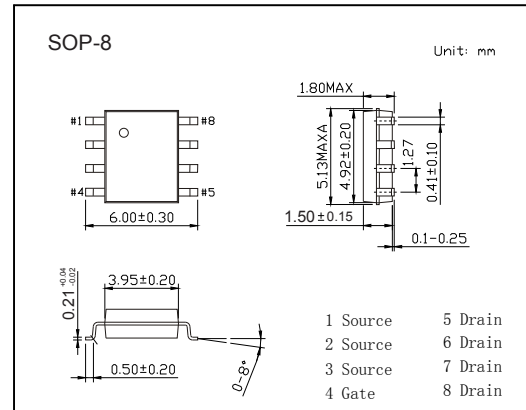
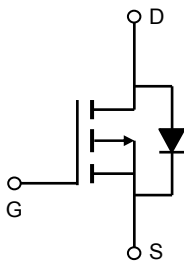


Features

- $V_{DS} (V) = -30V$
- $I_D = -10.5 A (V_{GS} = -20V)$
- $R_{DS(ON)} < 14m\Omega (V_{GS} = -20V)$
- $R_{DS(ON)} < 18m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 36m\Omega (V_{GS} = -5V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 25	
Continuous Drain Current	I_D	$T_A=25^\circ C$	-10.5
		$T_A=70^\circ C$	-8
Pulsed Drain Current	I_{DM}	-80	A
Avalanche Current	I_{AR}	-20	
Repetitive Avalanche Energy	$L=0.3mH$	E_{AR}	60
Power Dissipation	P_D	$T_A=25^\circ C$	3.1
		$T_A=70^\circ C$	2
Thermal Resistance.Junction- to-Ambient	R_{thJA}	$t \leq 10s$	40
		Steady-State	75
Thermal Resistance.Junction- to-Lead	R_{thJL}	24	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Junction Storage Temperature Range	T_{stg}	-55 to 150	



Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-30			V	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA	
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-5		
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} = ±25V			±100	nA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-1.7		-3	V	
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-20V, I _D =-11A			14	mΩ	
		V _{GS} =-20V, I _D =-11A T _J =125°C			19		
		V _{GS} =-10V, I _D =-10A			18		
		V _{GS} =-5V, I _D =-5A			36		
On state drain current	I _{D(ON)}	V _{GS} =-10V, V _{DS} =-5V	-80			A	
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-10A		22		S	
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		1130	1400	pF	
Output Capacitance	C _{oss}			240			
Reverse Transfer Capacitance	C _{rss}			155			
Gate resistance	R _g		V _{GS} =0V, V _{DS} =0V, f=1MHz	1			8
Total Gate Charge (10V)	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-10A		18	24	nC	
Total Gate Charge (4.5V)				9.5			
Gate Source Charge			Q _{gs}		5.5		
Gate Drain Charge			Q _{gd}		3.3		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-15V, R _L =1.5Ω, R _{GEN} =3Ω		8.7		ns	
Turn-On Rise Time	t _r			8.5			
Turn-Off DelayTime	t _{d(off)}			18			
Turn-Off Fall Time	t _f			7			
Body Diode Reverse Recovery Time	t _{rr}	I _F =-10A, di/dt=100A/us		25	30	nC	
Body Diode Reverse Recovery Charge	Q _{rr}			12			
Maximum Body-Diode Continuous Current	I _S				-3.5	A	
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V	

