.7		
Maximum Power Dissipation <sup>a</sup>	$P_D$	$T_A = 25^\circ\text{C}$	1.14	0.83	W
		$T_A = 70^\circ\text{C}$	0.73	0.53	
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 <sup>a</sup>	$R_{thJA}$	$t \leq 10$ sec	86	110	$^\circ\text{C/W}$
		Steady State	124	150	
Maximum Junction-to-Foot (Drain)	$R_{thJF}$	52	165		

Notes

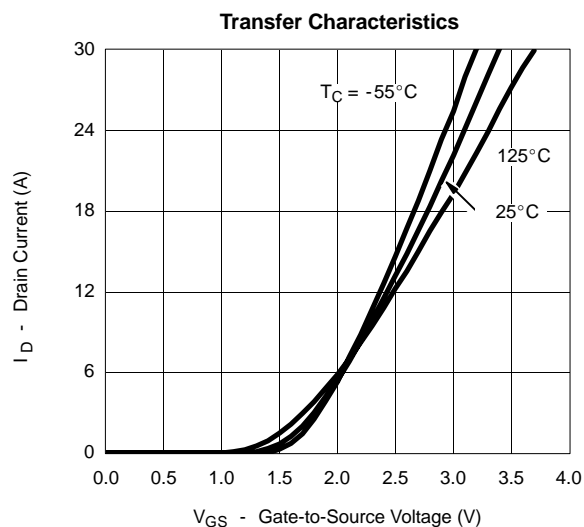
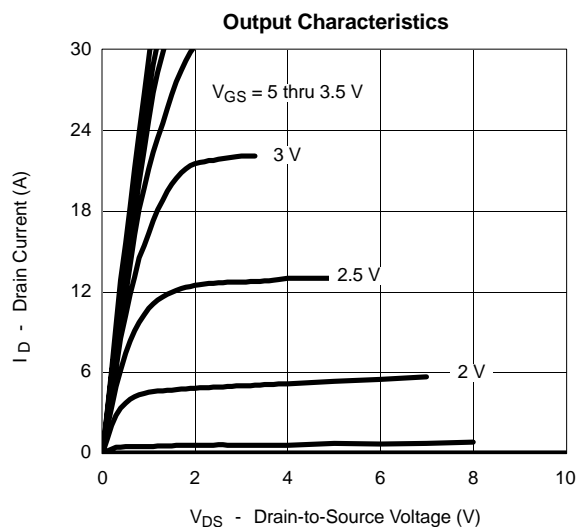
a. Surface Mounted on FR4 Board.

