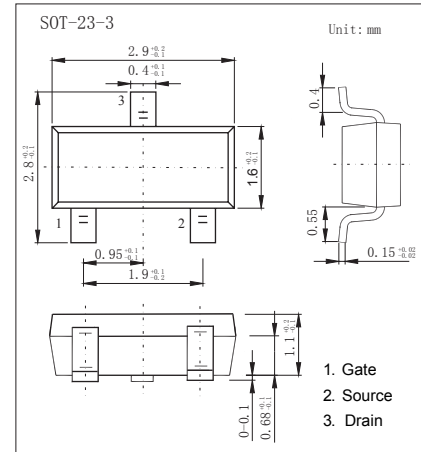
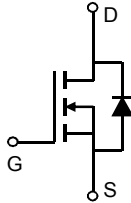


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■ Features

- $V_{DS} (V) = 30V$
- $I_D = 5.8 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 25m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 35m\Omega (V_{GS} = 4.5V)$



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_A = 25^\circ C$	I_D	5.8	A
	$T_A = 70^\circ C$		4.9	
Pulsed Drain Current		I_{DM}	64	
Power Dissipation	$T_A = 25^\circ C$	P_D	1.4	W
	$T_A = 70^\circ C$		0.9	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	90	$^\circ C/W$
	Steady-State		125	
Thermal Resistance.Junction- to-Lead		R_{thJL}	80	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\mu A, V_{GS}=0V$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1	μA
		$V_{DS}=30V, V_{GS}=0V, T_J=55^\circ C$			5	
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.5		2.6	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5.8A$			25	m Ω
		$V_{GS}=10V, I_D=5.8A, T_J=125^\circ C$			36	
		$V_{GS}=4.5V, I_D=4.8A$			35	
On State Drain Current	$I_{D(on)}$	$V_{GS}=4.5V, V_{DS}=5V$	64			A
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=5.8A$		22		S
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=15V, f=1MHz$		373	448	pF
Output Capacitance	C_{oss}			67		
Reverse Transfer Capacitance	C_{rss}			41		
Gate Resistance	R_g	$V_{GS}=0V, V_{DS}=0V, f=1MHz$		1.8	2.8	Ω
Total Gate Charge (10V)	Q_g	$V_{GS}=10V, V_{DS}=15V, I_D=5.8A$		7.1	11	nC
Total Gate Charge (4.5V)				3.3		
Gate Source Charge	Q_{gs}			1.4		
Gate Drain Charge	Q_{gd}			1.7		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=15V, R_L=2.6\Omega, R_G=3\Omega$		4.5	6.5	ns
Turn-On Rise Time	t_r			2.4		
Turn-Off DelayTime	$t_{d(off)}$			14.8		
Turn-Off Fall Time	t_f			2.5		
Body Diode Reverse Recovery Time	t_{rr}	$I_F=5.8A, di/dt=100A/\mu s$		10.5	12.6	nC
Body Diode Reverse Recovery Charge	Q_{rr}			4.5		
Maximum Body-Diode Continuous Current	I_S				2.5	A
Diode Forward Voltage	V_{SD}	$I_S=1A, V_{GS}=0V$			1	V

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

■ Marking

Marking	X4**
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■ Typical Characteristics

