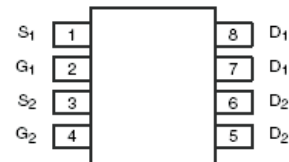
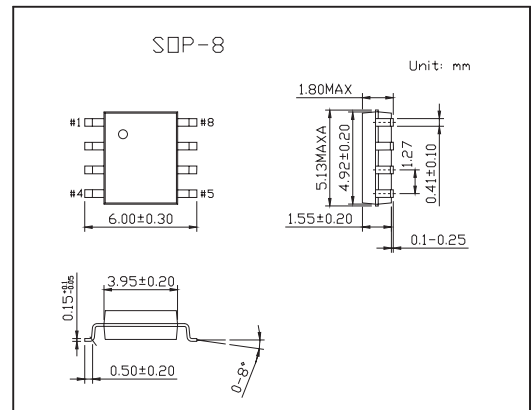
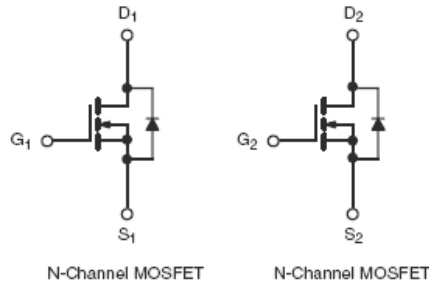




Dual N-Channel MOSFET 9926A

■ Features

- 6A, 20 V. $r_{DS(on)} = 0.030 \Omega @ V_{GS} = 4.5 V$
- 5.2A, 20 V $r_{DS(on)} = 0.040 \Omega @ V_{GS} = 2.5 V$.



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	10 secs	Steady State	Unit
Drain-Source Voltage	V_{DS}	20		V
Gate-Source Voltage	V_{GS}	± 10		V
Continuous Drain Current $T_a=25^\circ C$	I_D	6		A
Pulsed Drain Current		I_{DM}	30	A
Maximum Power Dissipation $T_A = 25^\circ C$ $T_A = 70^\circ C$	P_D	2.0	1.25	W
		1.3	0.8	

■ Thermal Resistance Ratings

Parameter	Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient*	R_{thJA}	$t \leq 10 \text{ sec}$	50	62.5
		Steady State	80	
Maximum Junction-to-Foot (Drain)	R_{thJF}	30	40	$^\circ C/W$

* Surface Mounted on 1" X 1"FR4 Board.



9926A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0 V, I _D = 250 μ A	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V			1	μA
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±10V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5		1.0	V
Drain-Source On-State Resistance *	r _{Ds(on)}	V _{GS} = 4.5V, I _D = 6A		0.025	0.030	Ω
		V _{GS} = 2.5V, I _D = 5.2A		0.040	0.045	
On-State Drain Current *	I _{D(on)}	V _{DS} ≥ 5V, V _{GS} = 4.5V	20			A
Forward Transconductance *	g _{fs}	V _{DS} = 15V, I _D = 6A		22		S
Total Gate Charge	Q _g	V _{DS} = 15V, V _{GS} = 4.5V, I _D = 6A		13	20	nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			3.3		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 15V I _D = 1A, V _{GS} = 4.5V, R _G = 6 Ω, R _L = 15 Ω		2	35	ns
Rise Time	t _r			40	60	
Turn-Off Delay Time	t _{d(off)}			50	75	
Fall Time	t _f			20	30	
Maximum Continuous Drain-Source Diode Forward Current	I _S				1	A
Diode Forward Voltage *	V _{SD}	I _S = 1.7A, V _{GS} = 0 V		0.7	1.2	V

* Pulse test; pulse width ≤ 300 μ s, duty cycle ≤ 2 %.