**SPECIFICATIONS (T<sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)**

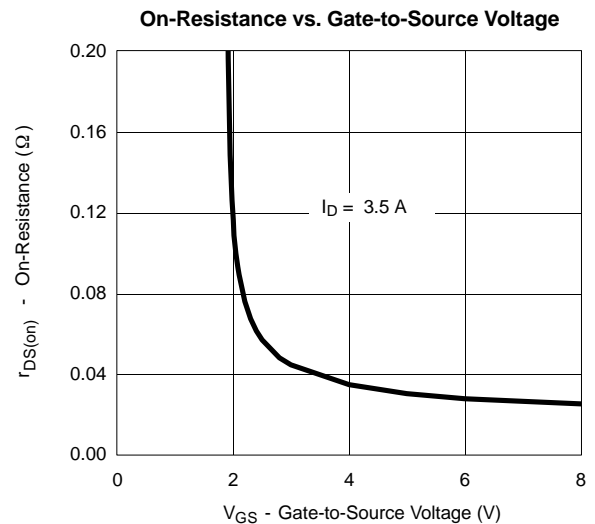
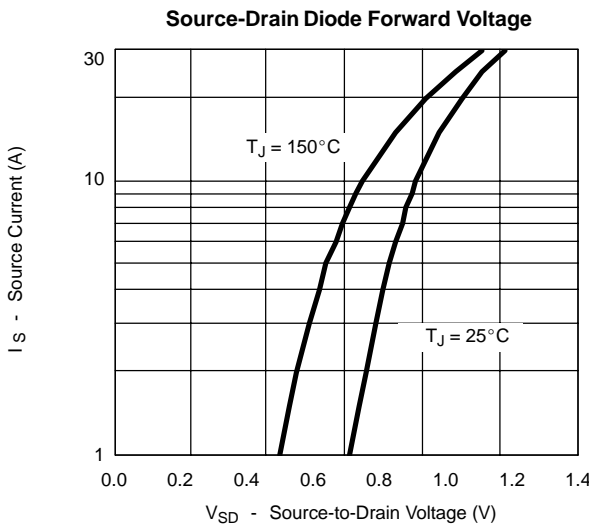
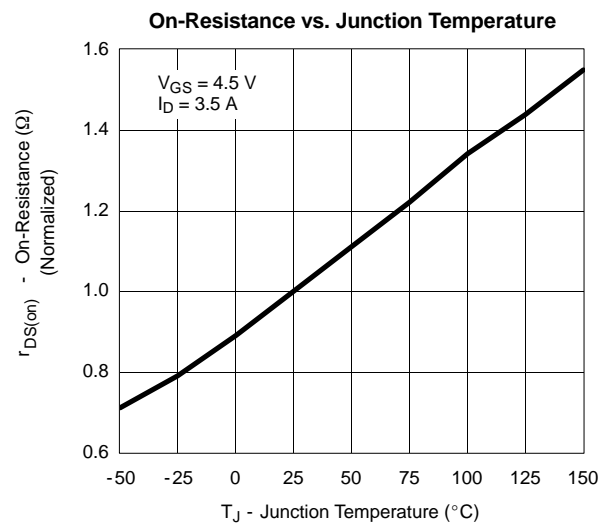
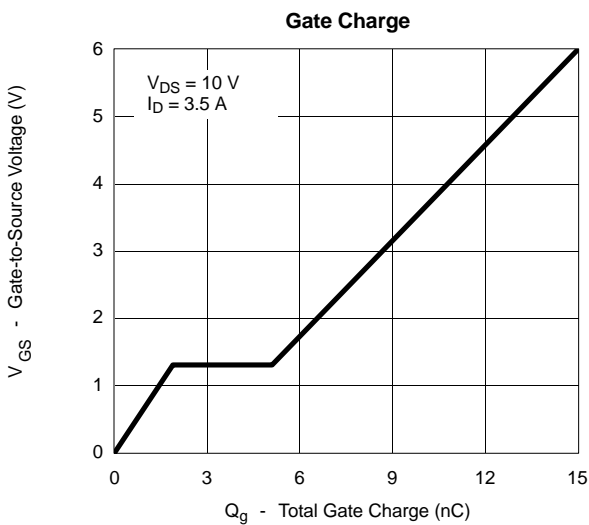
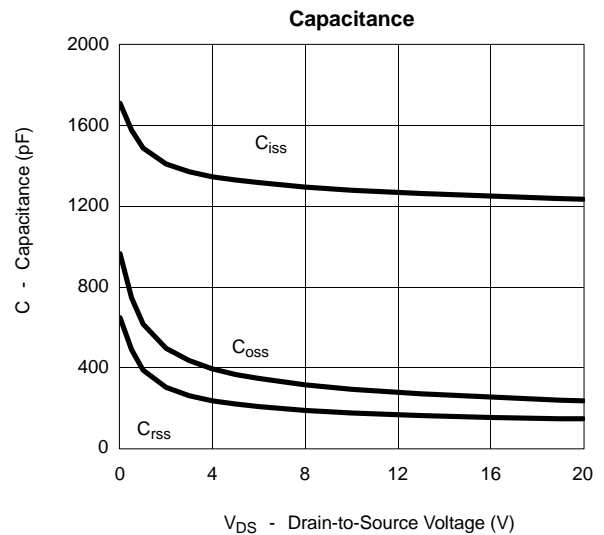
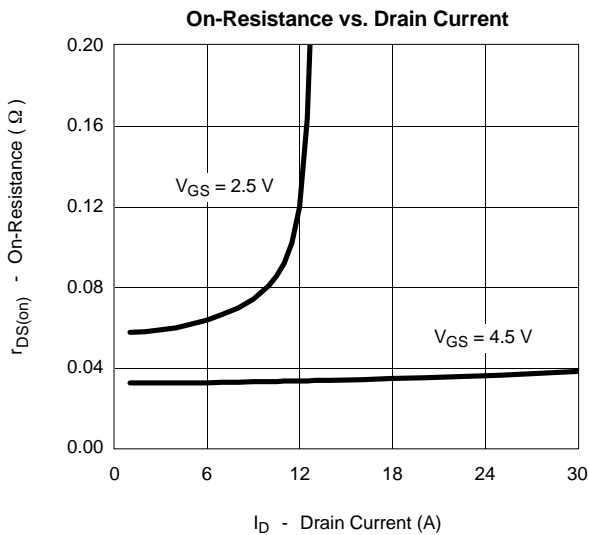
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-0.6		-1.4	V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±12 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -20 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -20 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C			-25	
On-State Drain Current <sup>a</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ -5 V, V <sub>GS</sub> = -4.5 V	-30			A
Drain-Source On-State Resistance <sup>a</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -3.5 A		0.037	0.050	Ω
		V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -2.7 A		0.062	0.085	
Forward Transconductance <sup>a</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -3.5 A		10		S
Diode Forward Voltage <sup>a</sup>	V <sub>SD</sub>	I <sub>S</sub> = -1.25 A, V <sub>GS</sub> = 0 V		-0.72	-1.2	V
<b>Dynamic<sup>b</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -10 V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -3.5 A		12.5	20	nC
Gate-Source Charge	Q <sub>gs</sub>			1.9		
Gate-Drain Charge	Q <sub>gd</sub>			3.2		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = -10 V, R <sub>L</sub> = 10 Ω I <sub>D</sub> ≅ -1 A, V <sub>GEN</sub> = -4.5 V, R <sub>G</sub> = 6 Ω		20	30	ns
Rise Time	t <sub>r</sub>			26	40	
Turn-Off Delay Time	t <sub>d(off)</sub>			48	75	
Fall Time	t <sub>f</sub>			30	45	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = -1.25 A, di/dt = 100 A/μs		30	50	