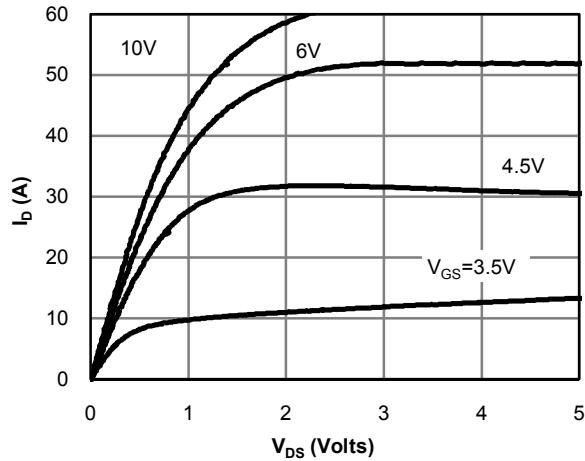


Fig 1: On-Region Characteristics

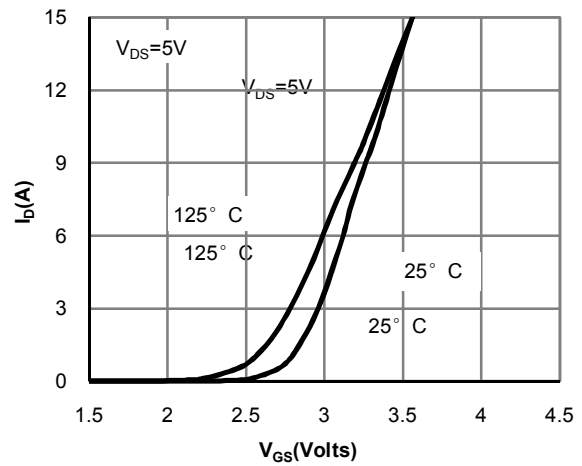


Figure 2: Transfer Characteristics

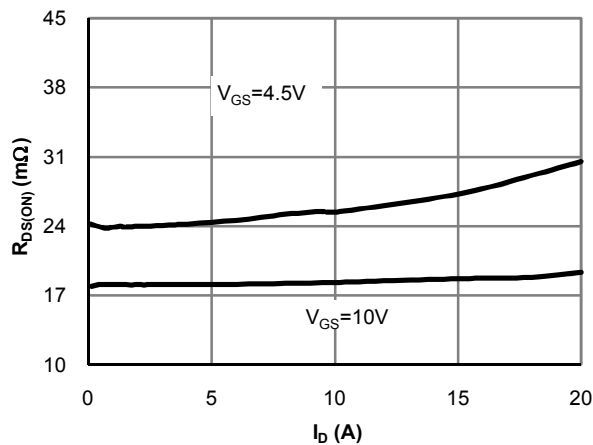


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

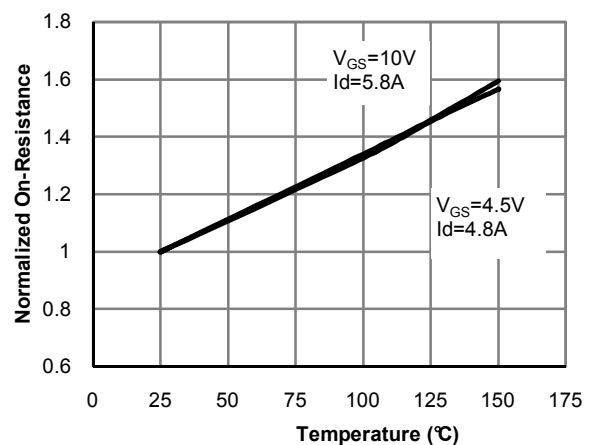


Figure 4: On-Resistance vs. Junction Temperature

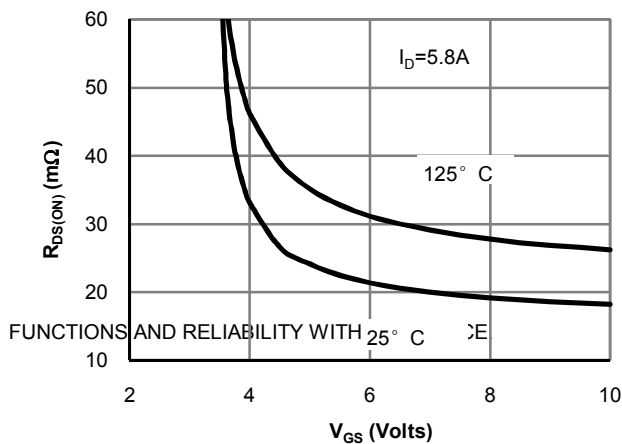


Figure 5: On-Resistance vs. Gate-Source Voltage

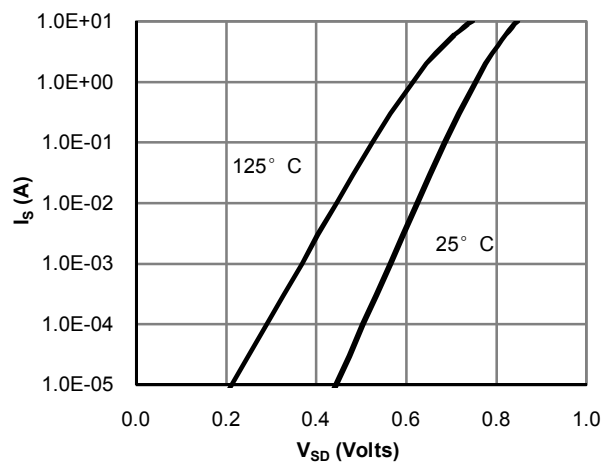


Figure 6: Body-Diode Characteristics

