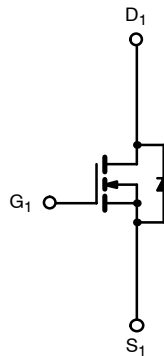
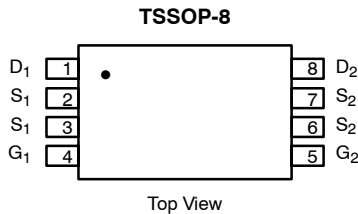


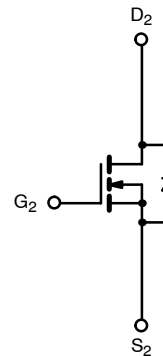


## Dual N-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY		
$V_{DS}$ (V)	$r_{DS(on)}$ ( $\Omega$ )	$I_D$ (A)
20	0.030 @ $V_{GS} = 4.5$ V	4.5
	0.033 @ $V_{GS} = 3.0$ V	4.2
	0.035 @ $V_{GS} = 2.5$ V	3.9
	0.043 @ $V_{GS} = 1.8$ V	3.6



N-Channel MOSFET



N-Channel MOSFET

Ordering Information: Si6926ADQ-T1—E3 (Lead Free)

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		$V_{DS}$	20		V
Gate-Source Voltage		$V_{GS}$	$\pm 8$		
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) <sup>a</sup>	$T_A = 25^\circ\text{C}$	$I_D$	4.5	4.1	A
	$T_A = 70^\circ\text{C}$		3.6	3.3	
Pulsed Drain Current (10 $\mu\text{s}$ Pulse Width)		$I_{DM}$	20		
Continuous Source Current (Diode Conduction) <sup>a</sup>		$I_S$	0.83	0.69	W
Maximum Power Dissipation <sup>a</sup>	$T_A = 25^\circ\text{C}$	$P_D$	1.0	0.83	
	$T_A = 70^\circ\text{C}$		0.64	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>	$t \leq 10$ sec	$R_{thJA}$	90	125	$^\circ\text{C}/\text{W}$
	Steady State		126	150	
Maximum Junction-to-Foot (Drain)		$R_{thJF}$	65	80	

Notes

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

For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

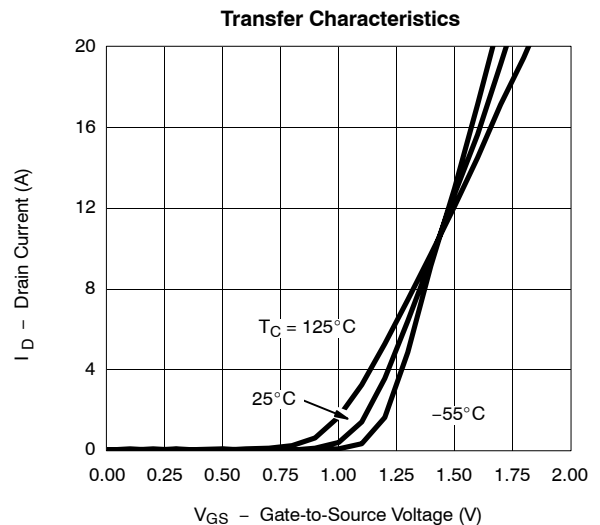
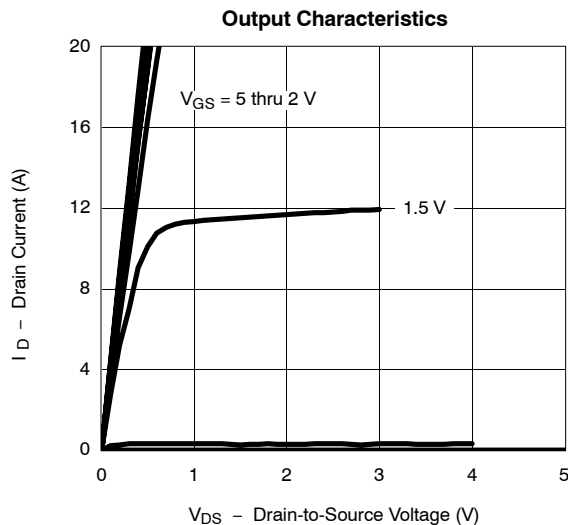