Note : The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

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Typical Characteristics

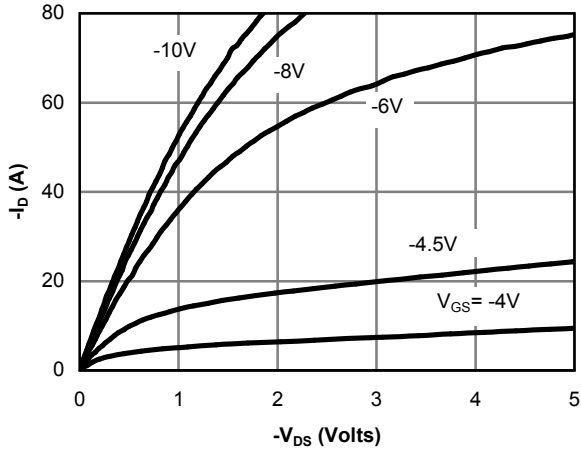


Figure 1: On-Region Characteristics

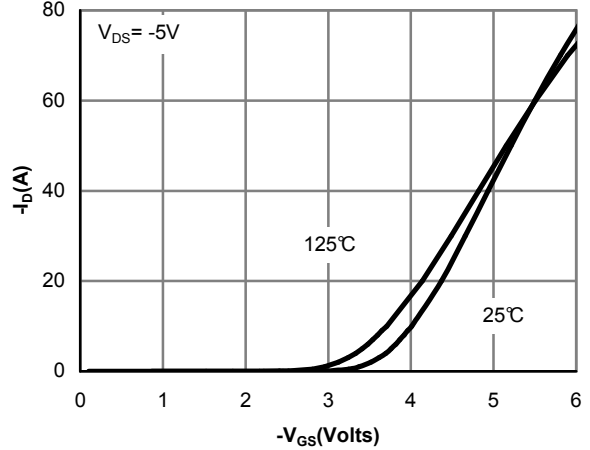


Figure 2: Transfer Characteristics

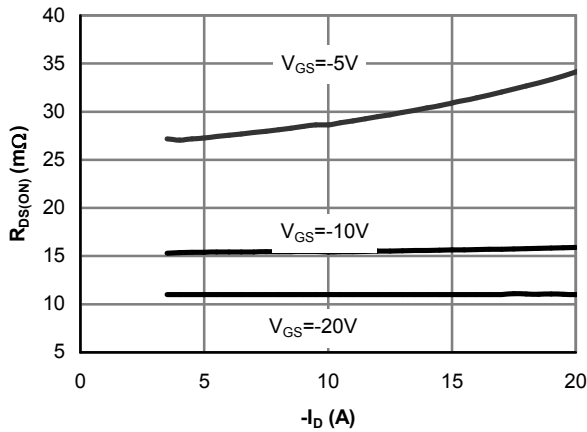


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