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Typical Characteristics

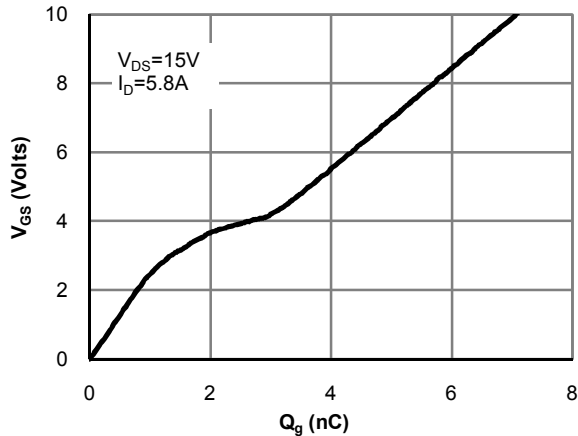


Figure 7: Gate-Charge Characteristics

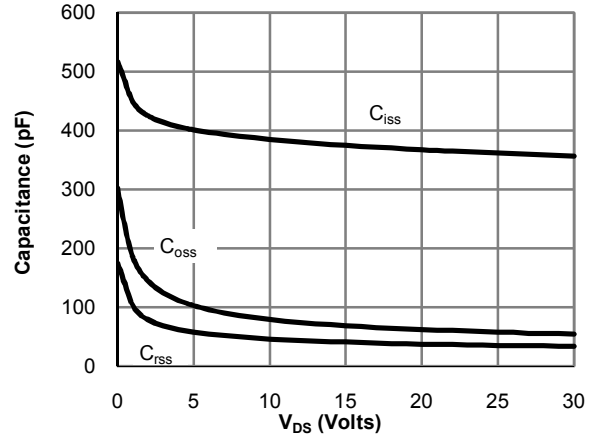


Figure 8: Capacitance Characteristics

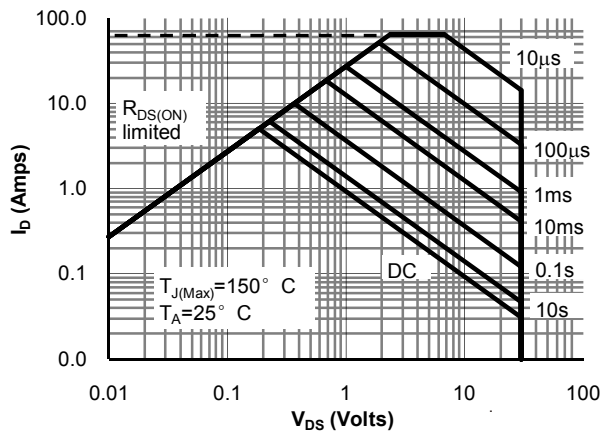


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

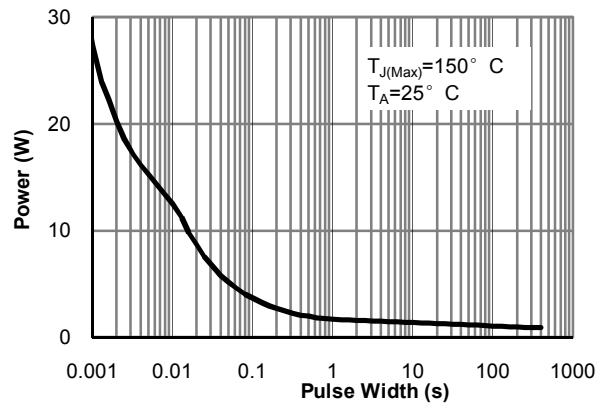


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

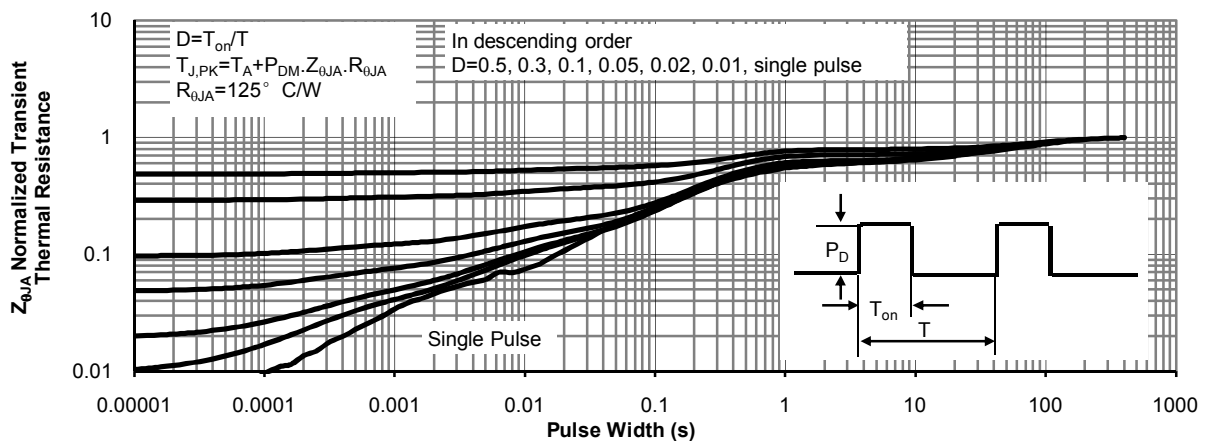


Figure 11: Normalized Maximum Transient Thermal Impedance