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

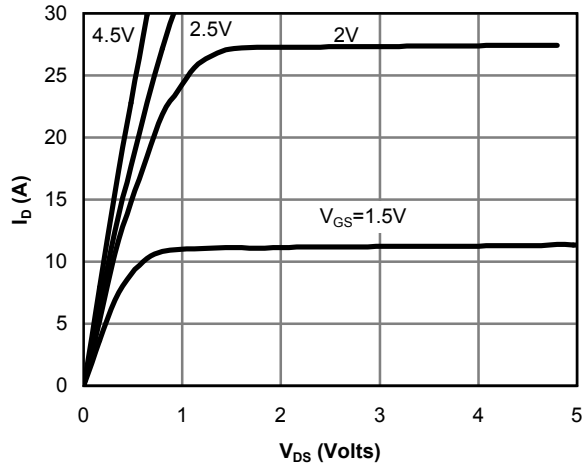


Fig 1: On-Region Characteristics

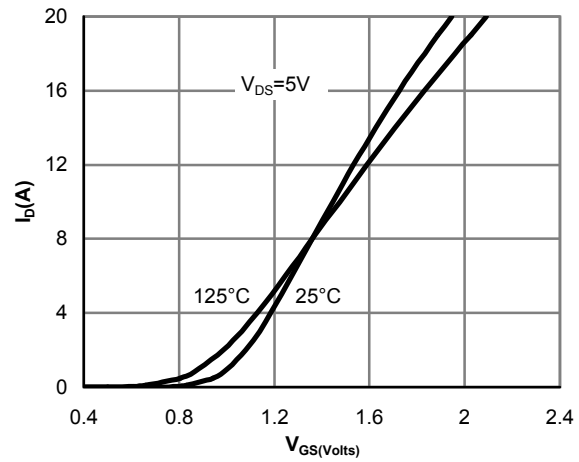


Figure 2: Transfer Characteristics

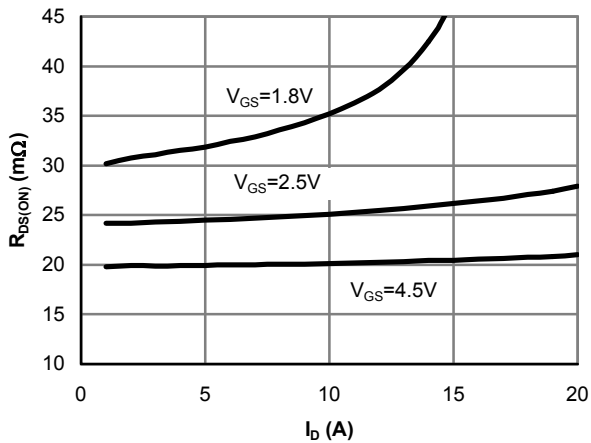


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

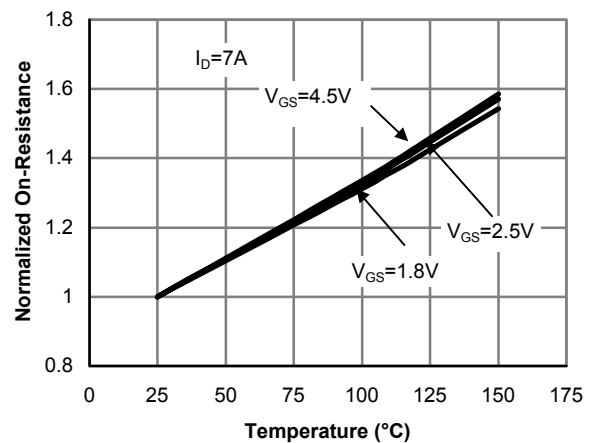


Figure 4: On-Resistance vs. Junction Temperature

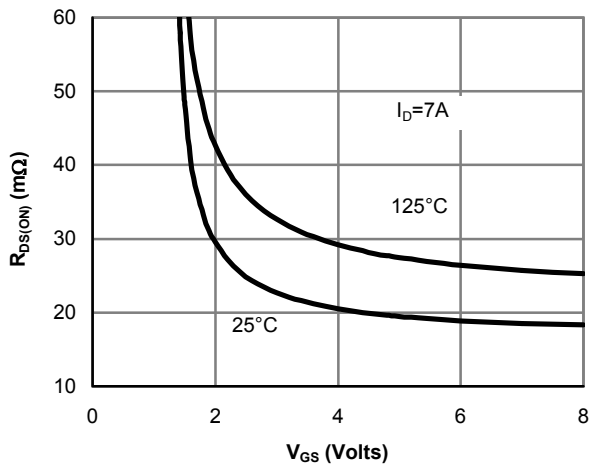


Figure 5: On-Resistance vs. Gate-Source Voltage

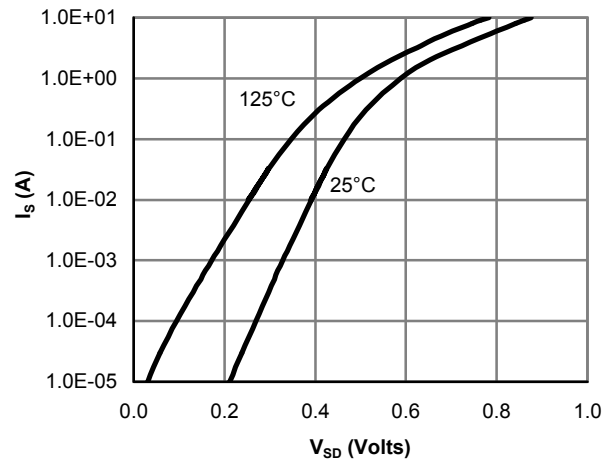