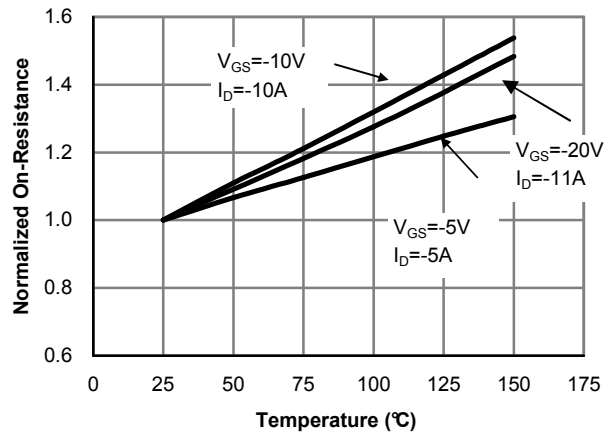


Figure 4: On-Resistance vs. Junction Temperature

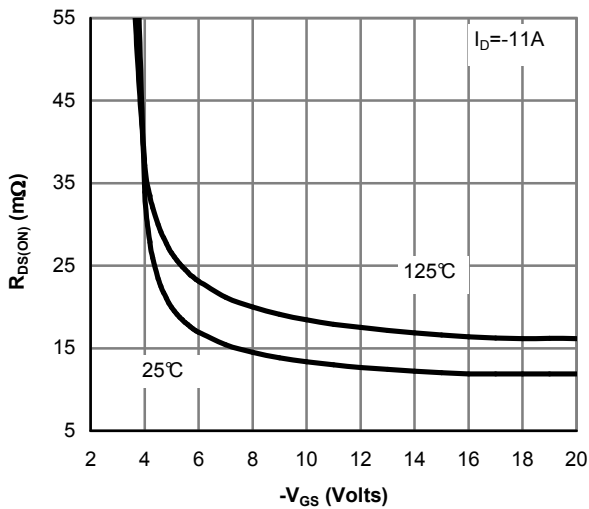


Figure 5: On-Resistance vs. Gate-Source Voltage

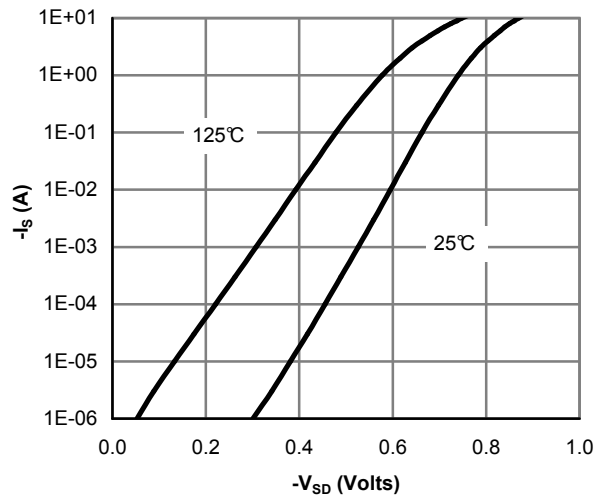


Figure 6: Body-Diode Characteristics

Typical Characteristics

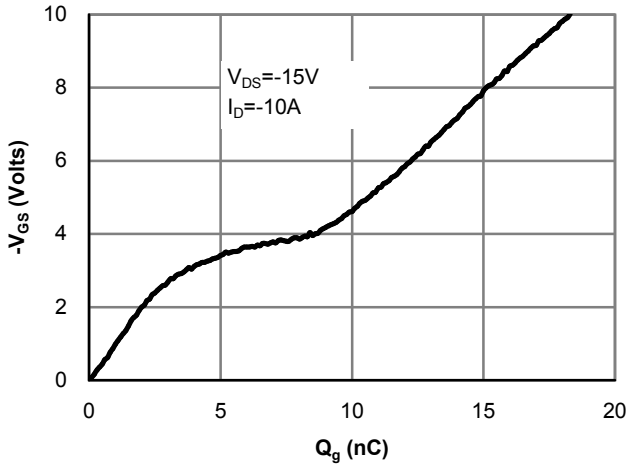


Figure 7: Gate-Charge Characteristics