## Notes

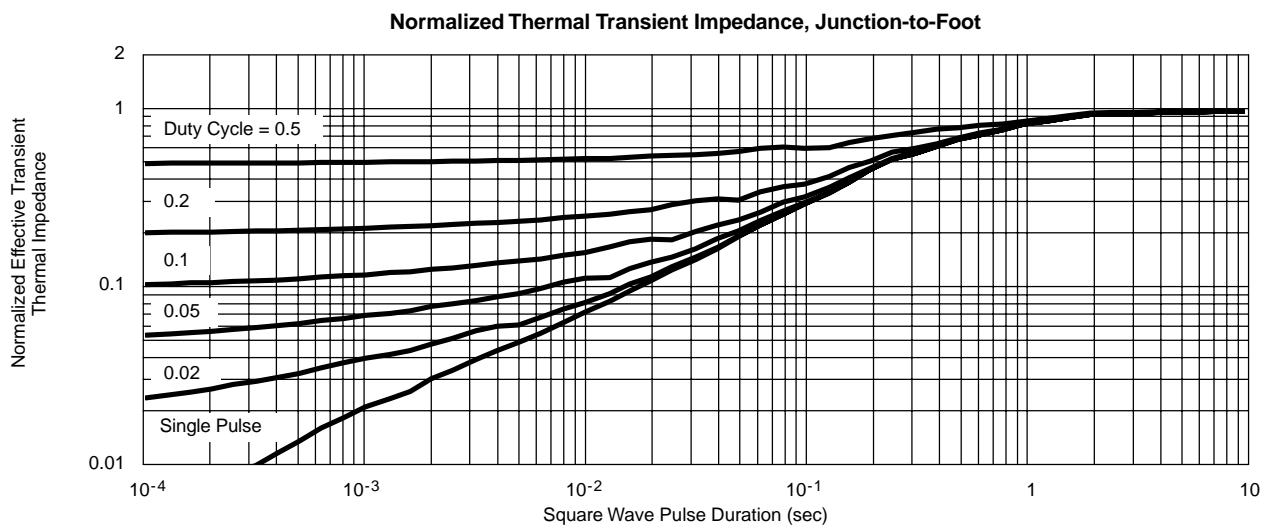
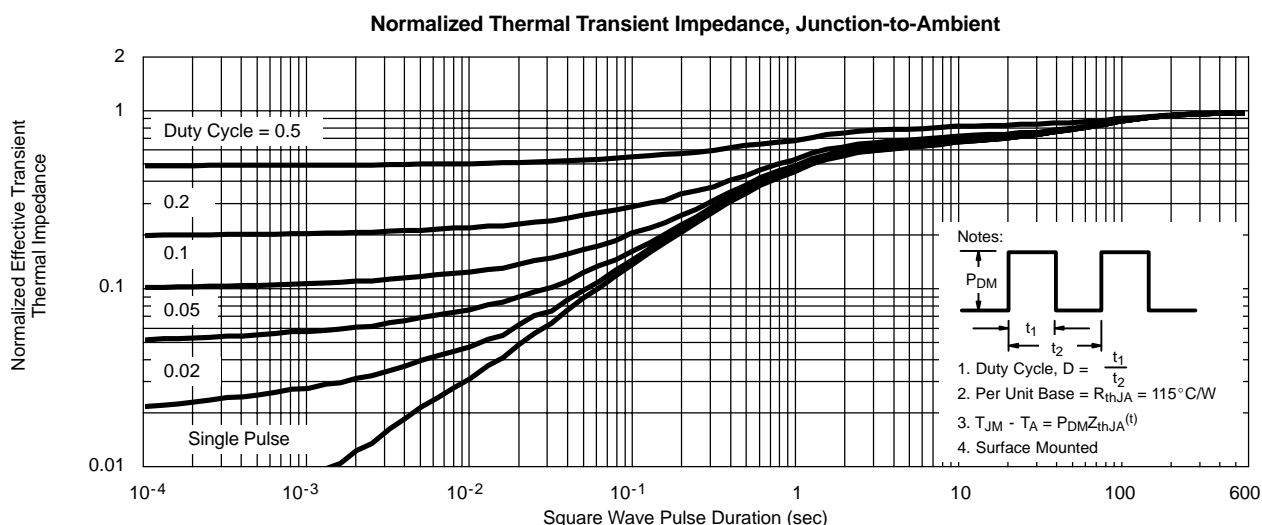
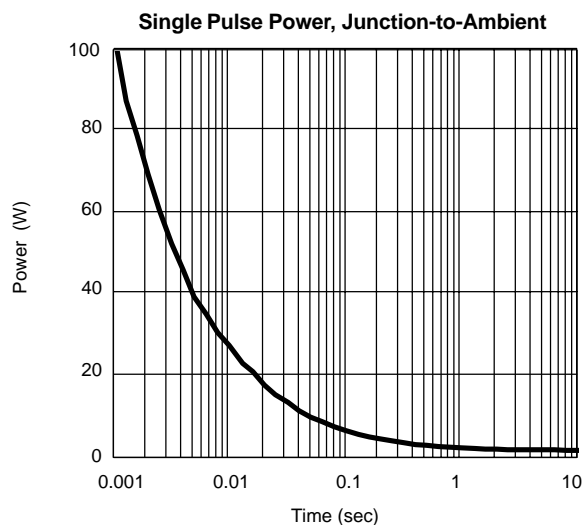
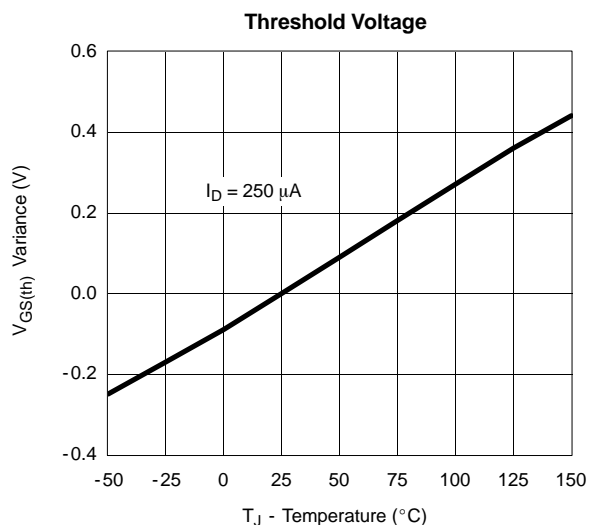
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.  
b. Guaranteed by design, not subject to production testing.

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

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



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





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