SPECIFICATIONS (T <sub>J</sub> = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ <sup>a</sup>	Max	Unit
<b>Static</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	0.40		1.0	V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ± 8 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			5	
On-State Drain Current <sup>b</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ 5 V, V <sub>GS</sub> = 5 V	10			A
Drain-Source On-State Resistance <sup>b</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 4.5 A		0.024	0.030	Ω
		V <sub>GS</sub> = 3.0 V, I <sub>D</sub> = 4.2 A		0.026	0.033	
		V <sub>GS</sub> = 2.5 V, I <sub>D</sub> = 3.9 A		0.029	0.035	
		V <sub>GS</sub> = 1.8 V, I <sub>D</sub> = 3.6 A		0.035	0.043	
Forward Transconductance <sup>b</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 4.5 A		26		S
Diode Forward Voltage <sup>b</sup>	V <sub>SD</sub>	I <sub>S</sub> = 0.83 A, V <sub>GS</sub> = 0 V		0.6	1.1	V
<b>Dynamic<sup>a</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> = 4.5 A		7.5	10.5	nC
Gate-Source Charge	Q <sub>gs</sub>			1.2		
Gate-Drain Charge	Q <sub>gd</sub>			1.2		
Gate Resistance	R <sub>g</sub>			1.9		Ω
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> = 10 V, R <sub>g</sub> = 6 Ω		6	12	ns
Rise Time	t <sub>r</sub>			16	25	
Turn-Off Delay Time	t <sub>d(off)</sub>			46	70	
Fall Time	t <sub>f</sub>			9	15	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 0.83 A, di/dt = 100 A/μs		20	40	