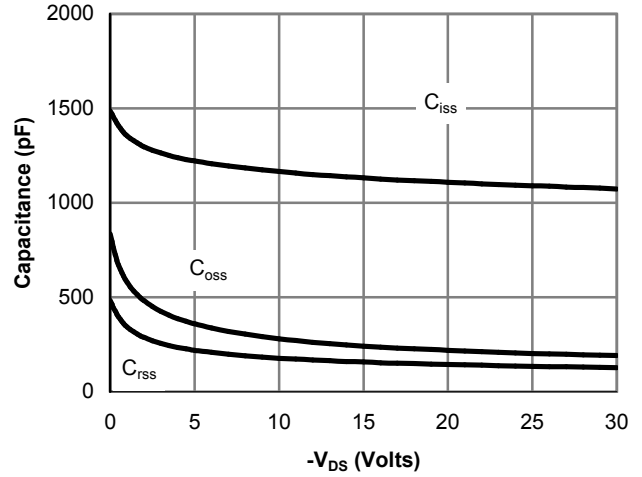


Figure 8: Capacitance Characteristics

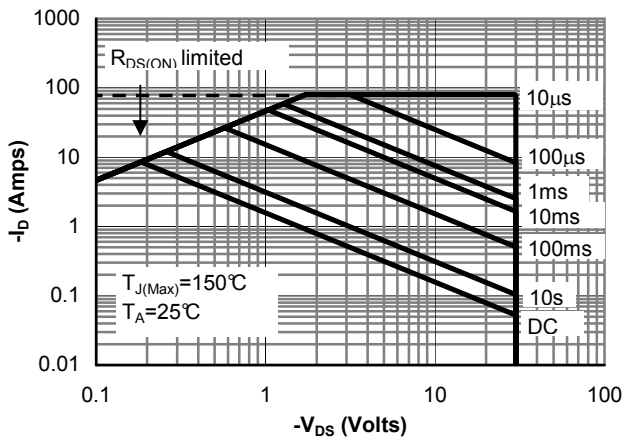


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

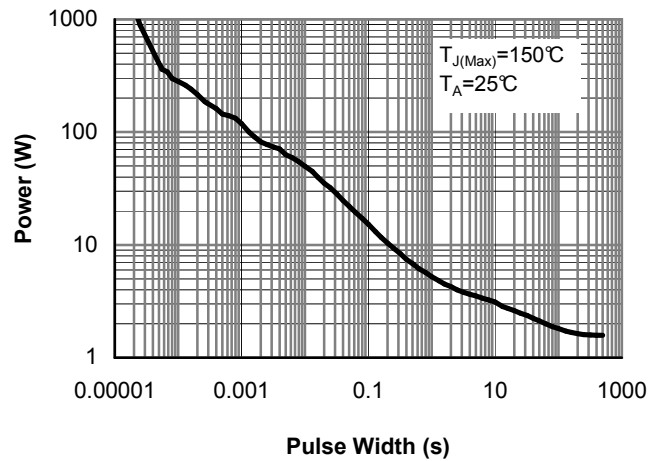


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

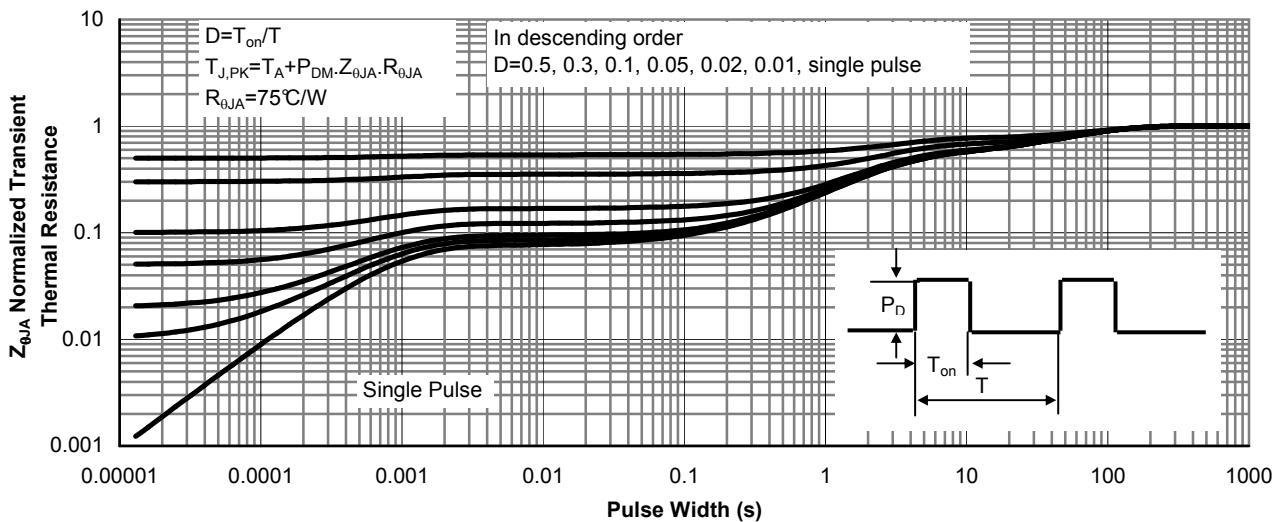


Figure 11: Normalized Maximum Transient Thermal Impedance (Note E)