Figure 6: Body-Diode Characteristics

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

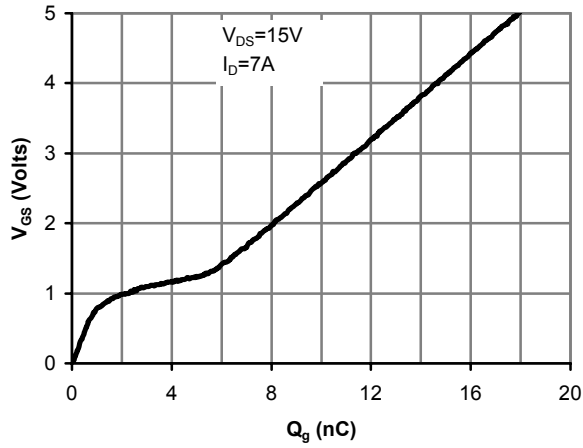


Figure 7: Gate-Charge Characteristics

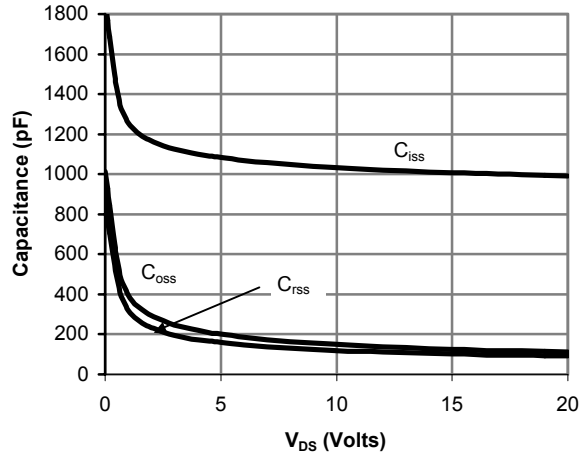


Figure 8: Capacitance Characteristics

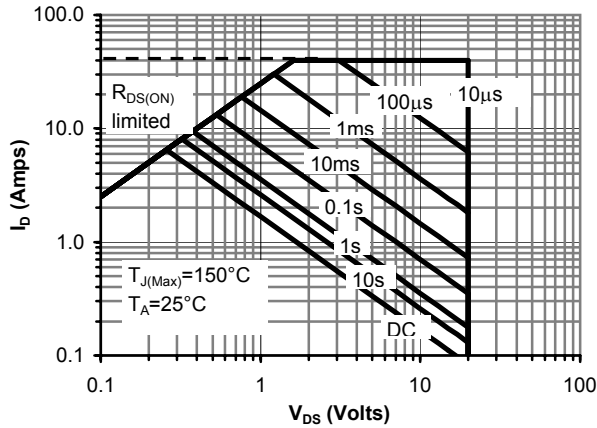


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

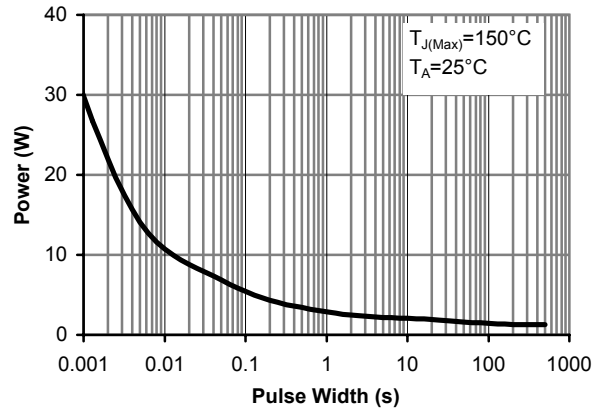


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

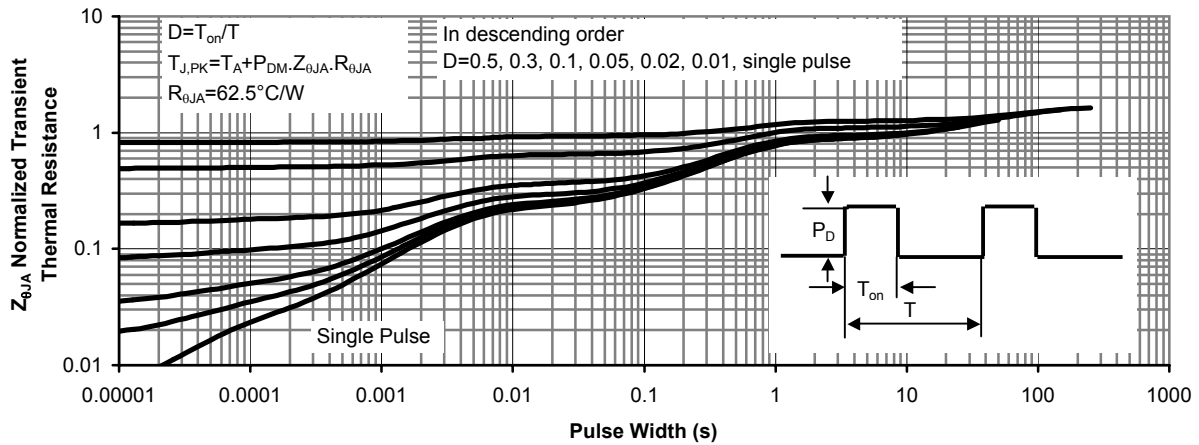


Figure 11: Normalized Maximum Transient Thermal Impedance