Notes

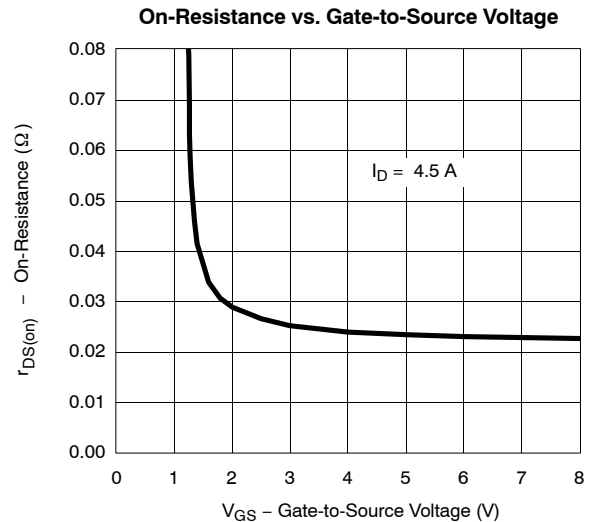
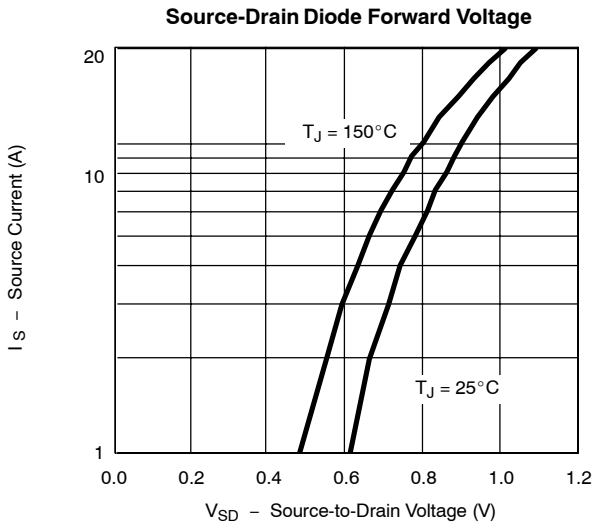
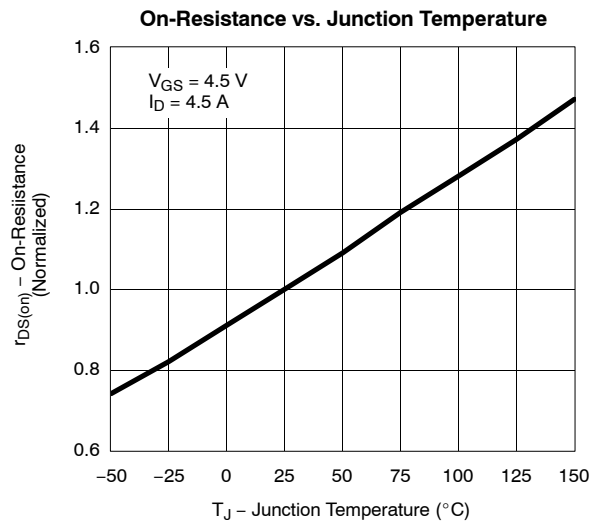
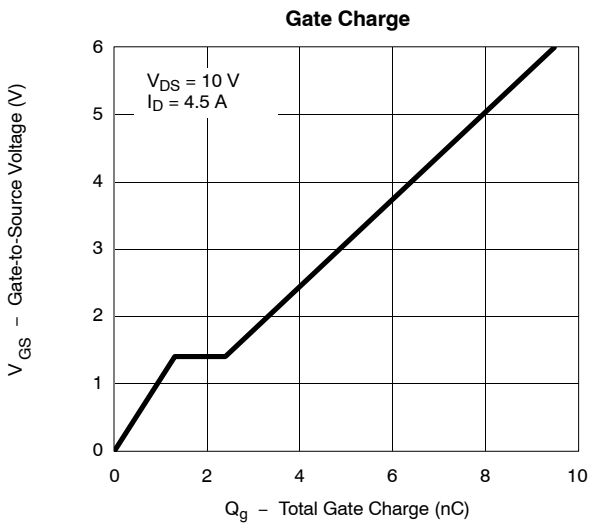
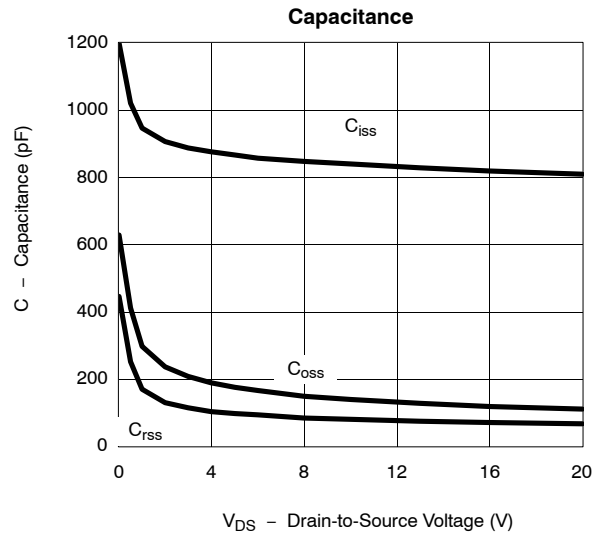
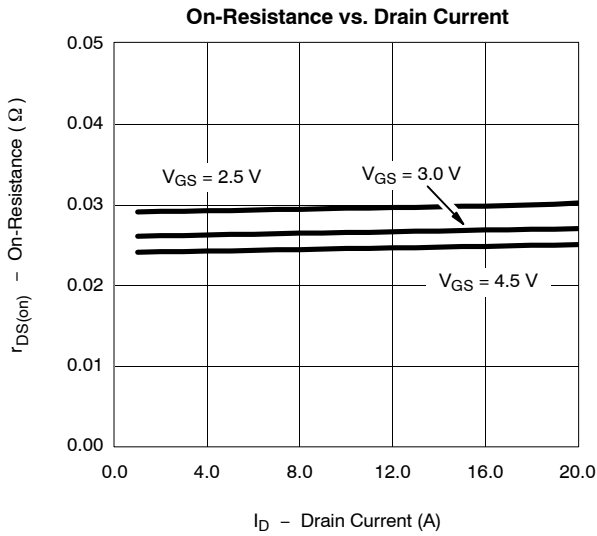
- a. Guaranteed by design, not subject to production testing.
- b. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

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



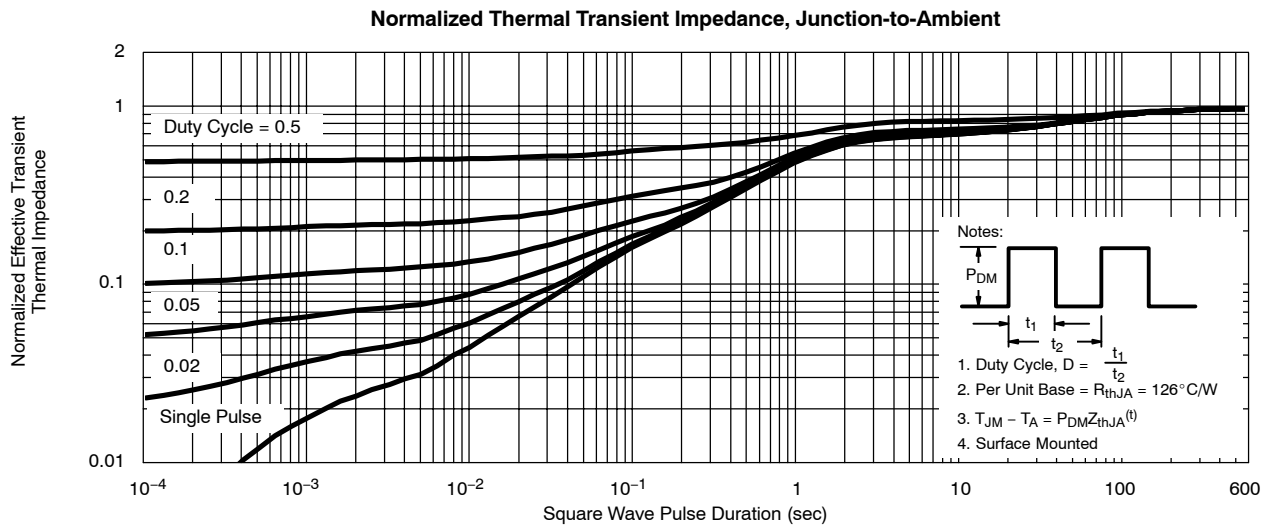
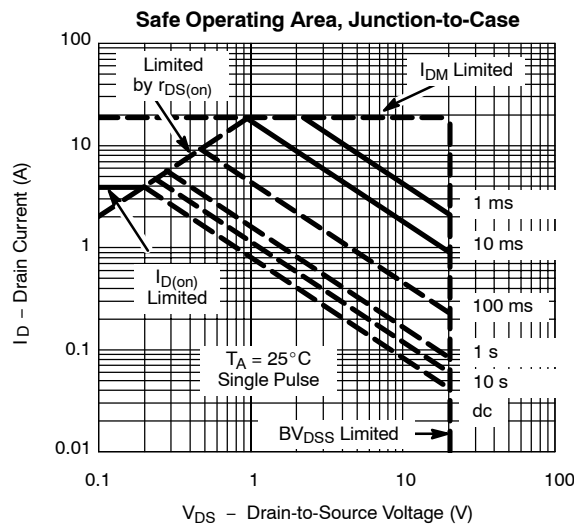
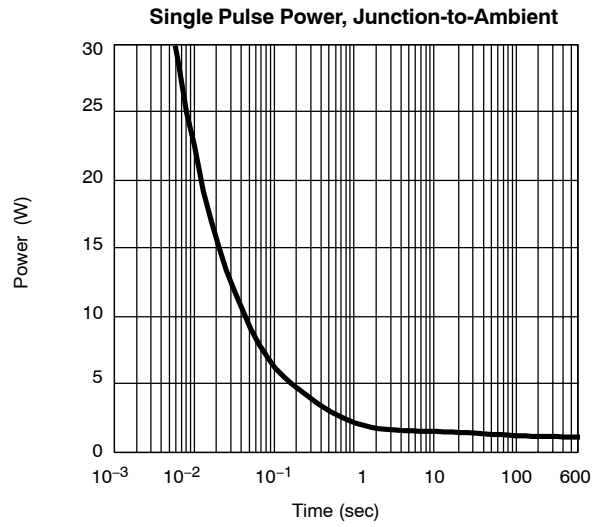
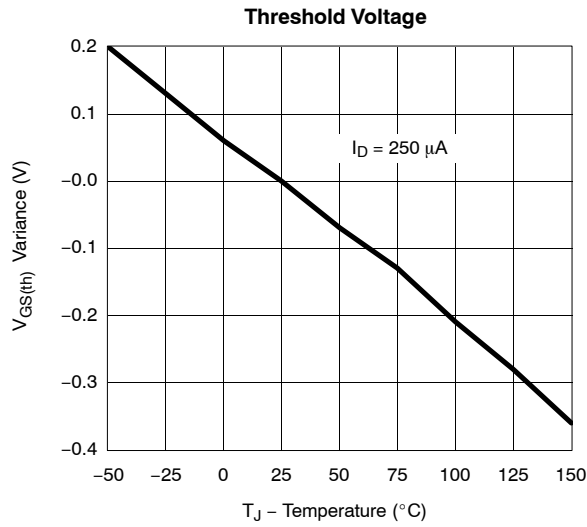


**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**



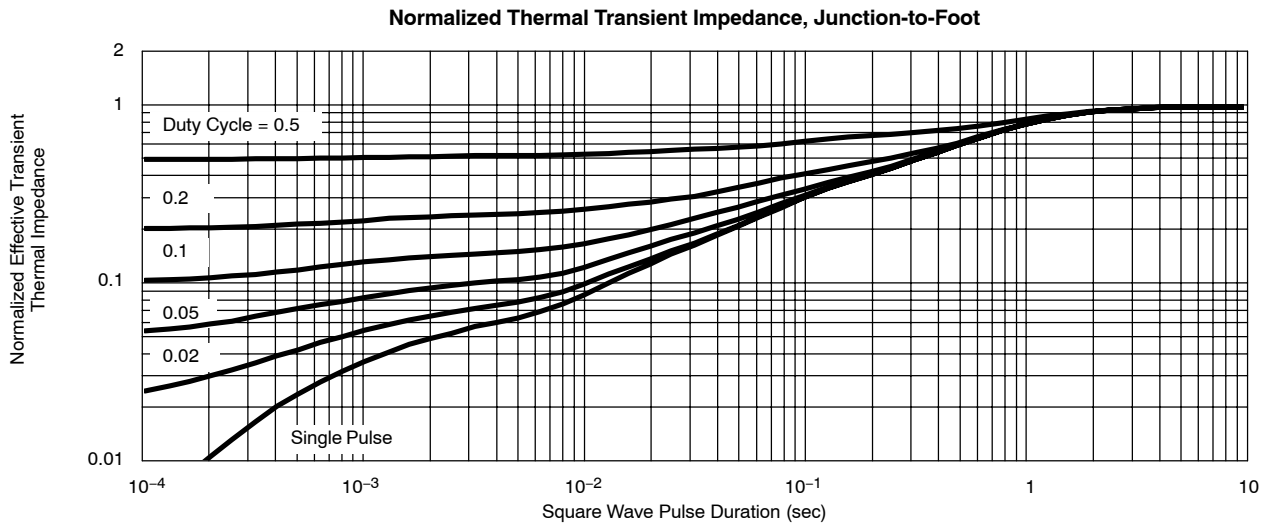


**TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)**





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





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